

City of Ramsey
Agenda
Revised
Regular City Council
Tuesday April 23, 2013
7:00 pm
Council Chambers, 7550 Sunwood Drive NW

1. Call to Order

2. Presentation

1. Second Annual 'Bark for Life' Event at The Draw, Saturday April 27th.

Ramsey resident Kimberly Gust is organizing the Second Annual Bark for Life fundraiser at The Draw April 27th from 9 AM until 1 PM. (She will briefly summarize last years event and invite participants to the 2013 fundraiser. Two slides from 2012, and a Power-Point on the up-coming occasion are attached for web viewers who wish to learn more.)

The American Cancer Society Bark for Life of the Anoka Area is a non-competitive walking event for dogs and their owners to raise funds and awareness in the fight against cancer. The American Cancer Society Bark For Life is a fundraising event that honors the care-giving qualities of our canine “best friends.” This event is similar to the Relay for Life, but this event honors the life-long contribution of our Canine Caregivers. It presents an opportunity for people to be empowered through their canine companion partnerships and to contribute to the fight against cancer. Canine companions represent unconditional love, joy, security, compassion, and no judgments of human abilities or appearances. The American Cancer Society Bark For Life is an incredible way to “take a bite out of cancer,” smile, and make new friends – canine and human.

3. Citizen Input

4. Consent Agenda

- 1. Receive Cash & Investments for Period Ending March 31, 2013.**
- 2. Receive January 2013 Financial Reports - General Fund and Enterprise Funds**
- 3. Receive February 2013 Financial Reports - General Fund and Enterprise Funds**
- 4. Receive March 2013 Financial Reports - General Fund and Enterprise Funds**
- 5. Note the Following Boards and Commissions Meeting Minutes:**

Planning Commission Special Meeting Minutes Dated January 31, 2013
Planning Commission Work Session Minutes Dated March 14, 2013

- 6. Extension of Agreement for Interim Fire Chief Services for the City of St Francis**
- 7. Approve License Applications**

8. Approve Request to Declare Surplus Property
9. Approve the Following Meeting Minutes:
 1. City Council Work Session - April 9, 2013
 2. City Council Regular Session - April 9, 2013
10. Adopt Resolution #13-04-073 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of April 4, 2013 through April 17, 2013
11. Adopt Resolution #13-04-070a Authorizing Partial Payment to North Valley Inc. for IP 12-23; Alpine Drive Reconstruction
12. Adopt Resolution #13-04-071 Authorizing Partial Payment to North Pine Aggregate Inc. for IP 12-20; CSAH 83 (Armstrong Boulevard) - Sunwood Drive
13. Adopt Resolution #13-05-072 Granting Cross of Hope Lutheran Church an Extension for Completion of Required Improvements
14. Report from the Personnel Committee - April 23, 2013 / Resolution to Accept the Resignation of the Patrol Captain, Direct Staff Begin a Promotional Process, and to Authorize Staff to Recruit for a Replacement Patrol Officer
5. **Approve Agenda**
6. **Public Hearing**
 1. PUBLIC HEARING: Adopt Ordinance #13-09 to Vacate an Easement for Street and Utility Purposes on Lots 1 & 2 Block 1 Park 67 Industrial Park; Case of Sharp & Associates and Transwest, LLC
7. **Council Business**
 1. Report from the Personnel Committee - April 23, 2013 / Resolution to Hire an Economic Development Manager
 2. Adopt Resolution #13-04-074 Ordering Preparation of Feasibility Report for Improvement Project #13-10, Garnet Street and 168th Avenue
 3. Consider Authorization to Order (Begin Official Process and Comment Period) on Completed Draft of Alternative Urbanwide Area Review (AUAR) Update for The COR (formerly Ramsey Town Center)
 4. Consider Memorandum of Understanding (MOU) for the Armstrong Interchange Project - added at meeting
 5. Consider Scheduling Special Council Meeting - added at meeting
8. **Mayor/Council/Staff Input**
9. **Adjournment**

CC Regular Session

2. 1.

Meeting Date: 04/23/2013

Information

Title:

Second Annual 'Bark for Life' Event at The Draw, Saturday April 27th.

Background:

Ramsey resident Kimberly Gust is organizing the Second Annual Bark for Life fundraiser at The Draw April 27th from 9 AM until 1 PM. (She will briefly summarize last years event and invite participants to the 2013 fundraiser. Two slides from 2012, and a Power-Point on the up-coming occasion are attached for web viewers who wish to learn more.)

The American Cancer Society Bark for Life of the Anoka Area is a non-competitive walking event for dogs and their owners to raise funds and awareness in the fight against cancer. The American Cancer Society Bark For Life is a fundraising event that honors the care-giving qualities of our canine "best friends." This event is similar to the Relay for Life, but this event honors the life-long contribution of our Canine Caregivers. It presents an opportunity for people to be empowered through their canine companion partnerships and to contribute to the fight against cancer. Canine companions represent unconditional love, joy, security, compassion, and no judgments of human abilities or appearances. The American Cancer Society Bark For Life is an incredible way to "take a bite out of cancer," smile, and make new friends – canine and human.

Attachments

Image from 2012

2012

2013 Detail

Form Review

Inbox	Reviewed By	Date
Grant Riemer	Grant Riemer	04/17/2013 11:48 AM
Kurt Ulrich	Kurt Ulrich	04/18/2013 03:03 PM
Form Started By: Mark Riverblood		Started On: 04/05/2013 08:49 AM
Final Approval Date: 04/18/2013		



RELAY
FOR LIFE



AMERICAN CANCER SOCIETY RELAY FOR LIFE

**Survivors –
Celebrating Life.**

Celebrate. Remember. Fight Back.





AMERICAN CANCER SOCIETY
BARK FOR LIFE™
A CANINE EVENT TO FIGHT CANCER

**2nd Annual
Bark For Life of the Anoka Area
at the
The Draw
within the COR at Ramsey**

Saturday, April 27, 2013

What is a “Bark For Life”

- Bark For Life is an American Cancer Society (ACS) Relay For Life fundraising event that ***honors the care-giving qualities of canine companions*** and ***supports the ACS life saving mission.***
- Non-competitive walking event for dogs and their owners to raise funds and awareness in the fight against cancer.



AMERICAN CANCER SOCIETY RELAY FOR LIFE

Celebrate.

Remember.

Fight Back.

How does the money raised benefit canines?

- ACS fundraising goes directly to human cancer research and indirectly also benefits dogs
- Dogs get the same cancers as people
- Canine cancer treatment and medications are the result of human research results



Bark For Life Location

- The Draw Park
 - Dog friendly
 - Paved walking trail loop
 - Adequate parking
 - Access to water
 - Can accommodate the walk and activities

Keeping Participants Safe



- Dogs leashed at all times
 - 6' maximum length
- Dogs must be at least 6 months old to attend
- All dogs' (and participants) space must be respected
- Owners must be prepared to “pick up” after their dog
- A veterinarian will be onsite for the entire event
- A committee member has authority to remove an anti-social dog

Bark For Life Logistics

- Important logistics:
 - Trash cans
 - Doggie mess bags
 - Electricity
 - Signs (start sign, directions, ACS track signs, vendor signs, etc.)
 - Portable toilets
 - Sound system
 - Tents, tables, chairs
 - Onsite vet for canine emergencies
 - EMTs for human emergencies

Business Community Involvement and Recognition

- Promotes the canine presence in the community and reaches out to those individuals to get involved in the Bark For Life
- Examples include:
 - Dog specialty stores or bakeries
 - Kennels
 - Pet stores
 - Obedience training services
 - Pet photographers
 - Invisible fence companies

Sponsorship Opportunities

- Sponsorship opportunities are available from \$100 - \$2,500
- Recognition of sponsor at Bark For Life and Relay For Life – dual sponsorship



Bark For Life Sample Agenda

9 a.m. – 10 a.m. Registration

- Participant and dog: \$20 pre-registration; \$25 on-site registration (ACS donation)
- ACS Educational Materials, Program Information
- Entertainment

10 a.m. Opening Ceremony

- Recognition of Sponsors
- Event Overview & Cancer Survivor Testimony
- Blessing of the Animals

10:15 a.m. *Bark For Life* Begins

- Cancer Survivors and their dogs lead the walk
- Walk with ACS educational signs posted along the route
- “Bone-Afide” Memories to mark the path (\$5/bone ACS donation)

10 a.m. – 1 p.m.

Additional Fundraising Activities

- Event Host Open House
- Canine Games and Activities
- Entertainment
- Food Vendors

Registration Information

- Pre-Registration Fee:
 - \$20 (ACS donation)
- Day of event Registration Fee:
 - \$25 (ACS donation)
- All Registered dogs will receive a “Bark For Life” Bandana and Dog Tag



For more information, contact:
BarkforLife.R4L.Anoka@gmail.com
or call/text 612-237-8219

Check us out on:
[Facebook.com/BarkForLifeofAnokaArea](https://www.facebook.com/BarkForLifeofAnokaArea)

ACS is the Official Sponsor of More Birthdays

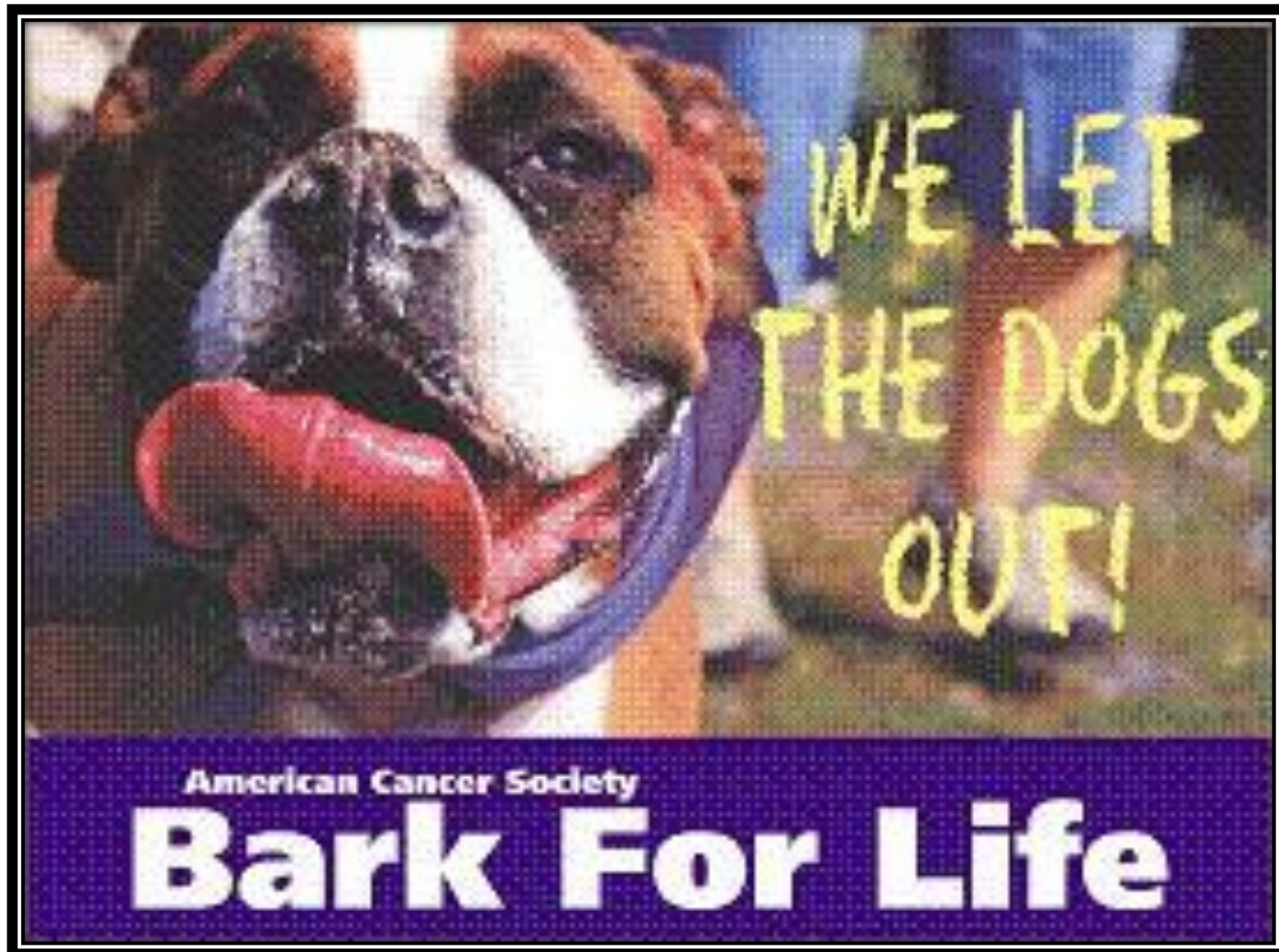
Join us for the **BARK FOR LIFE...**
each pup gets us closer to a world with **MORE BIRTHDAYS!**

Imagine
a world with more
birthdays.

THE OFFICIAL SPONSOR OF BIRTHDAYS.™



THANK YOU
to the City of Ramsey!



CC Regular Session**4. 1.****Meeting Date:** 04/23/2013**By:** Diana Lund, Finance

Information**Title:**

Receive Cash & Investments for Period Ending March 31, 2013.

Background:

Report on the City's cash and investments for the period ending March 31, 2013. Cash balances graph reflects the changes in cash balances on the city's major funds for the period ending March 31, 2013 in comparison to year-ending December 31, 2012. December 2012 numbers reflect final audited numbers.

Council Action:

None Required. Informational Only.

AttachmentsCash & Investments for Period Ending March 31, 2013Cash Balances on Major City Funds - March 31, 2013

Form Review**Inbox**

Kurt Ulrich

Reviewed By

Kurt Ulrich

Date

04/18/2013 03:03 PM

Form Started By: Diana Lund

Started On: 03/29/2013 02:52 PM

Final Approval Date: 04/18/2013

CITY OF RAMSEY
REPORT OF POOLED CASH FLOWS
Period Ended March 31, 2013

	March-13 CURRENT MONTH	2013 YEAR-TO-DATE
CASH AND TEMPORARY INVESTMENTS		
BEGINNING BALANCE	\$ 41,177,215.31	\$ 42,990,689.01
CASH INFLOWS:		
Daily Deposit	462,885.09	1,455,418.74
Tax Settlements	29.30	65,193.40
U/B Receipts	128,973.25	778,682.05
Credit Cards	29,055.45	115,117.36
Interest Earnings [Net of Interest Paid on Investments]	48,039.58	158,775.96
Bond Proceeds	-	-
TOTAL CASH INFLOW	\$ 668,982.67	\$ 2,573,187.51
TOTAL CASH AVAILABLE	\$ 41,846,197.98	\$ 45,563,876.52
CASH OUTFLOWS:		
Prepaid Checks	292,600.33	\$ 2,248,465.15
Bills Lists	366,329.74	1,000,779.33
Pay Estimates	17,744.64	135,783.40
Credit Cards	1,734.77	3,470.86
Payroll - Net	217,177.17	806,867.90
Flex Reimbursement	6,147.10	16,752.40
Void Checks/Dormant Checks Paid	(2,504.60)	(2,504.60)
Debt Service	147,527.50	554,583.75
Miscellaneous [Bank Charges; etc.]	(237.00)	-
TOTAL CASH OUTFLOW	\$ 1,046,519.65	\$ 4,764,198.19
POOLED CASH AND TEMPORARY INVESTMENTS ENDING BALANCE	\$ 40,799,678.33	\$ 40,799,678.33
MEMO - NET 2012 CASH INFLOW (OUTFLOW)	(377,536.98)	(2,191,010.68)

INVESTMENT PORTFOLIO SUMMARY

BEGINNING BALANCE	\$ 35,144,654.76	\$ 35,341,145.16
Purchases	1,139,000.00	2,083,000.00
Maturities/Sales	(1,240,314.95)	(2,380,805.35)
ENDING BALANCE	\$ 35,043,339.81	\$ 35,043,339.81

2013 CASH AND INVESTMENT ACTIVITY

CITY INVEST #	STATED MAT DATE	BROKER	SECURITY DESCRIP	CUSIP	PRIN BAL 1/1/2013	PURCH 2013	SOLD/ MATURE 2013	BV PRIN BAL 12/31/2013	PAR	YTM
031029	3/15/2013	Landmark	CD-Landmark	old-12456 new-13672	317,299.14		317,299.14	0.00 0.00	256,633	1.50%
121203A	5/31/2013	4M	Term Series 4M		4,000,000.00		0.00	4,000,000.00	4,000,000	0.20%
121203B	11/29/2013	4M	Term Series 4M		1,000,000.00		0.00	1,000,000.00 5,000,000.00	1,000,000	0.25%
091229D	12/29/2014	BOW	FFCB	31331JAN3	1,000,000.00		0.00	1,000,000.00 1,000,000.00	1,000,000	2.75%
110803A	2/4/2013	ICD SEC	CD-BANCO POPULAR	05967EGL7	200,000.00		200,000.00	0.00	200,000	0.65%
130213	8/13/2014	ICD SEC	CD-KEY BANK NA	49306SRC2		249,000.00	0.00	249,000.00	249,000	0.35%
130206	2/8/2016	ICD SEC	CD-ORIENTAL BANK & T	6861845S2		200,000.00	0.00	200,000.00	200,000	0.90%
130327	9/28/2015	ICD SEC	CD-GOLDMAN SACHS	38147JCG5		100,000.00	100,000.00	0.00	100,000	0.65%
130325	9/25/2014	ICD SEC	CD-DORAL BANK	25811L3F4		249,000.00	249,000.00	0.00	249,000	0.40%
130301	3/1/2018	ICD SEC	CD-GE CAPITAL BANK	36161TJB2		200,000.00	0.00	200,000.00	200,000	1.10%
120208B	2/7/2013	ICD SEC	CD-SOVEREIGN BANK	84603MV29	249,000.00		249,000.00	0.00	249,000	0.40%
110225	2/25/2013	ICD SEC	CD-GE CAPITAL FINANC	36160TQJ8	200,000.00		200,000.00	0.00	200,000	0.95%
110921	3/21/2013	ICD SEC	CD-GOLDMAN SACHS	3814265W1	100,000.00		0.00	100,000.00	100,000	0.65%
120307	4/8/2013	ICD SEC	CD-SAFRA NATIONAL B/	786580A59	100,000.00		0.00	100,000.00	100,000	0.35%
120411	4/10/2013	ICD SEC	CD-BANK OF INDIA	06782D20	100,000.00		0.00	100,000.00	100,000	0.45%
120208A	5/8/2013	ICD SEC	CD-BEAL BANK USA	07370SK20	249,000.00		0.00	249,000.00	249,000	0.40%
120621	6/21/2013	ICD SEC	CD-BANK BALBAO	059457UY5	150,000.00		0.00	150,000.00	150,000	0.50%
110629A	7/1/2013	ICD SEC	CD-DISCOVER BANK	254670G48	248,000.00		0.00	248,000.00	248,000	0.85%
120713	7/12/2013	ICD SEC	CD-BANK OF BARODA	060624JZ7	249,000.00		0.00	249,000.00	249,000	0.45%
120427	7/29/2013	ICD SEC	CD-PRIVATEBANK & TR	742676SB4	100,000.00		0.00	100,000.00	100,000	0.35%
120808	8/8/2013	ICD SEC	CD-GOLDMAN SACHS	38143AX46	48,000.00		0.00	48,000.00	48,000	0.45%
120810	8/9/2013	ICD SEC	CD-FIRST BANK OF PUER	33764JJA4	150,000.00		0.00	150,000.00	150,000	0.50%
120210	8/12/2013	ICD SEC	CD-BMW BANK	05568PV46	100,000.00		0.00	100,000.00	100,000	0.60%
120926	9/26/2013	ICD SEC	CD-BANK HAPOLIM	06251AYM6	100,000.00		0.00	100,000.00	100,000	0.50%
110930	9/30/2013	ICD SEC	CD-COMPASS BANK	20449E3C8	100,000.00		0.00	100,000.00	100,000	1.00%
081009	10/9/2013	ICD SEC	CD-CAPITOL CITY BANK	33938	100,000.00		0.00	100,000.00	100,000	5.25%
121019	10/18/2013	ICD SEC	CD-FIRST BANK OF PUER	33764JMR3	100,000.00		0.00	100,000.00	100,000	0.50%
111014	10/21/2013	ICD SEC	CD-COMPASS BANK	20449E3Z7	100,000.00		0.00	100,000.00	100,000	1.05%
111221B	12/23/2013	ICD SEC	CD-BANK OF CHINA	06425HV33	100,000.00		0.00	100,000.00	100,000	1.10%
11121A	12/23/2013	ICD SEC	CD-GOLDMAN SACHS	38143AEB7	100,000.00		0.00	100,000.00	100,000	1.10%
081028	10/28/2013	ICD SEC	CD-AMERICAN CHARTER	27006	100,000.00		0.00	100,000.00	100,000	5.50%
121031	10/30/2013	ICD SEC	CD-BANK OF INDIA	062782T98	100,000.00		0.00	100,000.00	100,000	0.50%
120718	11/18/2013	ICD SEC	CD-APPLE BANK FOR SA	037830MN3	78,000.00		0.00	78,000.00	78,000	0.45%
121129	11/29/2013	ICD SEC	CD-EVERBANK	29976DQC7	200,000.00		0.00	200,000.00	200,000	0.50%
081212I	12/12/2013	ICD SEC	CD-WORLDS FOREMOST	57079	100,000.00		0.00	100,000.00	100,000	4.95%
110613	12/13/2013	ICD SEC	CD-MEDALLION BANK	58403BUW4	100,000.00		0.00	100,000.00	100,000	1.10%
081223	12/23/2013	ICD SEC	CD-BANK OF HOLLAND	34862	100,000.00		0.00	100,000.00	100,000	4.95%
101221	12/23/2013	ICD SEC	CD-DORAL BANK	25811LYN3	249,000.00		0.00	249,000.00	249,000	1.45%
121231	12/31/2013	ICD SEC	CD-BANK OF CHINA	06426NVL3	149,000.00		0.00	149,000.00	149,000	0.55%
110831	2/28/2014	ICD SEC	CD-CIT BANK	172854AWZ7	200,000.00		0.00	200,000.00	200,000	1.05%
110629C	4/29/2014	ICD SEC	CD-LAKESIDE BANK	51210SG47	249,000.00		0.00	249,000.00	249,000	1.00%
110609	6/9/2014	ICD SEC	CD-AMERICAN EXPRESS	02587DAX6	250,000.00		0.00	250,000.00	250,000	1.25%
120711	7/11/2014	ICD SEC	CD-ALLY BANK	02005QM67	73,000.00		0.00	73,000.00	73,000	0.90%
120815	8/15/2014	ICD SEC	CD-SALLIE MAE BANK	795450NU5	249,000.00		0.00	249,000.00	249,000	0.90%
120817B	8/18/2014	ICD SEC	CD-GE CAPITAL BANK	36161TDW2	49,000.00		0.00	49,000.00	49,000	0.90%
091203	12/3/2014	ICD SEC	CD-BANK OF AMERICA N	3510	100,000.00		0.00	100,000.00	100,000	3.50%
121219B	12/19/2014	ICD SEC	CD-ALLY BANK	02005QU84	115,000.00		0.00	115,000.00	115,000	0.70%
120123	1/23/2015	ICD SEC	CD-STATE BANK OF INDI	33664	150,000.00		0.00	150,000.00	150,000	1.10%
120131	1/30/2015	ICD SEC	CD-SAFRA NATIONAL B/	786584YA2	100,000.00		0.00	100,000.00	100,000	1.00%
121219A	12/21/2015	ICD SEC	CD-ALLY BANK	02005QU76	58,000.00		0.00	58,000.00	58,000	0.90%
121123C	11/16/2016	ICD SEC	CD-BMW BANK OF NORI	05568P2K2	100,000.00		0.00	100,000.00	100,000	1.20%
111005	10/5/2026	ICD SEC	CD-WELLS FARGO BANK	949748K97	150,000.00		0.00	150,000.00	150,000	3.00%
120629	7/1/2013	ICD SEC	CD-STATE BANK OF INDI	33664	100,000.00		0.00	100,000.00 6,062,000.00	100,000	0.80%
090102A	1/25/2033	Com Sec	FNR 2003-19 ME	31392JJG5	43,778.37		7,179.81	36,598.56	165,176	3.95%
090102B	12/25/2018	Com Sec	FNR 2003-120 BY	31393UGR8	132,527.24		20,170.34	112,356.90	200,000	3.98%
080128C	1/15/2038	Com Sec	FHR 3404 JC	31397PTH3	218,355.51		209,244.53	9,110.98	1,000,000	4.74%
			Add Back prn paydown in 1/13					158,066.44		
120214B	4/1/2017	Northland	ST FRANCIS ISD#15	789466-PU-7	250,000.00		0.00	250,000.00	250,000	4.40%
130125A	3/1/2019	Northland	WITTENBERG WIS SCHO	97746PBL2	0.00	110,000.00	0.00	110,000.00	110,000	5.30%
130312	12/1/2014	Northland	MENARD & CASS COUNT	76T-173301	0.00	590,000.00	0.00	590,000.00	590,000	3.50%

PRINTED 4/17/2013

2013 CASH AND INVESTMENT ACTIVITY

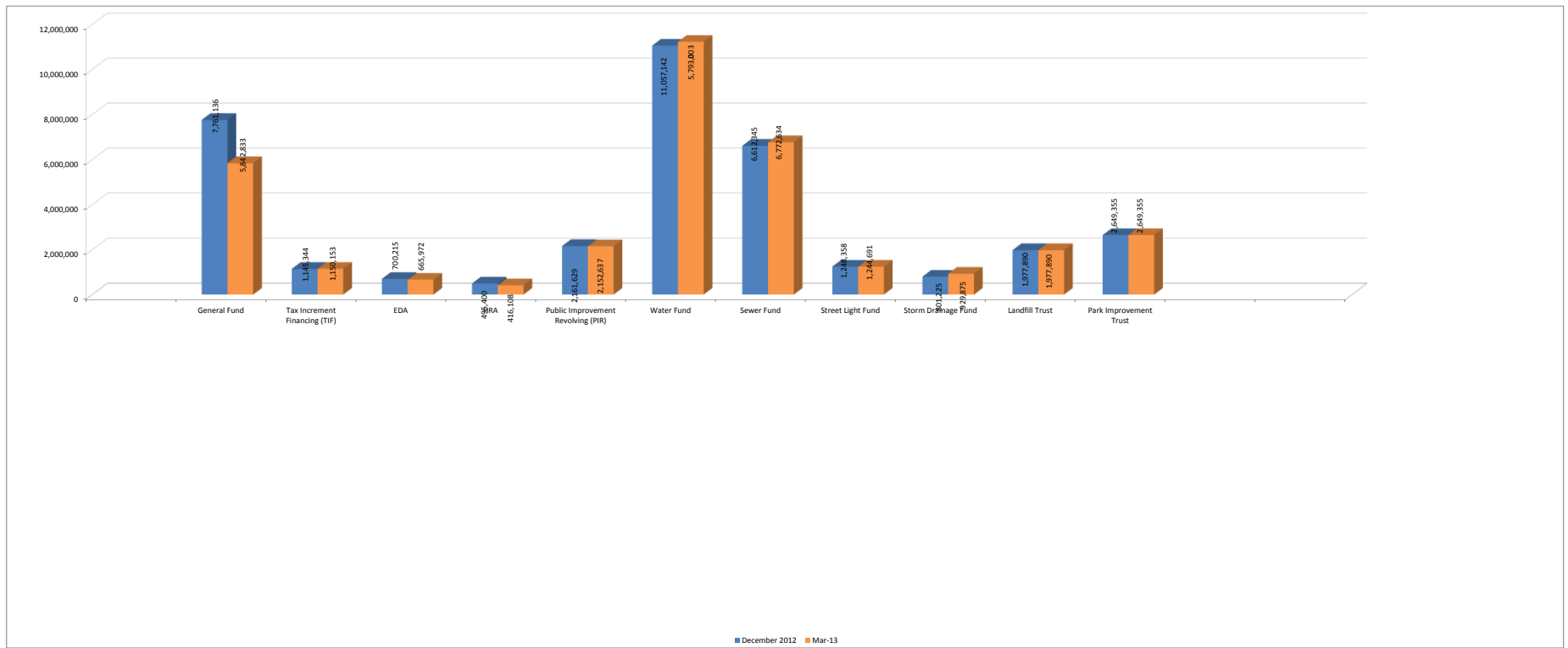
CITY INVEST #	STATED MAT DATE	BROKER	SECURITY DESCRIP	CUSIP	PRIN		SOLD/ MATURE 2013	BV		YTM
					BAL 1/1/2013	PURCH 2013		PRIN BAL 12/31/2013	PAR	
130125b	12/1/2020	Northland	PALATINE ILL TAX	696089QL8	0.00	100,000.00	0.00	100,000.00	100,000	5.05%
130125C	12/1/2019	Northland	PALATINE ILL TAX	696089QKO	0.00	200,000.00	0.00	200,000.00	200,000	5.00%
130125D	12/1/2018	Northland	PALATINE ILL TAX	696089QJ3	0.00	85,000.00	0.00	85,000.00	85,000	4.85%
121211A	6/1/2014	Northland	IOWA WESTERN COMM C	462612-QJ-4	130,000.00		0.00	130,000.00	130,000	0.40%
121211B	6/1/2015	Northland	IOWA WESTERN COMM C	462612-QK-1	175,000.00		0.00	175,000.00	175,000	0.50%
121211C	6/1/2016	Northland	IOWA WESTERN COMM C	462616-QL-9	100,000.00		0.00	100,000.00	100,000	0.65%
121228A	6/1/2017	Northland	IOWA WESTERN COMM C	462612-QM-7	100,000.00		0.00	100,000.00	100,000	0.85%
121228B	9/1/2023	Northland	MIDDLETON WIS REFUN	596782-T6-7	300,000.00		0.00	300,000.00	300,000	2.36%
120214B	9/1/2025	Northland	MIDDLETON WIS REFUN	596782-TJ-1	315,000.00		0.00	315,000.00	315,000	2.85%
120215A	1/1/2028	Northland	MINNETONKA ISD #276	604195-SB-4	50,000.00		0.00	50,000.00	50,000	5.20%
120215B	6/1/2026	Northland	CEDAR RAPIDS IO TAX	150528-JU-2	50,000.00		0.00	50,000.00	50,000	4.55%
120215C	10/1/2019	Northland	WESTERN LAKE SUPERIOR	958522-WV-4	100,000.00		0.00	100,000.00	100,000	3.15%
040518	2/1/2013	Northland	FNMA 254663	31371K-Z4-6	1,137.96		1,003.64	134.32	272,453	3.77%
090212A	2/1/2013	Northland	ROSEMOUNT ISD#196	777594-WW-8	150,000.00		150,000.00	0.00	150,000	3.00%
090820A	2/1/2013	Northland	LACQUI PARLE VALLEY	505468-AH-1	115,000.00		115,000.00	0.00	115,000	2.65%
090213B	6/1/2013	Northland	ILLINOIS ST PENSION	452151-LA-9	345,000.00		0.00	345,000.00	345,000	3.85%
080828B	8/28/2013	Northland	CD-NATIONAL REP BAN	63736Q-JT-9	97,000.00		0.00	97,000.00	97,000	4.95%
090420A	11/1/2013	Northland	BURLINGTON VT PUB IM	122062-MJ-8	125,000.00		0.00	125,000.00	125,000	3.26%
080731	12/15/2013	Northland	BEAVER CITY PA TAX	074851-MQ-6	125,000.00		0.00	125,000.00	125,000	5.00%
100106	12/15/2013	Northland	FOX VALLEY PK DIST B	351592-GC-8	400,000.00		0.00	400,000.00	400,000	2.06%
080324	12/30/2013	Northland	WHEATON IL PK TAX	96257-PB-0	475,000.00		0.00	475,000.00	475,000	4.15%
090630B	12/30/2013	Northland	MCGREGOR ISD #004	580705-GM-7	100,000.00		0.00	100,000.00	100,000	3.00%
090212B	2/1/2014	Northland	ROSEMOUNT ISD#196	777594-WX-6	300,000.00		0.00	300,000.00	300,000	3.50%
090715A	2/1/2014	Northland	MOWER CTY MIN JAIL	624662-AH-5	515,000.00		0.00	515,000.00	515,000	3.80%
090820B	2/1/2014	Northland	LACQUI PARLE VALLEY	505468-AJ-7	120,000.00		0.00	120,000.00	120,000	3.15%
080425A	3/1/2014	Northland	DAUPHIN COUNTY PA	238253-RU-4	150,000.00		0.00	150,000.00	150,000	5.00%
090217B	3/1/2014	Northland	STILLWATER ISC #834	860758-PY-1	200,000.00		0.00	200,000.00	200,000	3.40%
100223B	4/1/2014	Northland	WINNEBAGO CITY WIS	974603-MZ-2	200,000.00		0.00	200,000.00	200,000	2.10%
080507	5/1/2014	Northland	FREEMONT NE ELEC TAX	356730-T7-6	110,000.00		0.00	110,000.00	110,000	4.50%
090528B	5/28/2014	Northland	CD-SUNTRUST BANK	86789V-HM-2	100,000.00		0.00	100,000.00	100,000	4.00%
091103	6/1/2014	Northland	GRIMES IOWA BABS	398526-FV-O	120,000.00		0.00	120,000.00	120,000	3.25%
110201A	6/1/2014	Northland	WINDSOR HTS IOWA TA	973602-KR-5	255,000.00		0.00	255,000.00	255,000	1.35%
110301B	6/1/2014	Northland	DES MOINES IA COMM C	250097-YR-7	265,000.00		0.00	265,000.00	265,000	2.00%
110602	7/5/2014	Northland	ELKHART, IN COMM SCH	287515-SF-8	250,000.00		0.00	250,000.00	250,000	5.75%
110715	10/22/2014	Northland	CD-BMW BANK	05568P-YZ-4	147,000.00		0.00	147,000.00	147,000	1.55%
090630C	12/30/2014	Northland	MCGREGOR ISD #004	580705-GL-9	105,000.00		0.00	105,000.00	105,000	3.40%
090206	2/1/2015	Northland	NORTH ST PAUL MAPLE	6621406D9	355,000.00		0.00	355,000.00	355,000	3.70%
090528A	2/1/2015	Northland	WAYZATA ISD #284	946813-TF-9	500,000.00		0.00	500,000.00	500,000	3.15%
090715B	2/1/2015	Northland	MOWER CTY MIN JAIL	624662-AJ-1	250,000.00		0.00	250,000.00	250,000	4.10%
090914	2/1/2015	Northland	GRAND RAPIDS MN EQU	386334-2L-9	115,000.00		0.00	115,000.00	115,000	3.70%
100803A	2/1/2015	Northland	NEW PRAGUE BAB	648159-TU-5	60,000.00		0.00	60,000.00	60,000	2.65%
090310	4/1/2015	Northland	WEST ALLIS WIS COMM	951172-7R-0	340,000.00		0.00	340,000.00	340,000	3.75%
081106	6/1/2015	Northland	KIRKWOOD COMM COLL	497595-VC-9	245,000.00		0.00	245,000.00	245,000	5.50%
110301A	6/1/2015	Northland	DES MOINES IA COMM C	250097-YR-5	100,000.00		0.00	100,000.00	100,000	2.50%
090420B	11/1/2015	Northland	BURLINGTON VT PUB IM	022062-ML-3	200,000.00		0.00	200,000.00	200,000	3.75%
110913A	12/1/2015	Northland	APPLETON MN TAXABLE	03805A-KR-8	140,000.00		0.00	140,000.00	140,000	1.60%
080502	12/15/2015	Northland	ROCKFORD ILL TAX	77316Q-B4-4	205,000.00		0.00	205,000.00	20,500	5.13%
110208	12/30/2015	Northland	MCGREGOR ISD #004	580705-GN-5	95,000.00		0.00	95,000.00	95,000	2.35%
090217C	3/1/2016	Northland	STILLWATER ISC #834	860758-QA-2	245,000.00		0.00	245,000.00	245,000	4.20%
110114B	3/1/2016	Northland	APPLETON WIS SCHOOL	038106-JN-1	100,000.00		0.00	100,000.00	100,000	2.77%
100223A	6/1/2016	Northland	DAVENPORT IOWA TAX	238388-FU-1	335,000.00		0.00	335,000.00	335,000	3.25%
110201B	6/1/2016	Northland	WINDSOR HTS IOWA TA	973602-KT-1	130,000.00		0.00	130,000.00	130,000	2.30%
110816A	10/1/2016	Northland	WESTIN LAKE SUPERIOR	958522-WR-1	350,000.00		0.00	350,000.00	350,000	2.10%
110714B	10/1/2016	Northland	WAUWATO WIS REFUND	943504-R2-8	300,000.00		0.00	300,000.00	300,000	1.90%
110913B	12/1/2016	Northland	APPLETON MN TAXABLE	038051-KS-6	110,000.00		0.00	110,000.00	110,000	2.00%
110114A	2/1/2017	Northland	HOPKINS ISD #270	439881-HB-2	100,000.00		0.00	100,000.00	100,000	2.75%
110203A	4/1/2017	Northland	MEDFORD WIS SCHOOL	58434T-DK-3	40,000.00		0.00	40,000.00	40,000	2.75%
110106	6/1/2017	Northland	CHARLES CTY MD	159807-C3-8	105,000.00		0.00	105,000.00	105,000	4.00%
120214A	9/1/2017	Northland	TAOS NEW MEX SD	876014-FV-8	175,000.00		0.00	175,000.00	175,000	4.63%
110816B	10/1/2017	Northland	WESTIN LAKE SUPERIOR	958522-WS-9	350,000.00		0.00	350,000.00	350,000	2.50%
100803B	2/1/2018	Northland	NEW PRAGUE BAB	648159-TX-9	70,000.00		0.00	70,000.00	70,000	3.75%
111031	6/1/2018	Northland	RACINE WIS TAXABLE	750021-6D-4	755,000.00		0.00	755,000.00	755,000	2.10%
110608	2/1/2019	Northland	WADENA MN BAB	930217-JD-7	95,000.00		0.00	95,000.00	95,000	3.94%
100803C	2/1/2019	Northland	NEW PRAGUE BAB	648159-TY-7	45,000.00		0.00	45,000.00	45,000	4.00%
110310	2/1/2020	Northland	BROOKLYN CENTER ISD	113853-KG-9	285,000.00		0.00	285,000.00	285,000	4.65%
100803D	2/1/2020	Northland	NEW PRAGUE BAB	648159-TZ-4	70,000.00		0.00	70,000.00	70,000	4.25%
120308A	12/1/2020	Northland	SHOREWOOD WIS TAX	825230-KU-8	150,000.00		0.00	150,000.00	150,000	2.50%
120321	3/1/2022	Northland	MADISON WI SCHOOL D	558495-KN-6	500,000.00		0.00	500,000.00	500,000	2.50%
1209606B	6/1/2022	Northland	CEDAR RAPIDS IO TAX	150528-N2-6	135,000.00		0.00	135,000.00	135,000	2.50%
120308B	12/1/2022	Northland	SHOREWOOD WIS TAX	825230-KW-4	150,000.00		0.00	150,000.00	150,000	2.80%
120606A	6/1/2023	Northland	CEDAR RAPIDS IO TAX	150528-PA-9	140,000.00		0.00	140,000.00	140,000	2.70%
120308C	12/1/2027	Northland	SHOREWOOD WIS TAX	825230-LB-9	225,000.00		0.00	225,000.00	225,000	3.25%
120308D	12/1/2028	Northland	SHOREWOOD WIS TAX	825230-LC-7	465,000.00		0.00	465,000.00	465,000	3.15%
								15,189,134.32		

PRINTED 4/17/2013

2013 CASH AND INVESTMENT ACTIVITY

CITY INVEST #	STATED MAT DATE	BROKER	SECURITY DESCRIP	CUSIP	PRIN BAL 1/1/2013	PURCH 2013	SOLD/ MATURE 2013	BV PRIN BAL 12/31/2013	PAR	YTM
971212	11/28/2002	UBS	CD-FNB KEYSTONE, Nev	320950AJ7R	96,000.00		0.00	96,000.00	96,000	6.25%
010328	6/25/2023	UBS	FHG14A	312916PD5R	8,000.00		1,000.00	7,000.00	152,000	6.00%
120822	8/22/2022	UBS	FHLB	313380C47	500,000.00		0.00	500,000.00	500,000	1.25%
120820	8/20/2027	UBS	FHLB	313380B71	1,000,000.00		0.00	1,000,000.00	1,000,000	1.00%
121123A	11/23/2027	UBS	FHLB	313381BT1	500,000.00		0.00	500,000.00	500,000	2.16%
121123B	11-23-27	UBS	FHLB	313381BD6	500,000.00		0.00	500,000.00	500,000	2.00%
121128	11/28/2022	UBS	FHLB	313381AC9	500,000.00		0.00	500,000.00	500,000	1.25%
121221	12/21/2027	UBS	FHLB	313381FPS	750,000.00		0.00	750,000.00	750,000	2.00%
120730	7/30/2024	UBS	FHLB-STEP	3133803H8	500,000.00		0.00	500,000.00	500,000	1.90%
120228	2/28/2017	UBS	FHLMC	313463NA4	400,000.00		0.00	400,000.00	400,000	1.31%
120328	3/28/2022	UBS	FHLMC	3134G3SF8	500,000.00		0.00	500,000.00	500,000	2.13%
000417	8/15/2021	UBS	FHLMC REMIC 181e	312904AU9C	2,276.81		234.81	2,042.00	88,604	7.00%
970917B	9/15/2021	UBS	FHLMC REMIC SERIES F	312904GT6C	3,637.37		193.72	3,443.65	255,714	7.21%
020826	10/15/2022	UBS	FHR 1391D	312912LUO	2,539.24		92.52	2,446.72	59,990	6.00%
030630A	6/15/2018	UBS	FHR 2628 AB	31393VMQ1C	26,639.15		3,617.95	23,021.20	200,000	3.12%
030930A	9/15/2018	UBS	FHR 2677 KH	31394JTP2	57,367.18		4,726.41	52,640.77	300,000	4.50%
040730A	7/15/2019	UBS	FHR 2822 DB	31395C3S8	95,514.35		11,648.51	83,865.84	500,000	5.00%
040730B	7/15/2019	UBS	FHR 2822 DQ	31395C3U3	20,216.44		8,826.72	11,389.72	500,000	5.00%
120322	3/22/2027	UBS	FNMA	3136FT6A2	500,000.00		500,000.00	0.00	500,000	1.49%
120329B	3/29/2027	UBS	FNMA	3136FT7E3	500,000.00		0.00	500,000.00	500,000	2.00%
970625	2/25/2021	UBS	FNMA FNR-1991-7 H	31358FZW2	3,000.00		0.00	3,000.00	129,000	7.84%
0210004	8/25/2022	UBS	FNR 1992-12SL	31358PS40C	2,974.07		87.08	2,886.99	52,000	7.00%
031030A	11/25/2018	UBS	FNR 2003-113KA	31393T2P0	7,082.57		5,356.30	1,726.27	197,000	4.50%
030430B	4/25/2018	UBS	FNR 2003-41-JH	31393BD36C	11,621.53		3,164.17	8,457.36	300,000.00	5.00%
030730A	8/25/2018	UBS	FNR 2003-74-KN	31393EAL3C	55,357.71		7,863.51	47,494.20	300,000.00	3.59%
040830	8/25/2019	UBS	FNR 2004 68 BT	31394AYU4	1,636.64		1,629.83	6.81	500,000	
001127	7/25/2022	UBS	FNR G92-35	31358PHV2C	2,688.86		101.57	2,587.29	75,215	7.49%
020816B	1/25/2024	UBS	FNR G94-2D	31359GR40	134.80		134.81	-0.01	46,221	6.45%
040430	4/25/2019	UBS	FNR-2004-31-DA	31393YAJ4	35,360.22		14,229.98	21,130.24	500,000	4.50%
101228	4/1/2013	UBS	MPLS SCHOOL DISTR	603792PR7	615,000.00		0.00	615,000.00	615,000	1.70%
121207	11/1/2018	UBS	NYC GEN TAX	64971QH55	500,000.00		0.00	500,000.00	500,000	1.28%
120817A	5/1/2018	UBS	NYC-TAXABLE	64971QTU7	500,000.00		0.00	500,000.00	500,000	1.60%
Money Mkt							0.00	7,634,139.05	0.00	

TOTAL INVESTMENTS					35,341,145.16	2,083,000.00	2,380,805.35	35,043,339.81		
Unamortized Premiums					1,221,206.69	40,207.20		1,261,413.89		
Unamortized Discounts					(2,854,357.28)			-2,854,357.28		
BOW					2,600,100.00	6,151,888.39	6,893,130.51	1,858,857.88		
Village Bank Checking					25,522.39	10,403.37	3,220.72	32,705.04		
Money Market Accounts					6,657,072.05	646.94	1,200,000.00	5,457,718.99		
Net Cash and Investments					42,990,689.01	8,286,145.90	10,477,156.58	40,799,678.33		



CC Regular Session**4. 2.****Meeting Date:** 04/23/2013**By:** Diana Lund, Finance

Information**Title:**

Receive January 2013 Financial Reports - General Fund and Enterprise Funds

Background:

Brief Summary of actual revenues and expenditures to date in comparison to adopted budget for the funds of: General, Water, Sewer, Street Lighting, Recycling and Storm Drainage.

Council Action:

No Action Required. Informational Only.

AttachmentsJanuary 2013 Enterprise Funds Financial Reports - Budget to ActualJanuary 2013 General Fund Financial Report - Budget to Actual

Form Review**Inbox**

Kurt Ulrich

Reviewed By

Kurt Ulrich

Date

04/18/2013 03:37 PM

Form Started By: Diana Lund

Started On: 04/17/2013 10:19 AM

Final Approval Date: 04/18/2013

**CITY OF RAMSEY
FINANCIAL STATEMENT**

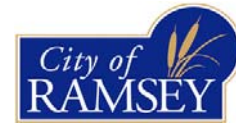


JANUARY 1, 2013 THROUGH PERIOD ENDING: January 31, 2013

REVENUES				
BUSINESS UNIT	9601	WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(5,000.00)	(197.94)	3.96%	
4609 OTHER MISCELLANEOUS REVENUES	61,853.00	1,478.33	2.39%	
4651 WATER REVENUE		(3,275.76)	0.00%	
4652 WATER SALES - RESIDENTIAL	963,401.00		0.00%	
4653 WATER SALES-COMMERCIAL	676,702.00	60.00	0.01%	
4654 WATER PENALTIES	32,802.00		0.00%	
4655 WATER METER INSTALLATION	10,000.00	280.00	2.80%	
4656 WATER METERS	20,000.00	817.00	4.09%	
4657 CONNECTION/RECONNECTION FEES	4,000.00		0.00%	
4701 INTEREST ON INVESTMENTS	120,000.00		0.00%	
Grand Total	1,883,758.00	(838.37)		

EXPENSES				
BUSINESS UNIT	9601	WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	173,233.00	11,637.50	6.72%	
6103 FULL TIME-REGULAR-OVERTIME	12,500.00	1,076.41	8.61%	
6105 TEMPORARY-WAGES & SALARIES	17,000.00	-	0.00%	
6121 PERA CONTRIBUTIONS	13,069.00	1,438.19	11.00%	
6122 FICA/MEDICARE CONTRIBUTIONS	15,677.00	1,491.23	9.51%	
6131 GROUP INSURANCE	21,120.00	1,695.70	8.03%	
6133 WORKERS COMP INSURANCE PREMIUM	7,436.00		0.00%	
6208 MISCELLANEOUS OFFICE SUPPLIES	1,000.00	36.57	3.66%	
6223 GASOLINE	5,000.00	320.48	6.41%	
6225 DIESEL FUEL	7,000.00	354.35	5.06%	
6229 SHOP MATERIALS	750.00		0.00%	
6231 UNIFORMS & TURN-OUT GEAR	1,500.00	-	0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	13,000.00	33.33	0.26%	
6257 OTHER VEHICLE PARTS	2,500.00	-	0.00%	
6259 BUILDING MAINT/REPAIR SUPPLIES		-	0.00%	
6273 UTILITY SYSTEM MAINT SUPPLIES	75,000.00	-	0.00%	
6281 SMALL TOOLS & MINOR EQUIPMENT	15,000.00	-	0.00%	
6292 WATER METERS FOR RESALE	20,000.00	-	0.00%	
6315 MISCELLANEOUS PROFESSIONAL SER	40,000.00		0.00%	
6322 POSTAGE	2,000.00	12.40	0.62%	
6323 CELLULAR PHONES	2,400.00	-	0.00%	
6335 TRAINING	1,600.00	-	0.00%	
6352 GENERAL NOTICE & PUBLIC INFOR	600.00		0.00%	
6361 GENERAL LIABILITY/PROPERTY INS	24,000.00		0.00%	
6371 ELECTRIC UTILITIES	125,000.00	-	0.00%	
6372 WATER/IRRIGATION	800.00		0.00%	
6373 GAS	4,000.00	-	0.00%	
6374 REFUSE/RECYCLING	600.00	26.62	4.44%	
6381 BUILDING & STRUCTURE REPAIR	500.00	-	0.00%	
6415 OTHER EQUIPMENT RENTAL		-	0.00%	
6439 OTHER MISCELLANEOUS	17,000.00		0.00%	
6451 MEMBERSHIP DUES	800.00		0.00%	
6489 OTHER CONTRACTED SERVICES	27,000.00	-	0.00%	
6722 DEPRECIATION	654,473.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	35,000.00		0.00%	
Grand Total	1,336,558.00	18,122.78		

**CITY OF RAMSEY
FINANCIAL STATEMENT**



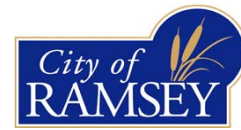
JANUARY 1, 2013 THROUGH PERIOD ENDING: January 31, 2013

REVENUES				
BUSINESS UNIT	9602	SEWER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(4,000.00)	(100.69)	2.52%	
4356 SEWER AVAILABILITY CHARGE-ADM	1,000.00	-	0.00%	
4609 OTHER MISCELLANEOUS REVENUES	18,546.00	1,478.31	7.97%	
4661 RESIDENTIAL-SEWER CHARGES	925,057.00		0.00%	
4662 COMMERCIAL-SEWER CHARGES	311,381.00		0.00%	
4663 SEWER PENALTIES	24,729.00		0.00%	
4701 INTEREST ON INVESTMENTS	40,000.00		0.00%	
Grand Total	1,316,713.00	1,377.62		

EXPENSES				
BUSINESS UNIT	9602	SEWER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	87,996.00	816.44	0.93%	
6103 FULL TIME-REGULAR-OVERTIME	2,000.00	-	0.00%	
6105 TEMPORARY-WAGES & SALARIES	5,500.00		0.00%	
6121 PERA CONTRIBUTIONS	7,830.00	79.36	1.01%	
6122 FICA/MEDICARE CONTRIBUTIONS	8,640.00	82.47	0.95%	
6133 WORKERS COMP INSURANCE PREMIUM	2,539.00		0.00%	
6225 DIESEL FUEL	2,500.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	8,000.00	33.33	0.42%	
6257 OTHER VEHICLE PARTS		-	0.00%	
6275 OTHER EQUIPMENT PARTS	2,500.00		0.00%	
6315 MISCELLANEOUS PROFESSIONAL SER	10,000.00		0.00%	
6335 TRAINING	1,500.00	300.00	20.00%	
6361 GENERAL LIABILITY/PROPERTY INS	9,500.00		0.00%	
6371 ELECTRIC UTILITIES	9,500.00	-	0.00%	
6373 GAS	2,400.00	-	0.00%	
6374 REFUSE/RECYCLING	500.00	26.62	5.32%	
6377 SEWER SERVICE CHARGE	584,352.00	48,695.99	8.33%	
6388 OTHER VEHICLE REPAIR		-	0.00%	
6489 OTHER CONTRACTED SERVICES	24,000.00	-	0.00%	
6722 DEPRECIATION	512,357.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	29,000.00		0.00%	
Grand Total	1,310,614.00	50,034.21		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: January 31, 2013

REVENUES				
BUSINESS UNIT	9603	STREET LIGHT UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(500.00)	(9.81)	1.96%	
4681 CHARGES FOR STREET LIGHTS	173,000.00		0.00%	
4682 ST LIGHT O/M CHARGE	360.00		0.00%	
4683 STREET LIGHTING PENALTIES	5,400.00		0.00%	
4701 INTEREST ON INVESTMENTS	15,000.00		0.00%	
Grand Total	193,260.00	(9.81)		

EXPENSES				
BUSINESS UNIT	9603	STREET LIGHT UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6371 ELECTRIC UTILITIES	123,000.00	-	0.00%	
6489 OTHER CONTRACTED SERVICES	12,328.00	-	0.00%	
6722 DEPRECIATION	35,012.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	15,000.00		0.00%	
Grand Total	185,340.00	-		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: January 31, 2013

REVENUES				
BUSINESS UNIT	9604	RECYCLING UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(500.00)	(13.41)	2.68%	
4287 OTHER LOCAL GOVERNMENT GRANTS	71,505.00		0.00%	
4609 OTHER MISCELLANEOUS REVENUES		4,032.00	0.00%	
4671 RECYCLING CHARGES	287,000.00		0.00%	
4672 RECYCLING PENALTIES	8,200.00		0.00%	
4701 INTEREST ON INVESTMENTS	200.00		0.00%	
Grand Total	366,405.00	4,018.59		

EXPENSES				
BUSINESS UNIT	9604	RECYCLING UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	5,343.00	625.64	11.71%	
6121 PERA CONTRIBUTIONS	393.00	50.97	12.97%	
6122 FICA/MEDICARE CONTRIBUTIONS	423.00	48.27	11.41%	
6133 WORKERS COMP INSURANCE PREMIUM	93.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	7,000.00		0.00%	
6322 POSTAGE	250.00	17.10	6.84%	
6489 OTHER CONTRACTED SERVICES	318,000.00	23,617.70	7.43%	
6820 OPERATING TRANSFERS TO OTHER F	9,000.00		0.00%	
Grand Total	340,502.00	24,359.68		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: January 31, 2013

REVENUES				
BUSINESS UNIT	9605	STORM WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(1,000.00)	(15.57)	1.56%	
4693 STORM WATER-RESIDENTIAL	321,920.00		0.00%	
4694 STORM WATER-COMMERCIAL	329,716.00		0.00%	
4695 STORM WATER-PENALTIES	19,549.00		0.00%	
4701 INTEREST ON INVESTMENTS	4,000.00		0.00%	
Grand Total	674,185.00	(15.57)		

EXPENSES				
BUSINESS UNIT	9605	STORM WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	107,882.00	-	0.00%	
6103 FULL TIME-REGULAR-OVERTIME		-	0.00%	
6121 PERA CONTRIBUTIONS	7,830.00	-	0.00%	
6122 FICA/MEDICARE CONTRIBUTIONS	8,214.00	-	0.00%	
6133 WORKERS COMP INSURANCE PREMIUM	2,923.00		0.00%	
6223 GASOLINE	1,500.00		0.00%	
6225 DIESEL FUEL	1,500.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	10,000.00	33.34	0.33%	
6257 OTHER VEHICLE PARTS	5,000.00	96.18	1.92%	
6315 MISCELLANEOUS PROFESSIONAL SER	42,000.00	-	0.00%	
6361 GENERAL LIABILITY/PROPERTY INS	6,500.00		0.00%	
6371 ELECTRIC UTILITIES	2,420.00	-	0.00%	
6373 GAS	2,000.00	-	0.00%	
6374 REFUSE/RECYCLING	500.00	26.62	5.32%	
6388 OTHER VEHICLE REPAIR		-	0.00%	
6451 MEMBERSHIP DUES	24,689.00		0.00%	
6489 OTHER CONTRACTED SERVICES	17,200.00	-	0.00%	
6722 DEPRECIATION	242,582.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	24,000.00		0.00%	
Grand Total	506,740.00	156.14		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: January 31, 2013

GENERAL FUND EXPENDITURES - BY DEPARTMENT -		
Dept	CURRENT YEAR REQUESTED BUDGE	CURRENT YTD GENERAL LEDGER
Admin	1,363,433.00	72,339.02
Com Dev	455,632.00	23,677.74
Contingency	224,539.00	
Council	124,573.00	27,316.81
Finance	447,108.00	30,130.47
Fire	848,437.00	23,708.27
Legal	126,000.00	2,891.80
Police	3,068,708.00	198,223.79
Public Works	3,635,407.00	114,522.28
Grand Total	10,293,837.00	492,810.18

GENERAL FUND EXPENDITURES - BY CATEGORY -		
Category	-CURRENT YEAR REQUESTED BUDGET-	-CURRENT YTD GENERAL LEDGER-
Capital Outlay	463,000.00	-
Debt Service	180,823.00	
Other Services & Charges	3,065,308.00	45,717.67
Personal Services	5,806,331.00	422,421.35
Supplies	778,375.00	24,671.16
Grand Total	10,293,837.00	492,810.18

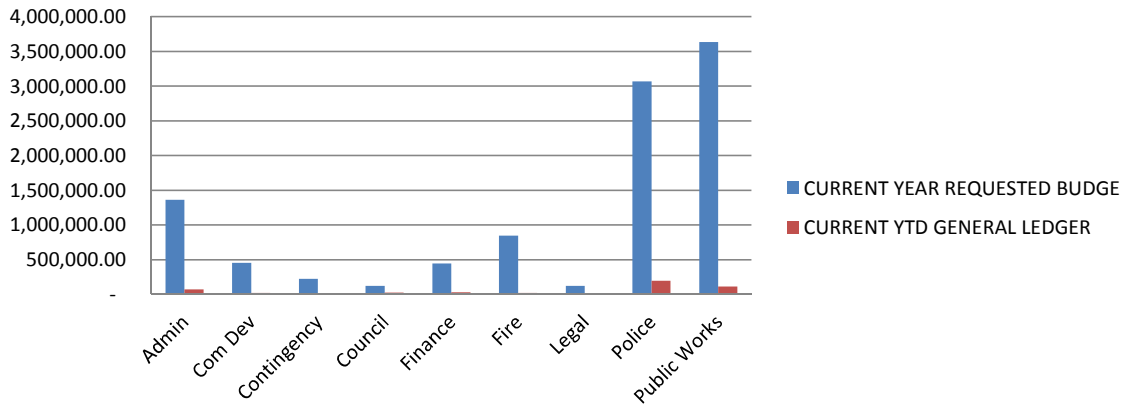
GENERAL FUND REVENUES - BY CATEGORY -		
Category	-CURRENT YEAR REQUESTED BUDGET-	-CURRENT YTD GENERAL LEDGER-
Taxes	7,233,829.00	
Charges for Services	915,750.00	17,266.42
Business Licenses/Permits	62,000.00	7,901.28
Fines and Forfeits	89,000.00	750.00
Federal Intergovernmental	7,000.00	
State Intergovernmental	298,300.00	-
Interest	80,000.00	
Miscellaneous	10,500.00	287.58
Non-Business Licenses/Permits	375,700.00	21,600.67
Transfers in	1,221,758.00	
Grand Total	10,293,837.00	47,805.95

**CITY OF RAMSEY
FINANCIAL STATEMENT**

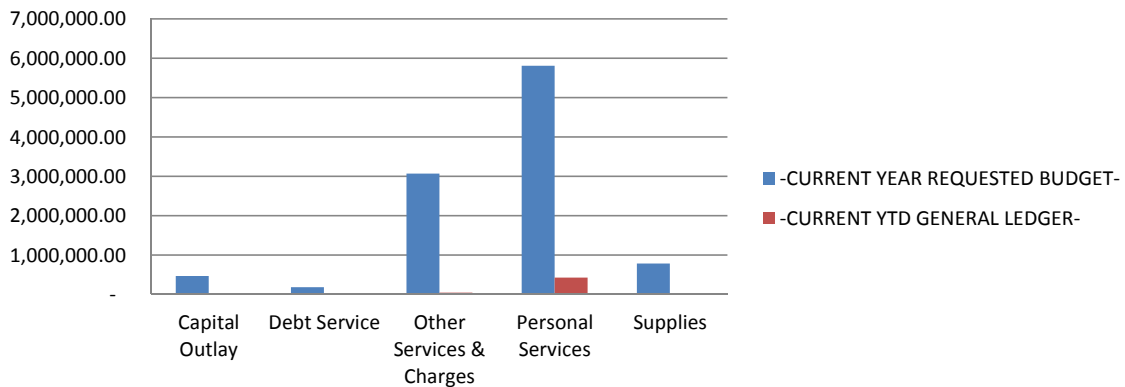


JANUARY 1, 2013 THROUGH PERIOD ENDING: January 31, 2013

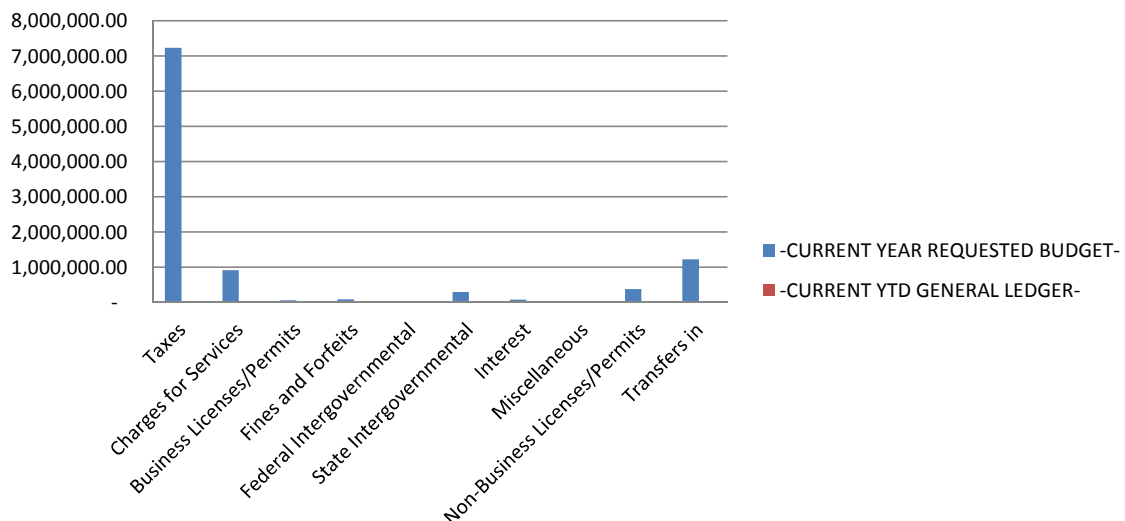
GENERAL FUND EXPENDITURES - BY DEPARTMENT



GENERAL FUND EXPENDITURES - BY CATEGORY



GENERAL FUND REVENUES



CC Regular Session**4.3.****Meeting Date:** 04/23/2013**By:** Diana Lund, Finance

Information**Title:**

Receive February 2013 Financial Reports - General Fund and Enterprise Funds

Background:

Brief Summary of actual revenues and expenditures to date in comparison to adopted budget for the funds of: General, Water, Sewer, Street Lighting, Recycling and Storm Drainage.

Council Action:

No Action Required. Informational Only.

AttachmentsFebruary 2013 General Fund Report - Budget to ActualFebruary 2013 Enterprise Funds Financial Reports - Budget to Actual

Form Review**Inbox**

Kurt Ulrich

Reviewed By

Kurt Ulrich

Date

04/18/2013 03:04 PM

Form Started By: Diana Lund

Started On: 04/17/2013 10:21 AM

Final Approval Date: 04/18/2013

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: February 28, 2013

GENERAL FUND EXPENDITURES - BY DEPARTMENT -		
Dept	CURRENT YEAR REQUESTED BUDGE	CURRENT YTD GENERAL LEDGER
Admin	1,363,433.00	164,264.09
Com Dev	455,632.00	50,528.04
Contingency	224,539.00	
Council	124,573.00	34,507.17
Finance	447,108.00	60,465.03
Fire	848,437.00	55,444.93
Legal	126,000.00	8,777.80
Police	3,068,708.00	403,185.02
Public Works	3,635,407.00	293,393.85
Grand Total	10,293,837.00	1,070,565.93

GENERAL FUND EXPENDITURES - BY CATEGORY -		
Category	-CURRENT YEAR REQUESTED BUDGET-	-CURRENT YTD GENERAL LEDGER-
Capital Outlay	463,000.00	85,108.99
Debt Service	180,823.00	
Other Services & Charges	3,065,308.00	81,106.36
Personal Services	5,806,331.00	841,673.72
Supplies	778,375.00	62,676.86
Grand Total	10,293,837.00	1,070,565.93

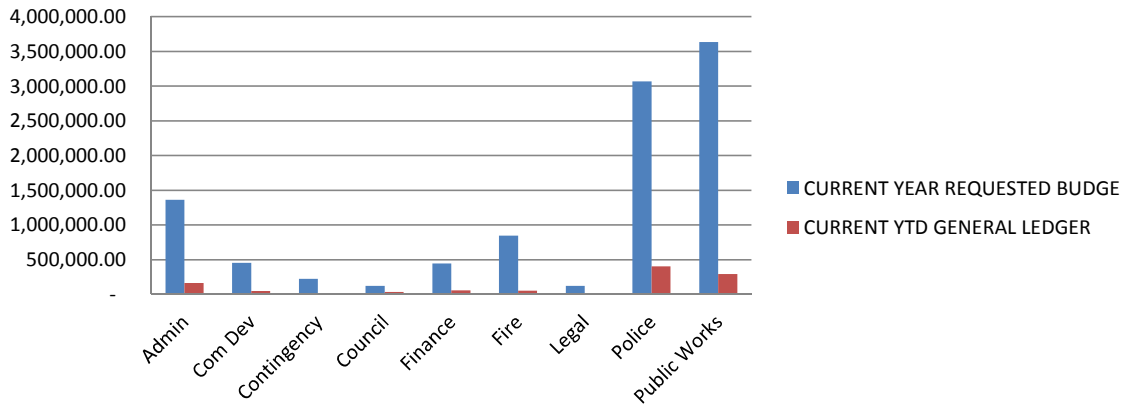
GENERAL FUND REVENUES - BY CATEGORY -		
Category	-CURRENT YEAR REQUESTED BUDGET-	-CURRENT YTD GENERAL LEDGER-
Taxes	7,233,829.00	
Charges for Services	915,750.00	34,431.11
Business Licenses/Permits	62,000.00	12,156.52
Fines and Forfeits	89,000.00	5,554.53
Federal Intergovernmental	7,000.00	
State Intergovernmental	298,300.00	70,000.00
Interest	80,000.00	
Miscellaneous	10,500.00	2,330.24
Non-Business Licenses/Permits	375,700.00	38,686.42
Transfers in	1,221,758.00	
Grand Total	10,293,837.00	163,158.82

**CITY OF RAMSEY
FINANCIAL STATEMENT**

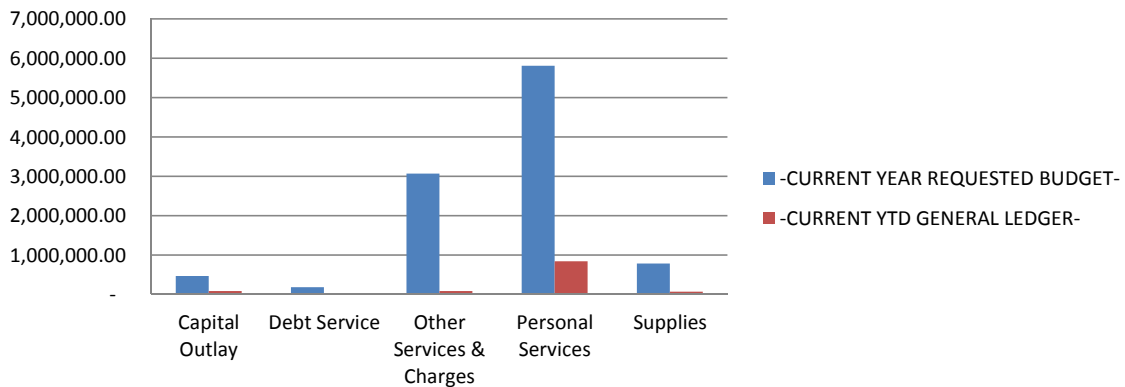


JANUARY 1, 2013 THROUGH PERIOD ENDING: February 28, 2013

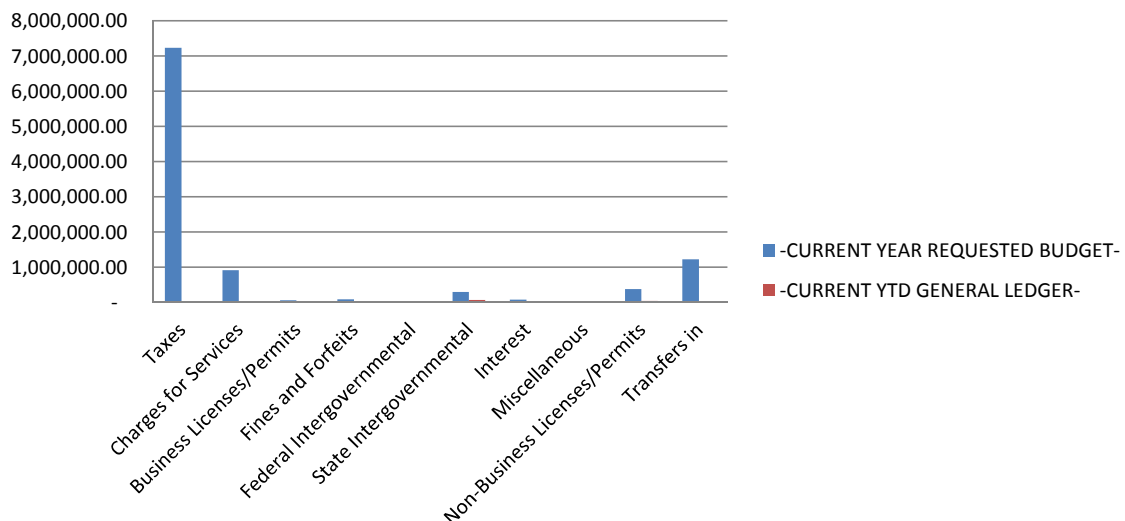
GENERAL FUND EXPENDITURES - BY DEPARTMENT



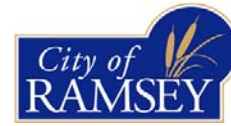
GENERAL FUND EXPENDITURES - BY CATEGORY



GENERAL FUND REVENUES



**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: February 28, 2013

REVENUES				
BUSINESS UNIT	9601	WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(5,000.00)	(348.42)	6.97%	
4609 OTHER MISCELLANEOUS REVENUES	61,853.00	1,478.33	2.39%	
4651 WATER REVENUE		(4,183.79)	0.00%	
4652 WATER SALES - RESIDENTIAL	963,401.00		0.00%	
4653 WATER SALES-COMMERCIAL	676,702.00	124.45	0.02%	
4654 WATER PENALTIES	32,802.00		0.00%	
4655 WATER METER INSTALLATION	10,000.00	840.00	8.40%	
4656 WATER METERS	20,000.00	1,917.00	9.59%	
4657 CONNECTION/RECONNECTION FEES	4,000.00		0.00%	
4701 INTEREST ON INVESTMENTS	120,000.00		0.00%	
Grand Total	1,883,758.00	(172.43)		

EXPENSES				
BUSINESS UNIT	9601	WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	173,233.00	21,049.46	12.15%	
6103 FULL TIME-REGULAR-OVERTIME	12,500.00	1,777.26	14.22%	
6105 TEMPORARY-WAGES & SALARIES	17,000.00	-	0.00%	
6121 PERA CONTRIBUTIONS	13,069.00	2,171.35	16.61%	
6122 FICA/MEDICARE CONTRIBUTIONS	15,677.00	2,248.27	14.34%	
6131 GROUP INSURANCE	21,120.00	3,484.40	16.50%	
6133 WORKERS COMP INSURANCE PREMIUM	7,436.00		0.00%	
6208 MISCELLANEOUS OFFICE SUPPLIES	1,000.00	36.57	3.66%	
6223 GASOLINE	5,000.00	605.38	12.11%	
6225 DIESEL FUEL	7,000.00	456.41	6.52%	
6229 SHOP MATERIALS	750.00		0.00%	
6231 UNIFORMS & TURN-OUT GEAR	1,500.00	193.50	12.90%	
6249 MISCELLANEOUS OPERATING SUPPLY	13,000.00	3,683.90	28.34%	
6257 OTHER VEHICLE PARTS	2,500.00	-	0.00%	
6259 BUILDING MAINT/REPAIR SUPPLIES		-	0.00%	
6273 UTILITY SYSTEM MAINT SUPPLIES	75,000.00	-	0.00%	
6281 SMALL TOOLS & MINOR EQUIPMENT	15,000.00	67.81	0.45%	
6292 WATER METERS FOR RESALE	20,000.00	538.13	2.69%	
6315 MISCELLANEOUS PROFESSIONAL SER	40,000.00		0.00%	
6322 POSTAGE	2,000.00	48.74	2.44%	
6323 CELLULAR PHONES	2,400.00	439.14	18.30%	
6335 TRAINING	1,600.00	854.18	53.39%	
6352 GENERAL NOTICE & PUBLIC INFOR	600.00		0.00%	
6361 GENERAL LIABILITY/PROPERTY INS	24,000.00		0.00%	
6371 ELECTRIC UTILITIES	125,000.00	6,022.19	4.82%	
6372 WATER/IRRIGATION	800.00		0.00%	
6373 GAS	4,000.00	254.75	6.37%	
6374 REFUSE/RECYCLING	600.00	56.43	9.41%	
6381 BUILDING & STRUCTURE REPAIR	500.00	-	0.00%	
6415 OTHER EQUIPMENT RENTAL		-	0.00%	
6439 OTHER MISCELLANEOUS	17,000.00		0.00%	
6451 MEMBERSHIP DUES	800.00		0.00%	
6489 OTHER CONTRACTED SERVICES	27,000.00	3,073.25	11.38%	
6722 DEPRECIATION	654,473.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	35,000.00		0.00%	
Grand Total	1,336,558.00	47,061.12		

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: February 28, 2013

REVENUES				
BUSINESS UNIT	9602	SEWER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(4,000.00)	(142.08)	3.55%	
4356 SEWER AVAILABILITY CHARGE-ADM	1,000.00	24.35	2.44%	
4609 OTHER MISCELLANEOUS REVENUES	18,546.00	1,478.31	7.97%	
4661 RESIDENTIAL-SEWER CHARGES	925,057.00		0.00%	
4662 COMMERCIAL-SEWER CHARGES	311,381.00		0.00%	
4663 SEWER PENALTIES	24,729.00		0.00%	
4701 INTEREST ON INVESTMENTS	40,000.00		0.00%	
Grand Total	1,316,713.00	1,360.58		

EXPENSES				
BUSINESS UNIT	9602	SEWER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	87,996.00	2,473.82	2.81%	
6103 FULL TIME-REGULAR-OVERTIME	2,000.00	-	0.00%	
6105 TEMPORARY-WAGES & SALARIES	5,500.00		0.00%	
6121 PERA CONTRIBUTIONS	7,830.00	199.52	2.55%	
6122 FICA/MEDICARE CONTRIBUTIONS	8,640.00	204.53	2.37%	
6133 WORKERS COMP INSURANCE PREMIUM	2,539.00		0.00%	
6225 DIESEL FUEL	2,500.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	8,000.00	57.98	0.72%	
6257 OTHER VEHICLE PARTS		-	0.00%	
6275 OTHER EQUIPMENT PARTS	2,500.00		0.00%	
6315 MISCELLANEOUS PROFESSIONAL SER	10,000.00		0.00%	
6335 TRAINING	1,500.00	300.00	20.00%	
6361 GENERAL LIABILITY/PROPERTY INS	9,500.00		0.00%	
6371 ELECTRIC UTILITIES	9,500.00	886.54	9.33%	
6373 GAS	2,400.00	-	0.00%	
6374 REFUSE/RECYCLING	500.00	56.43	11.29%	
6377 SEWER SERVICE CHARGE	584,352.00	97,391.98	16.67%	
6388 OTHER VEHICLE REPAIR		-	0.00%	
6489 OTHER CONTRACTED SERVICES	24,000.00	2,458.60	10.24%	
6722 DEPRECIATION	512,357.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	29,000.00		0.00%	
Grand Total	1,310,614.00	104,029.40		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: February 28, 2013

REVENUES				
BUSINESS UNIT	9603	STREET LIGHT UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(500.00)	(118.93)	23.79%	
4681 CHARGES FOR STREET LIGHTS	173,000.00		0.00%	
4682 ST LIGHT O/M CHARGE	360.00		0.00%	
4683 STREET LIGHTING PENALTIES	5,400.00		0.00%	
4701 INTEREST ON INVESTMENTS	15,000.00		0.00%	
Grand Total	193,260.00	(118.93)		

EXPENSES				
BUSINESS UNIT	9603	STREET LIGHT UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6371 ELECTRIC UTILITIES	123,000.00	10,315.34	8.39%	
6489 OTHER CONTRACTED SERVICES	12,328.00	2,458.60	19.94%	
6722 DEPRECIATION	35,012.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	15,000.00		0.00%	
Grand Total	185,340.00	12,773.94		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: February 28, 2013

REVENUES				
BUSINESS UNIT	9604	RECYCLING UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(500.00)	(11.93)	2.39%	
4287 OTHER LOCAL GOVERNMENT GRANTS	71,505.00		0.00%	
4609 OTHER MISCELLANEOUS REVENUES		4,212.00	0.00%	
4671 RECYCLING CHARGES	287,000.00		0.00%	
4672 RECYCLING PENALTIES	8,200.00		0.00%	
4701 INTEREST ON INVESTMENTS	200.00		0.00%	
Grand Total	366,405.00	4,200.07		

EXPENSES				
BUSINESS UNIT	9604	RECYCLING UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	5,343.00	1,142.43	21.38%	
6121 PERA CONTRIBUTIONS	393.00	88.44	22.50%	
6122 FICA/MEDICARE CONTRIBUTIONS	423.00	81.66	19.30%	
6133 WORKERS COMP INSURANCE PREMIUM	93.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	7,000.00		0.00%	
6322 POSTAGE	250.00	17.10	6.84%	
6489 OTHER CONTRACTED SERVICES	318,000.00	49,079.33	15.43%	
6820 OPERATING TRANSFERS TO OTHER F	9,000.00		0.00%	
Grand Total	340,502.00	50,408.96		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: February 28, 2013

REVENUES				
BUSINESS UNIT	9605	STORM WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(1,000.00)	(6.97)	0.70%	
4693 STORM WATER-RESIDENTIAL	321,920.00		0.00%	
4694 STORM WATER-COMMERCIAL	329,716.00		0.00%	
4695 STORM WATER-PENALTIES	19,549.00		0.00%	
4701 INTEREST ON INVESTMENTS	4,000.00		0.00%	
Grand Total	674,185.00	(6.97)		

EXPENSES				
BUSINESS UNIT	9605	STORM WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	107,882.00	253.79	0.24%	
6103 FULL TIME-REGULAR-OVERTIME		-	0.00%	
6121 PERA CONTRIBUTIONS	7,830.00	18.40	0.23%	
6122 FICA/MEDICARE CONTRIBUTIONS	8,214.00	16.70	0.20%	
6133 WORKERS COMP INSURANCE PREMIUM	2,923.00		0.00%	
6223 GASOLINE	1,500.00		0.00%	
6225 DIESEL FUEL	1,500.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	10,000.00	57.99	0.58%	
6257 OTHER VEHICLE PARTS	5,000.00	1,949.50	38.99%	
6315 MISCELLANEOUS PROFESSIONAL SER	42,000.00	-	0.00%	
6361 GENERAL LIABILITY/PROPERTY INS	6,500.00		0.00%	
6371 ELECTRIC UTILITIES	2,420.00	252.69	10.44%	
6373 GAS	2,000.00	-	0.00%	
6374 REFUSE/RECYCLING	500.00	56.43	11.29%	
6388 OTHER VEHICLE REPAIR		-	0.00%	
6451 MEMBERSHIP DUES	24,689.00		0.00%	
6489 OTHER CONTRACTED SERVICES	17,200.00	2,458.60	14.29%	
6722 DEPRECIATION	242,582.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	24,000.00		0.00%	
Grand Total	506,740.00	5,064.10		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

CC Regular Session**4. 4.****Meeting Date:** 04/23/2013**By:** Diana Lund, Finance

Information**Title:**

Receive March 2013 Financial Reports - General Fund and Enterprise Funds

Background:

Brief Summary of actual revenues and expenditures to date in comparison to adopted budget for the funds of: General, Water, Sewer, Street Lighting, Recycling and Storm Drainage.

Council Action:

No Action Required. Informational Only.

AttachmentsMarch 2013 General Fund Financial Report - Budget to ActualMarch 2013 Enterprise Funds Financial Reports - Budget to Actual

Form Review**Inbox**

Kurt Ulrich

Reviewed By

Kurt Ulrich

Date

04/18/2013 03:04 PM

Form Started By: Diana Lund

Started On: 04/17/2013 10:34 AM

Final Approval Date: 04/18/2013

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: March 31, 2013

GENERAL FUND EXPENDITURES - BY DEPARTMENT -		
Dept	CURRENT YEAR REQUESTED BUDGE	CURRENT YTD GENERAL LEDGER
Admin	1,363,433.00	278,588.29
Com Dev	455,632.00	95,660.28
Contingency	224,539.00	
Council	124,573.00	48,924.68
Finance	447,108.00	92,152.19
Fire	848,437.00	83,005.78
Legal	126,000.00	14,484.60
Police	3,068,708.00	600,158.01
Public Works	3,635,407.00	510,326.19
Grand Total	10,293,837.00	1,723,300.02

GENERAL FUND EXPENDITURES - BY CATEGORY -		
Category	-CURRENT YEAR REQUESTED BUDGET-	-CURRENT YTD GENERAL LEDGER-
Capital Outlay	463,000.00	85,285.17
Debt Service	180,823.00	
Other Services & Charges	3,065,308.00	237,397.17
Personal Services	5,806,331.00	1,252,975.99
Supplies	778,375.00	147,641.69
Grand Total	10,293,837.00	1,723,300.02

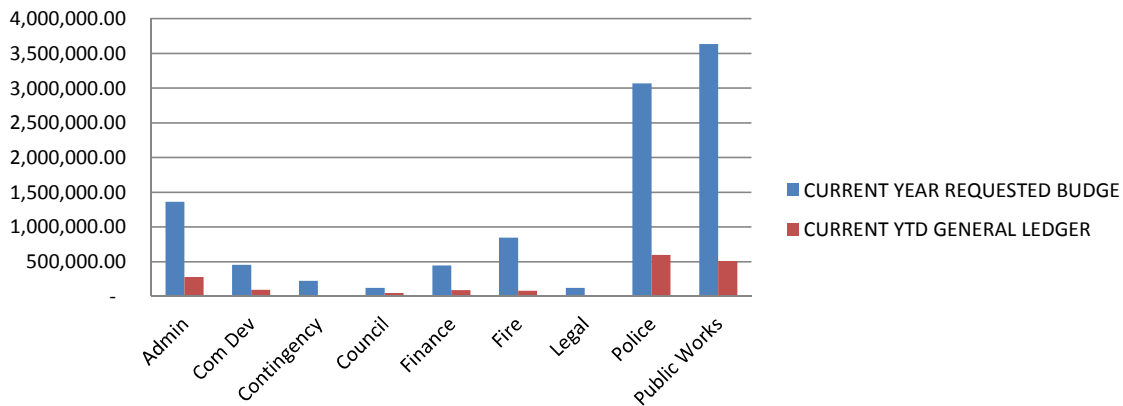
GENERAL FUND REVENUES - BY CATEGORY -		
Category	-CURRENT YEAR REQUESTED BUDGET-	-CURRENT YTD GENERAL LEDGER-
Taxes	7,233,829.00	
Charges for Services	915,750.00	58,496.44
Business Licenses/Permits	62,000.00	14,001.62
Fines and Forfeits	89,000.00	6,096.53
Federal Intergovernmental	7,000.00	
State Intergovernmental	298,300.00	67,000.00
Interest	80,000.00	
Miscellaneous	10,500.00	2,812.33
Non-Business Licenses/Permits	375,700.00	96,190.42
Transfers in	1,221,758.00	
Grand Total	10,293,837.00	244,597.34

**CITY OF RAMSEY
FINANCIAL STATEMENT**

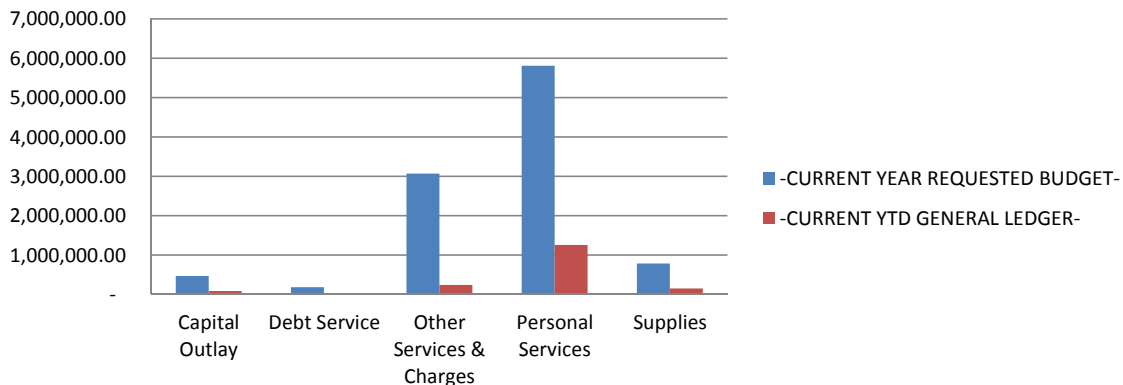


JANUARY 1, 2013 THROUGH PERIOD ENDING: March 31, 2013

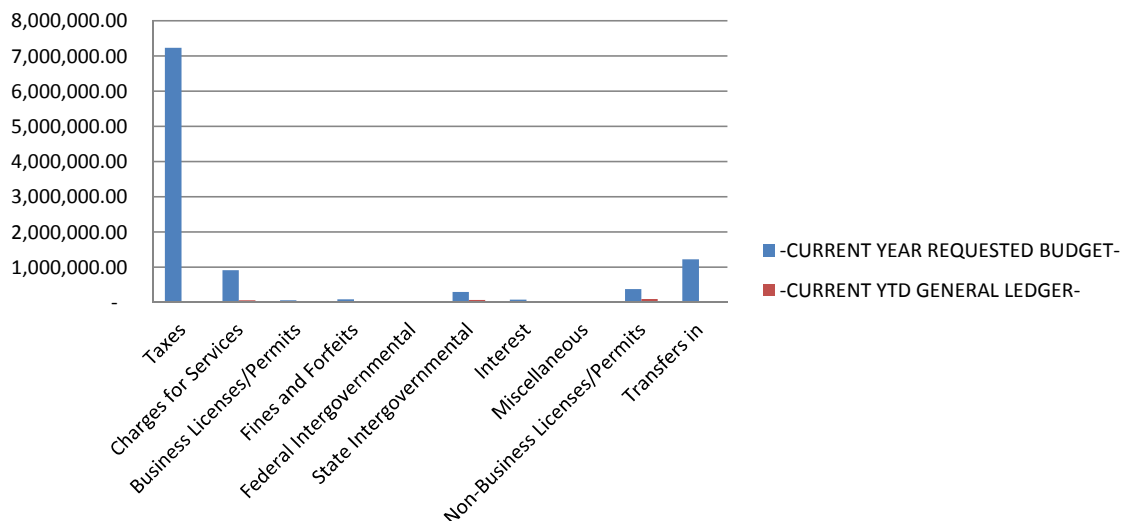
GENERAL FUND EXPENDITURES - BY DEPARTMENT



GENERAL FUND EXPENDITURES - BY CATEGORY



GENERAL FUND REVENUES



**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: March 31, 2013

REVENUES				
BUSINESS UNIT	9601	WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(5,000.00)	(316.42)	6.33%	
4609 OTHER MISCELLANEOUS REVENUES	61,853.00	1,478.33	2.39%	
4651 WATER REVENUE		(4,203.79)	0.00%	
4652 WATER SALES - RESIDENTIAL	963,401.00		0.00%	
4653 WATER SALES-COMMERCIAL	676,702.00	124.45	0.02%	
4654 WATER PENALTIES	32,802.00		0.00%	
4655 WATER METER INSTALLATION	10,000.00	3,080.00	30.80%	
4656 WATER METERS	20,000.00	6,317.00	31.59%	
4657 CONNECTION/RECONNECTION FEES	4,000.00		0.00%	
4701 INTEREST ON INVESTMENTS	120,000.00		0.00%	
Grand Total	1,883,758.00	6,479.57		

EXPENSES				
BUSINESS UNIT	9601	WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	173,233.00	31,874.52	18.40%	
6103 FULL TIME-REGULAR-OVERTIME	12,500.00	3,334.83	26.68%	
6105 TEMPORARY-WAGES & SALARIES	17,000.00	-	0.00%	
6121 PERA CONTRIBUTIONS	13,069.00	3,069.26	23.49%	
6122 FICA/MEDICARE CONTRIBUTIONS	15,677.00	3,179.10	20.28%	
6131 GROUP INSURANCE	21,120.00	5,226.60	24.75%	
6133 WORKERS COMP INSURANCE PREMIUM	7,436.00		0.00%	
6208 MISCELLANEOUS OFFICE SUPPLIES	1,000.00	36.57	3.66%	
6223 GASOLINE	5,000.00	927.05	18.54%	
6225 DIESEL FUEL	7,000.00	456.41	6.52%	
6229 SHOP MATERIALS	750.00		0.00%	
6231 UNIFORMS & TURN-OUT GEAR	1,500.00	193.50	12.90%	
6249 MISCELLANEOUS OPERATING SUPPLY	13,000.00	4,286.15	32.97%	
6257 OTHER VEHICLE PARTS	2,500.00	711.27	28.45%	
6259 BUILDING MAINT/REPAIR SUPPLIES		282.40	0.00%	
6273 UTILITY SYSTEM MAINT SUPPLIES	75,000.00	15,984.68	21.31%	
6281 SMALL TOOLS & MINOR EQUIPMENT	15,000.00	67.81	0.45%	
6292 WATER METERS FOR RESALE	20,000.00	538.13	2.69%	
6315 MISCELLANEOUS PROFESSIONAL SER	40,000.00		0.00%	
6322 POSTAGE	2,000.00	92.44	4.62%	
6323 CELLULAR PHONES	2,400.00	439.14	18.30%	
6335 TRAINING	1,600.00	1,002.18	62.64%	
6352 GENERAL NOTICE & PUBLIC INFOR	600.00		0.00%	
6361 GENERAL LIABILITY/PROPERTY INS	24,000.00		0.00%	
6371 ELECTRIC UTILITIES	125,000.00	12,090.73	9.67%	
6372 WATER/IRRIGATION	800.00		0.00%	
6373 GAS	4,000.00	744.33	18.61%	
6374 REFUSE/RECYCLING	600.00	83.98	14.00%	
6381 BUILDING & STRUCTURE REPAIR	500.00	1,324.00	264.80%	
6415 OTHER EQUIPMENT RENTAL		74.75	0.00%	
6439 OTHER MISCELLANEOUS	17,000.00		0.00%	
6451 MEMBERSHIP DUES	800.00		0.00%	
6489 OTHER CONTRACTED SERVICES	27,000.00	32,366.08	119.87%	
6722 DEPRECIATION	654,473.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	35,000.00		0.00%	
Grand Total	1,336,558.00	118,385.91		

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: March 31, 2013

REVENUES				
BUSINESS UNIT	9602	SEWER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(4,000.00)	(116.08)	2.90%	
4356 SEWER AVAILABILITY CHARGE-ADM	1,000.00	121.75	12.18%	
4609 OTHER MISCELLANEOUS REVENUES	18,546.00	1,478.31	7.97%	
4661 RESIDENTIAL-SEWER CHARGES	925,057.00		0.00%	
4662 COMMERCIAL-SEWER CHARGES	311,381.00		0.00%	
4663 SEWER PENALTIES	24,729.00		0.00%	
4701 INTEREST ON INVESTMENTS	40,000.00		0.00%	
Grand Total	1,316,713.00	1,483.98		

EXPENSES				
BUSINESS UNIT	9602	SEWER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	87,996.00	4,224.85	4.80%	
6103 FULL TIME-REGULAR-OVERTIME	2,000.00	219.69	10.98%	
6105 TEMPORARY-WAGES & SALARIES	5,500.00		0.00%	
6121 PERA CONTRIBUTIONS	7,830.00	342.25	4.37%	
6122 FICA/MEDICARE CONTRIBUTIONS	8,640.00	347.57	4.02%	
6133 WORKERS COMP INSURANCE PREMIUM	2,539.00		0.00%	
6225 DIESEL FUEL	2,500.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	8,000.00	117.07	1.46%	
6257 OTHER VEHICLE PARTS		-	0.00%	
6275 OTHER EQUIPMENT PARTS	2,500.00		0.00%	
6315 MISCELLANEOUS PROFESSIONAL SER	10,000.00		0.00%	
6335 TRAINING	1,500.00	300.00	20.00%	
6361 GENERAL LIABILITY/PROPERTY INS	9,500.00		0.00%	
6371 ELECTRIC UTILITIES	9,500.00	1,721.42	18.12%	
6373 GAS	2,400.00	315.32	13.14%	
6374 REFUSE/RECYCLING	500.00	83.98	16.80%	
6377 SEWER SERVICE CHARGE	584,352.00	146,087.97	25.00%	
6388 OTHER VEHICLE REPAIR		-	0.00%	
6489 OTHER CONTRACTED SERVICES	24,000.00	3,329.71	13.87%	
6722 DEPRECIATION	512,357.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	29,000.00		0.00%	
Grand Total	1,310,614.00	157,089.83		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: March 31, 2013

REVENUES				
BUSINESS UNIT	9603	STREET LIGHT UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(500.00)	(34.93)	6.99%	
4681 CHARGES FOR STREET LIGHTS	173,000.00		0.00%	
4682 ST LIGHT O/M CHARGE	360.00		0.00%	
4683 STREET LIGHTING PENALTIES	5,400.00		0.00%	
4701 INTEREST ON INVESTMENTS	15,000.00		0.00%	
Grand Total	193,260.00	(34.93)		

EXPENSES				
BUSINESS UNIT	9603	STREET LIGHT UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6371 ELECTRIC UTILITIES	123,000.00	20,572.06	16.73%	
6489 OTHER CONTRACTED SERVICES	12,328.00	2,585.85	20.98%	
6722 DEPRECIATION	35,012.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	15,000.00		0.00%	
Grand Total	185,340.00	23,157.91		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: March 31, 2013

REVENUES				
BUSINESS UNIT	9604	RECYCLING UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(500.00)	(27.93)	5.59%	
4287 OTHER LOCAL GOVERNMENT GRANTS	71,505.00		0.00%	
4609 OTHER MISCELLANEOUS REVENUES		4,212.00	0.00%	
4671 RECYCLING CHARGES	287,000.00		0.00%	
4672 RECYCLING PENALTIES	8,200.00		0.00%	
4701 INTEREST ON INVESTMENTS	200.00		0.00%	
Grand Total	366,405.00	4,184.07		

EXPENSES				
BUSINESS UNIT	9604	RECYCLING UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	5,343.00	1,347.80	25.23%	
6121 PERA CONTRIBUTIONS	393.00	103.33	26.29%	
6122 FICA/MEDICARE CONTRIBUTIONS	423.00	95.02	22.46%	
6133 WORKERS COMP INSURANCE PREMIUM	93.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	7,000.00		0.00%	
6322 POSTAGE	250.00	53.90	21.56%	
6489 OTHER CONTRACTED SERVICES	318,000.00	72,792.46	22.89%	
6820 OPERATING TRANSFERS TO OTHER F	9,000.00		0.00%	
Grand Total	340,502.00	74,392.51		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

**CITY OF RAMSEY
FINANCIAL STATEMENT**



JANUARY 1, 2013 THROUGH PERIOD ENDING: March 31, 2013

REVENUES				
BUSINESS UNIT	9605	STORM WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
4140 CREDIT CARD PROCESSING FEES	(1,000.00)	(9.03)	0.90%	
4693 STORM WATER-RESIDENTIAL	321,920.00		0.00%	
4694 STORM WATER-COMMERCIAL	329,716.00		0.00%	
4695 STORM WATER-PENALTIES	19,549.00		0.00%	
4701 INTEREST ON INVESTMENTS	4,000.00		0.00%	
Grand Total	674,185.00	(9.03)		

EXPENSES				
BUSINESS UNIT	9605	STORM WATER UTILITY		
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-	
6102 F.T. REGULAR-WAGES & SALARIES	107,882.00	460.19	0.43%	
6103 FULL TIME-REGULAR-OVERTIME		104.67	0.00%	
6121 PERA CONTRIBUTIONS	7,830.00	40.93	0.52%	
6122 FICA/MEDICARE CONTRIBUTIONS	8,214.00	38.07	0.46%	
6133 WORKERS COMP INSURANCE PREMIUM	2,923.00		0.00%	
6223 GASOLINE	1,500.00		0.00%	
6225 DIESEL FUEL	1,500.00		0.00%	
6249 MISCELLANEOUS OPERATING SUPPLY	10,000.00	79.37	0.79%	
6257 OTHER VEHICLE PARTS	5,000.00	2,500.56	50.01%	
6315 MISCELLANEOUS PROFESSIONAL SER	42,000.00	-	0.00%	
6361 GENERAL LIABILITY/PROPERTY INS	6,500.00		0.00%	
6371 ELECTRIC UTILITIES	2,420.00	520.51	21.51%	
6373 GAS	2,000.00	315.32	15.77%	
6374 REFUSE/RECYCLING	500.00	83.98	16.80%	
6388 OTHER VEHICLE REPAIR		110.25	0.00%	
6451 MEMBERSHIP DUES	24,689.00		0.00%	
6489 OTHER CONTRACTED SERVICES	17,200.00	2,770.35	16.11%	
6722 DEPRECIATION	242,582.00		0.00%	
6820 OPERATING TRANSFERS TO OTHER F	24,000.00		0.00%	
Grand Total	506,740.00	7,024.20		

Note: The Finance Department has highlighted line items that may be trending towards exceeding budget OR not may not have been included in the adopted budget.

CC Regular Session**4. 5.****Meeting Date:** 04/23/2013**By:** JoAnn Shaw, Community Development

Information**Title:**

Note the Following Boards and Commissions Meeting Minutes:

Planning Commission Special Meeting Minutes Dated January 31, 2013

Planning Commission Work Session Minutes Dated March 14, 2013

Attachments01.31.13 Special Meeting03.14.13 Work Session

Form Review**Inbox**

Kurt Ulrich

Reviewed By

Kurt Ulrich

Date

04/18/2013 03:03 PM

Form Started By: JoAnn Shaw

Started On: 04/08/2013 11:17 AM

Final Approval Date: 04/18/2013

**SPECIAL PLANNING COMMISSION
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA**

The Ramsey Planning Commission conducted a special meeting on Thursday, January 31, 2013, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Chairperson Gary Levine
 Commissioner Randy Bauer
 Commissioner Joseph Field
 Commissioner Robert Schiller
 Commissioner Gary VanScoy

Members Absent: Commissioner Ralph Brauer
 Commissioner Jessica Perez

Also Present: Development Services Manager Timothy Gladhill
 Associate Planner/Environmental Coordinator Chris Anderson
 Civil Engineer II Linton

1. CALL TO ORDER

Chairperson Levine called the regular meeting to order at 7:00 p.m.

2. CITIZEN INPUT

None.

3. APPROVAL OF AGENDA

Motion by Commissioner VanScoy, seconded by Commissioner Field, to approve the agenda as presented.

Motion Carried. Voting Yes: Chairperson Levine, Commissioners VanScoy, Field, Bauer, and Schiller. Voting No: None. Absent: Commissioners Brauer and Perez.

4. APPROVE PLANNING COMMISSION MINUTES

4.01: Approve the Following Planning Commission Minutes:

4.01.1: Planning Commission Meeting Minutes Dated January 3, 2013

Motion by Commissioner Bauer, seconded by Commissioner VanScoy, to approve the following minutes as presented: Planning Commission Meeting Minutes dated January 3, 2013.

Motion Carried. Voting Yes: Chairperson Levine, Commissioners Bauer, VanScoy, Field, and Schiller. Voting No: None. Absent: Commissioners Brauer and Perez.

5. PUBLIC HEARINGS/COMMISSION BUSINESS

5.01: Public Hearing: Request for Preliminary Plat and Site Plan Approval of SEASONS OF RAMSEY Located at the North East Intersection of Bunker Lake Boulevard NW and Town Center Drive NW; Case of The Seasons of Ramsey Limited Partnership

Public Hearing

Chairperson Levine called the public hearing to order at 7:01 p.m.

Presentation

Development Services Manager Gladhill presented the staff report. It was noted the applicant is requesting preliminary plat and site plan approval for the 50-unit townhome development named SEASONS OF RAMSEY. The preliminary plat was discussed in detail and staff noted the applicant would be vacating 147th Circle, while extending the right of way connection of 147th Lane NW. The site plan with the private roadways and architectural designs were reviewed and staff noted additional architectural elements were requested from the applicant. Staff recommended approval of the site plan and preliminary plat contingent upon revisions to the front and rear renderings.

Citizen Input

Bill Kemp, Podawiltz Development Corporation, thanked staff for the presentation this evening. He commented he would be meeting with staff on February 5th to discuss the renderings in further detail.

Commissioner Bauer questioned why the renderings were modified from the original plans.

Mr. Kemp noted some of the issues were cost related, along with other issues concerning the width of the units. He requested the Commission provide feedback on the desired amenities on the exterior of the units.

Commissioner VanScoy asked if the applicant had any other questions or concerns based on the comments made by staff.

Mr. Kemp did not have any other concerns on the project.

Commissioner Bauer indicated the three-bedroom units had a smaller kitchen than the other units, which was inconsistent with the number of occupants.

Mr. Kemp commented the architect would be able to better address this concern.

Lonnie Kornovich, Kornovich & Company, explained he has been working on these plans for the past six weeks. He stated he would continue to work with the City to address the site design requirements.

Commissioner Bauer inquired if the applicant was willing to meet the City's landscaping requirements.

Mr. Kemp reported he was aware of the need for additional top soil and trees and both of these concerns would be addressed with staff.

Commissioner Bauer asked if the Fire Marshal had reviewed the proposed plans.

Development Services Manager Gladhill commented the plans were reviewed and approved by the Fire Marshal.

Motion by Commissioner VanScoy, seconded by Commissioner Schiller, to close the public hearing.

Motion Carried. Voting Yes: Chairperson Levine, Commissioners VanScoy, Schiller, Bauer, and Field. Voting No: None. Absent: Commissioners Brauer and Perez.

Chairperson Levine closed the public hearing closed at 7:23 p.m.

Commission Business

Commissioner VanScoy commented the revised renderings were less desirable than the original designs. He recommended porches be added to the front of the building.

Motion by Commissioner Field, seconded by Commissioner Bauer, to recommend that City Council adopt a Resolution granting Preliminary Plat Approval for SEASONS OF RAMSEY contingent upon approval of the site plan.

Motion Carried. Voting Yes: Chairperson Levine, Commissioners Field, Bauer, Schiller, and VanScoy. Voting No: None. Absent: Commissioners Brauer and Perez.

Commission Business

Motion by Commissioner Field, seconded by Commissioner Schiller, to recommend that City Council approve the Site Plan for Seasons of Ramsey, contingent upon compliance with the City Staff Review File dated January 25, 2013 and subject to revised architectural renderings that

comply with The COR Design Framework and previous City Council direction to the Developer and subject to revisions to the architectural renderings that would be consistent with Design Framework and previous renderings.

Motion Carried. Voting Yes: Chairperson Levine, Commissioners Field, Schiller, Bauer, and VanScoy. Voting No: None. Absent: Commissioners Brauer and Perez.

5.02: For Discussion Only: Discuss Acceptable Land Uses at 167th Avenue Commercial Node and Provide Feedback on Potential Shooting Range and Recycling Warehouse/Transfer at 6001 167th Lane NW

Presentation

Associate Planner/Environmental Coordinator Anderson explained over the past several years, the City has discussed various options to address permitted uses at the 167th Avenue/St. Francis Boulevard retail node. The node currently experiences a high vacancy rate and concerns with property maintenance on some of the buildings have been expressed. The property is zoned B-1 General Business District, which is intended to provide a commercial area for goods and services for the surrounding neighborhoods and community on a smaller scale than the B-2 Business District.

Associate Planner/Environmental Coordinator Anderson stated the intent of this evening's discussion was to introduce two proposed uses, both of which likely will necessitate an amendment to the Zoning Code, for the property located at 6001 167th Avenue NW (former Supervalu site) and the type of regulatory tools that would be necessary if either were to proceed. The proposed uses were:

1. Indoor shooting range/fitness center with classroom space and a retail component.
2. Metal/clothing recycling center/warehouse with a small retail component.

Associate Planner/Environmental Coordinator Anderson reviewed the first proposal for the indoor shooting range/fitness center with classroom space and a retail component in detail. He noted the request was from an existing business in Ramsey called Total Defense. He explained Total Defense is proposing to have a retail store, gunsmithing and provide self-defense training courses. In addition, Total Defense was proposing to have an indoor shooting range. This was currently not a permitted use in the B-1 General Business District. He indicated that Staff contacted Blaine and Robbinsdale to discuss their indoor shooting ranges. The Robbinsdale range operates in a commercial district while the Blaine range is in an industrial district. Neither has any known complaints associated with them. Staff requested the Commission discuss the matter in further detail, determine the category for the suggested use and provide staff with direction on how to proceed.

Commissioner Bauer commented there were not enough residential homes in the area to keep this commercial development flourishing. He indicated a long-range plan should address the potential for more residential homes in the future.

Development Services Manager Gladhill indicated this commercial area was struggling at this time and the Commission needed to consider both the short-term and long-term goals for this area.

Commissioner VanScoy questioned how the long-term goals of the area would be managed if this use were to proceed in the short-term.

Associate Planner/Environmental Coordinator Anderson stated an interim use could be approved to establish a timeline framework. He indicated the applicants may not be willing to proceed given the expense that would be invested into the buildings.

Development Services Manager Gladhill noted the short-term goals could be written into the long-term vision for this area.

Commissioner Bauer requested additional information from staff on the differences between a licensed use and conditional use permit.

Associate Planner/Environmental Coordinator Anderson indicated a conditional use permit would allow the shooting range to be a permitted use with conditions addressing exterior concerns of the site. The conditional use permit would be tied to the land and would require a public hearing. A licensing procedure would be completed via staff, would be tied to the user and could be revoked if standards were not met within City Code. A license would have to be received on an annual basis.

Commissioner Bauer questioned if both a conditional use and license could be required.

Associate Planner/Environmental Coordinator Anderson commented this would require a Zoning Code Amendment to add the need for a license and/or a conditional use permit for the suggested use.

Chair Levine stated the current property was vacant and he wanted to see the site more viable.

Development Services Manager Gladhill indicated by expanding the allowed uses in this commercial area to match the market the site would be more viable. However, this would have to be considered with the appropriateness of the area in the City of Ramsey.

Commissioner Bauer stated an interim use permit for the shooting range would not benefit the applicant due to the financial investments they would have to make in the building. He commented the applicant may not proceed if the City only gave them a five-year approval.

Commissioner Schiller was in favor of allowing the range as a permitted use as it would draw people to the area. He did not support the additional licensing procedure.

Commissioner VanScoy suggested the proposed shooting range go through the conditional use permit process.

Commissioner Field supported the sporting use and thought this use would become a magnet to draw users from the entire community to this commercial area. He recommended the range proceed as a permitted use so long as Zoning Code requirements were met.

Associate Planner/Environmental Coordinator Anderson stated parking and noise regulations would have to be addressed based on the size of the shooting range, training space and retail component size.

Development Services Manager Gladhill thanked the Commission for their input on this item and stated from the comments received thus far, it appears the shooting range could be considered at a future meeting as a permitted use.

Commissioner Bauer was in favor of having the shooting range be licensed with the City as well.

Development Services Manager Gladhill commented the licensing procedure would allow for the use to be tied to the business owner and not the property.

Commissioner Schiller asked if Blaine or Robbinsdale required their shooting ranges to be licensed.

Associate Planner/Environmental Coordinator Anderson indicated he did not believe either required a license, but the City of Blaine required a CUP.

Commissioner VanScoy stated the safety and security of the proposed business would also have to be addressed. He questioned who controlled these standards.

Development Services Manager Gladhill recommended the applicant be allowed to speak to the Commission.

Marty Fisher, Premier Commercial Properties, discussed the growth of the Total Defense business and noted they were currently leasing space at River Bend Plaza, which was located at the corner of Bunker Lake Boulevard and Highway 47. He indicated the owners were now proposing to expand their business to the 167th Avenue Commercial Node.

Dan Wellman, 2745 131st Avenue in Zimmerman, co-owner of Total Defense, thanked the Commission for their time this evening. He stated over the past 18 months his business has grown significantly and he has outgrown the size of his current space. For that reason, he has been looking for new space to allow for the expansion of his business to include a shooting range. He explained the construction of the range would be quite unique, as it would have a double concrete wall to minimize and suppress the noise.

Mr. Wellman reviewed the proposed floor plan for Total Defense in detail with the Commission. He indicated the proposed use, complete with gun range, archery range and self-defense classes would draw people to the site from the entire northwest metro area. He reviewed the location and demographics of previous clientele.

Commissioner Bauer requested comment on the language within the proposal regarding the “cool toys” sold by Total Defense.

Curt Oaks, 6723 116th Circle in Champlin, co-owner of Total Defense, explained this would include holsters, sites, flashlights and other accessories. He apologized for the poor choice of word and would make a change. Mr. Oaks then discussed the building security given the proposed use.

Associate Planner/Environmental Coordinator Anderson indicated the police department would review this application further regarding security and safety prior to approval.

Commissioner VanScoy asked if fire suppression would be necessary for the proposed use.

Associate Planner/Environmental Coordinator Anderson stated that the Building Official and Fire Marshall did review the two proposed uses and based on the preliminary information received, it did not appear that it would be required for this use but that it may possibly be necessary for the second proposed use.

Chair Levine asked if there were any additional comments or questions from the public in attendance.

Art Collinbach, 15940 Sodium Street, stated he currently drove to the Metro Gun Club in Blaine and he welcomed the proposed use to the City of Ramsey. He stated the range would draw a large number of people to Ramsey. It was his opinion the proposed use would assist in keeping Ramsey a safe community given the level of training that would be provided.

Russ Pawman, 17831 Vanadium Street, noted he was an avid outdoorsman and he was excited about the proposed use coming to the City of Ramsey. He explained he was a member of a gun range outside of the City. He thought the range would draw business into the City throughout the entire year.

Mike Bjorn, 6250 178th Lane, noted he shot at different ranges and would be pleased to see the proposed establishment move into the commercial area.

Chair Levine thanked the public for their comments this evening.

Development Services Manager Gladhill indicated staff would work with the applicant to frame a permitted use with a public forum for citizen dialogue to take place at a future meeting.

Associate Planner/Environmental Coordinator Anderson reviewed the second proposal, which is for a metal/clothing recycling center/warehouse with a small retail component. He explained Triangle Recycling was an existing business operating in the City of Nowthen. The business recycles clothing through a network of clothing collection boxes strategically placed throughout the state. The applicant has expressed an interest in expanding the recycling program to accept electronics, small metals, mattresses and plastics, which would be implemented as Phase II of its operation. This process may be subject to permitting by the Minnesota Pollution Control Agency (MPCA) and possibly a conditional use permit through the City.

Associate Planner/Environmental Coordinator Anderson indicated the proposed use most closely matches warehousing, which is an allowed use in both E-1 and E-2 Employment Districts, but is not allowed in the B-1 Business District. The applicant, upon understanding the current zoning, did state a small retail portion could be added, however, this would not be the primary use. In order for the use to be considered as proposed, either the B-1 Business District would have to be amended to allow warehousing, either as a permitted, conditional or interim use, or the site would need to be rezoned to either E-1 or E-2 Employment District.

Associate Planner/Environmental Coordinator Anderson stated concerns at this time were if the use were compatible with the surrounding uses along with the amount of truck traffic and potential outside storage. He requested the Commission discuss the matter in further detail and provide direction to staff.

Chair Levine expressed concern with outside storage in this area.

Bill Erhart, 4740 154th Lane, representative of Triangle Recycling, commented that the site had enough square footage to ensure that all storage would be conducted inside. He stated the traffic flow to this site would be no more than the grocery store and the proposed use would benefit the residential neighborhood as a recycling facility. He encouraged the Commission to consider the request to bring life back into this commercial area.

Commissioner Schiller asked how much truck traffic was anticipated to be flowing in and out of this site.

Jerry Bauer, 21226 Highway 47 in Zimmerman, indicated he had six box trucks, which would be leaving the site in the morning and returning in the evening. He noted the site would also have one semi-truck visit per week. This could increase over time as his business expands.

Commissioner Field questioned how many drop-off boxes were associated with Triangle Recycling at this time.

Mr. Bauer stated he had approximately 400 boxes throughout Minnesota that he was responsible for. This number would be increasing by another 100 boxes in the near future.

Development Services Manager Gladhill asked if any clothing containers would be stored outside.

Mr. Bauer explained he currently had some containers stored outside prior to being relocated. He stated this was very short-term until the units could be refurbished and replaced.

Commissioner VanScoy inquired how electronics and metal materials would be handled at this site. He asked if the box trucks would be stored onsite overnight.

Mr. Bauer stated these items would be sorted and stored indoors and then be brought to Schwartzman's. He then discussed how he proposed to have the rear of the building to be fenced to house the box trucks.

Commissioner VanScoy asked if the box trucks could be stored onsite overnight.

Associate Planner/Environmental Coordinator Anderson indicated the storage of the trucks onsite could be seen as an accessory component. He stated buffering may be required to allow for the outdoor storage adjacent to the residential neighborhood.

Commissioner Bauer recommended the Commission consider this request carefully as he did not support a rezoning of this commercial property. He stated this area would continue to develop in the future and would require additional commercial development.

Associate Planner/Environmental Coordinator Anderson commented another option that could be considered would be to consider an overlay district.

Development Services Manager Gladhill discussed that an overlay district would allow for the original zoning to remain in place and allow for an expansion of uses.

Joe Haag, Community Pride Bank in Ham Lake and property owner, stated his goal would be to fill the building. He indicated he had no retail opportunities for this area and he encouraged the Commission to increase the permitted uses for this area. He was not in favor of a temporary fix as this could limit future tenants.

Chair Levine supported the use of an overlay district for this property.

Development Services Manager Gladhill explained staff could review the warehousing component as a conditional use for this site with an overlay district.

Commissioner Field stated the applicant had a great business, however, this was the wrong location. He wanted to see uses at this site that would attract traffic to the area.

Commissioner Schiller agreed stating the existing building was becoming an eyesore and was in need of redevelopment.

Development Services Manager Gladhill commented the EDA was aware this retail area was in need of revitalization.

Mr. Erhart reiterated that the two proposals before the Commission this evening were mutually exclusive. He added that a great deal of retail had been moved to The COR and the City may have to reevaluate the needs at this site.

Chair Levine thanked the Commission, applicants and public for their input this evening.

5.03: Public Hearing: Consider Ordinance Amendments to Chapter 117 Related to Stormwater Controls and Illicit Discharges

Public Hearing

Chairperson Levine called the public hearing to order at 9:06 p.m.

Presentation

Associate Planner/Environmental Coordinator Anderson presented the staff report. He explained the City is required by the Minnesota Pollution Control Agency (MPCA) to maintain a Municipal Separate Storm Sewer System (MS4) permit, which outlines stormwater pollution control standards for new development. A requirement of the MS4 permit is incorporating into City Code illicit discharge standards, which means having regulations in place prohibiting the discharge of any substance other than stormwater into the storm sewer system.

Associate Planner/Environmental Coordinator Anderson stated The City is also a member of the Lower Rum River Watershed Management Organization (LRRWMO) which in 2012 adopted their 3rd Generation Watershed Management Plan, which includes certain new standards related to water quality and volume control that are presently not in City Code. Staff discussed the plan in further detail, the proposed ordinance amendments to Chapter 117 and recommended the Commission approve the proposed ordinance amendments related to stormwater management.

Chair Levine requested comment from the Civil Engineer Linton.

Civil Engineer II Linton recommended the Commission proceed with the proposed ordinance amendments to assure the City was in compliance with all stormwater management requirements both at the state and local levels. He discussed the amount of runoff from rainstorm events along with the current management of infiltration basins throughout the City.

Citizen Input

Commissioner Field requested further information on the definition of illicit discharge. He read the current definition for the Commission along with the numerical reference.

Associate Planner/Environmental Coordinator Anderson noted there was a typo in this section and he would correct the referenced numerical mistake.

Motion by Commissioner VanScoy, seconded by Commissioner Schiller, to close the public hearing.

Motion Carried. Voting Yes: Chairperson Levine, Commissioners VanScoy, Schiller, Bauer, and Field. Voting No: None. Absent: Commissioners Brauer and Perez.

Chairperson Levine closed the public hearing closed at 9:25 p.m.

Commission Business

Commissioner Field expressed concern that the “type” and volume of illicit discharge was not clearly defined within the ordinance. He questioned if the document could be delayed to allow for further clarification.

Associate Planner/Environmental Coordinator Anderson explained this could impact development requests before the City at this time.

Civil Engineer II Linton discussed how the new stormwater regulations required that the runoff from a property could be no more after redevelopment than it was prior to the redevelopment.

Development Services Manager Gladhill described that the proposed revisions were funneled down to the City through new state regulations. He indicated that until the City was in compliance, there is a potential that no new building permits could be approved.

Commissioner Field requested that the violation portion within this Ordinance be revisited by the Commission at a future date to allow for further discussion on this matter.

Civil Engineer II Linton discussed how illicit discharge concerns were addressed by staff with homeowners. He commented education was a large portion of the MS4 permits charge. He stated penalties were not the first step.

Associate Planner/Environmental Coordinator Anderson commented that repeat offenders could potentially be dealing with fines or penalties.

Development Services Manager Gladhill indicated there was always a right to appeal any charges of illicit discharge on behalf of the residents. This would then be reviewed by the City Engineer.

Commissioner Field thanked staff for clarification on this issue.

Motion by Commissioner Bauer, seconded by Commissioner VanScoy, to recommend that City Council adopt the Ordinance amending Subdivision II and adding Subdivision II to Chapter 117, Article II, Division of City Code, as amended.

Motion Carried. Voting Yes: Chairperson Levine, Commissioners Bauer, VanScoy, Field, and Schiller. Voting No: None. Absent: Commissioners Brauer and Perez.

5.04: Zoning Bulletins

Zoning Bulletins were noted.

6. COMMISSION / STAFF INPUT

6.01: New Development

Development Services Manager Gladhill discussed several new developments that were before the City at this time. He commented a work session meeting was proposed for February 11th or February 21st. He requested the Commission review their schedules and respond back to staff.

7. ADJOURNMENT

Motion by Commissioner VanScoy, seconded by Commissioner Schiller, to adjourn the meeting.

Motion Carried. Voting Yes: Chairperson Levine, Commissioners VanScoy, Schiller, Bauer, and Field. Voting No: None. Absent: Commissioners Brauer and Perez.

The special meeting of the Planning Commission adjourned at 9:41 p.m.

Respectfully submitted,

Tim Gladhill
Development Services Manager

ATTEST:

JoAnn Shaw
Planning Division Secretary

Drafted by Heidi Guenther
TimeSaver Off Site Secretarial, Inc.

**PLANNING COMMISSION
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA**

The Ramsey Planning Commission conducted a Work Session on Thursday, March 14, 2013, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Chairperson Gary Levine
 Commissioner Gary Van Scoy
 Commissioner Ralph Brauer (arrived at 7:15 p.m.)

Members Absent: Commissioner Randy Bauer
 Commissioner Joseph Field
 Commissioner Jessica Perez
 Commissioner Robert Schiller

Also Present: City Administrator Kurt Ulrich
 Development Services Manager Timothy Gladhill
 Assistant Planner/Environmental Coordinator Chris Anderson

1. CALL TO ORDER

Chairperson Levine called the Work Session to order at 7:00 p.m., noting a quorum of the Planning Commission was not present.

Development Services Manager Gladhill shared Commissioner Perez's apologies for missing her last meeting due to an illness.

2. PUBLIC HEARINGS/COMMISSION BUSINESS

2.01: FOR DISCUSSION ONLY: Receive Presentation by Mary T., Inc. on Potential Housing Development on Outlot A, RAMSEY TOWN CENTER 13TH ADDITION

Development Services Manager Gladhill stated the City has received a request from Mary T., Inc. and PSD, LLC for a land use proposal on Outlot A, Ramsey Town Center 13th Addition, for a housing development. The site is currently owned by PSD, LLC. He indicated that Mary T., Inc. is currently based in Coon Rapids, Minnesota, and provides a variety of housing options in a number of locations. Development Services Manager Gladhill reviewed the proposal by outlining the proposed development and housing types, tax implications, and potential TIF funding sources. He stated that should this project move forward a Comprehensive Plan Amendment would be required along with site plan review for orientation of buildings. He said that staff is in favor of this project and outlined the benefits of the variety of housing types that a project such as this would create.

Chairperson Levine asked what is planned for the southeast corner of Ramsey Boulevard and Sunwood Drive.

Development Services Manager Gladhill said the City has a purchase agreement with SuperAmerica for the site and while there is no site plan yet, they have addressed the retail component as part of development. He said they have also been approached by the charter school group on some possibilities, adding there are no agreements or official requests to date.

Chairperson Levine asked about a recent inquiry for an online school.

Development Services Manager Gladhill stated the PACT Charter School was inquiring about the former Diamonds restaurant parcel for a separate school. He noted they are only in preliminary discussions.

Commissioner Van Scoy asked staff to outline the half-mile radius for the Commission.

Mary Tjstvold, Mary T., Inc., asked how many acres are on that site.

Development Services Manager Gladhill said the site is approximately 240 acres, adding the master plan boundary was 322 acres.

Commissioner Van Scoy said this area is zoned for a business park and asked if we have another area that has similar zoning on the south side of Highway 10.

Development Services Manager Gladhill said this is a unique business park and would be a corporate campus designation based off employment. He said the Commission may be referring to a future land use map south of Highway 10 and west of Armstrong Boulevard, adding that we desire to have more employment opportunities the area is not zoned appropriately yet.

Commissioner Van Scoy asked if there is another similarly-zoned area.

Development Services Manager Gladhill said there is an area 1-2 miles away south of Highway 10 with similar uses but not exact.

Commissioner Van Scoy asked if we move ahead are we limiting the future use of the parcel.

Development Services Manager Gladhill said we would be taking away areas of employment but added the EDA is looking at the next stage for more employment base, such as light manufacturing and office or the single users. He said the City has areas of undeveloped land should the Commission wish to consider another area for a business park, adding if the vision of this site remains for an office park is acceptable, but noted that it may take longer for the vision to be achieved.

Matt Kuker, Mary T., Inc., noted the Class A office space market is very slow but that Class B is in demand.

Ms. Tjsvold asked where there are other open spaces with the necessary density for the proposed residential product.

Development Services Manager Gladhill indicated other potential areas but noted the Veterans Administration Clinic and Northstar Commuter Rail are the driving factors of this project.

Ms. Tjsvold shared their initial proposal of 68 villas containing one or two bedrooms that are totally accessible. She said their target user would be veterans that would be integrated into the community and with their families. She said Mary T., Inc. has been in business for 37 years, adding that they offer assisted technology to allow people to live the way they want. She outlined assisted technology examples that feature sensors for doors, air-conditioning, emergency calls for when someone falls or wanders, along with pillow sensor options. Ms. Tjsvold shared communication options with items such as medical records, which would be an added benefit for Ramsey. She stated they also have a long history working with people with brain injuries and that this project has the potential to offer other types of housing, such as apartment buildings with different levels of service, home health, therapies, and hospice. Ms. Tjsvold said they are good at taking care of people through a wide breadth of health care and that they would be a good match for Ramsey. She stated that they were looking for agreement in concept before they move forward with more detail.

Commissioner Brauer said the land parcel includes the main T-1 line for the internet, adding there is currently 30% of black fiber not being used so this parcel may be a good match for them as well. He said this line would allow Mary T. to tie into many different things.

Ms. Tjsvold said their program of SmartCare helps provide a safe environment in the home but also provides communication with the outside world.

Development Services Manager Gladhill noted the broader fiber optic project is going on as well.

Commissioner Van Scoy inquired about the different levels of need.

Ms. Tjsvold said they have 50 villa units in Coon Rapids that are rented and offer services in the home, which is similar to what they are proposing for Ramsey. She said this would be the start of a continuum of service should more services be needed over time. Ms. Tjsvold said they could contract with a commercial kitchen such as the Falls Café for food service, adding that being family-owned she predicts these villas will rent quickly and that no phases will be needed.

Chairperson Levine asked how this project compared with their Coon Rapids campus.

Ms. Tjsvold shared the elevation proposals, noting the campus has small catered service, two villas that serve four men with brain injuries their own private space, and 39 more one-level villas with services. She added that the project is 100% occupied and is financially sound.

Commissioner Brauer said he liked what they did in Coon Rapids and that he would like to see this in Ramsey as it would be visible from the highway and will attract attention to the development.

Ms. Tjstvold said the rental aspect is working well.

Chairperson Levine agreed that the Coon Rapids location is a nice project.

Commissioner Brauer inquired about landscaping plans.

Ms. Tjstvold said they are still in the preliminary stages and will answer that once they know if this site works better than another.

Chairperson Levine said this site seems to fit what you are trying to accomplish because of the rail, size, and location.

Ron Nordlin, Mary T., Inc., said the perception has been that these projects are low-income and subsidized but said this is a premier product and people are well within their financial standards, making these projects long-term with low turnover.

Ms. Tjstvold added that if veterans' vouchers are needed they will work to assist for that.

Ruth Dahl, Mary T. Inc., stated that home health care is Medicare certified for veterans.

Mr. Kuker said that is important because the VA has placed a freeze on any new contractors in the VA system.

Ms. Tjstvold stated veterans will choose to move here because of the clinic.

Commissioner Brauer asked how they overcome an objection to railroad tracks.

Mr. Nordlin said that once people realize the horns do not sound there is not a problem.

Ms. Tjstvold noted wetlands are between which helps with horns in Coon Rapids and flows into the park.

Ms. Dahl shared that when the windows are closed there is not much concern.

Commissioner Brauer referred to the continuum of care and asked if they had ever thought about becoming a service provider for the whole area such as in private-owned homes. Ms. Tjstvold said they do that already with catered programs and assisted technology.

Commissioner Brauer said Town Center could be a technology showplace for people to remain in their homes with the best technology available.

Ms. Tjstvold explained the medication box technology features and notification processes.

Mr. Nordlin said the SmartApartment features can be incorporated into a private home.

Commissioner Brauer referred to Google's national grant program technology for these types, adding this would be a great thing to have in Town Center.

Ms. Dahl said the mobile technology is available too and can be taken with when a person moves.

Commissioner Brauer said Mary T brings three things for the COR: 1) technology; 2) variety of housing options available similar to Coon Rapids that would be better than a big box user; and 3) integration into the community and continuity because Town Center was intended to have a variety of housing and people all within walking distance.

Mr. Nordlin said the one-level villas work great for this goal.

Ms. Dahl added this age group is growing quickly.

Development Services Manager Gladhill provided three handouts to Commissioners regarding land use applications, Comprehensive plan/zoning amendment, and policy change. He asked if the proposal is acceptable to the Commission and if so, is it scale, either site special or broader. He added that staff would like to see this project in Ramsey.

Commissioner Van Scoy said he liked the concept but did not see integration into the pedestrian portion and assumed that will occur.

Development Services Manager Gladhill shared a revised plan with expanded sidewalks, adding they will decide on the scope and scale of public streets through the site plan process.

Mr. Kuker noted that shuttle buses are an option as well.

Chairperson Levine asked how one would access the other side to the VA

Development Services Manager Gladhill said those details will be worked out in the master plan, adding they will have an appropriate trigger for a sidewalk on the west side.

Commissioner Brauer said his only concern is the way Town Center was envisioned which was a small downtown with minimal frontage so this will take more creativity to maintain that feel. He said it will have to be different than the Coon Rapids site as 10-feet in the front yard may not be appropriate.

Chairperson Levine said asked if they are planning on more of the north side look.

Development Services Manager Gladhill said staff will map out the process accordingly should the Commission move forward.

Commissioner Brauer said this site is perfect for a PUD.

Development Services Manager Gladhill said a transit-oriented PUD is common for this type of project.

Chairperson Levine said consensus of the Planning Commission was positive and asked if amendments will be site specific or broader area as they do not want to create small zoning for one site. He said there is common ownership between the two parcels and that they will have to work with the HRA, adding a single parcel only could open up some disagreements.

Commissioner Brauer said they could end up with a 10-story office next door so it makes sense to plan the entire area. He likened it to density transition, which will be needed to make this work well.

Chairperson Levine asked how we do that by utilizing a land use we do not anticipate. He said it is difficult to anticipate the future.

Commissioner Brauer said they could take the entire parcel and rezone it, adding we have the flexibility with density transition before anything else comes forward. He said the entire area could be unified.

Chairperson Levine asked how we do that.

Development Services Manager Gladhill said staff will offer the tools, which may just be a PUD on the site but will spend the time to review this first.

Ms. Tjstvold said it would be helpful to know what the other two parcels will contain. She said they may have some suggestions or want to develop the entire parcel as they always look at what is around their projects.

Mr. Kuker said if the 68 villas fill they could be go between the VA and Mr. Alberts' building as an another option.

Development Services Manager Gladhill said the zoning would allow for that possibility.

Ms. Tjstvold said the campus concept could get even better.

Chairperson Levine said the concept seemed good and that they would like to see this work. He asked staff to work with the applicant on site plan review.

Councilmember Backous said he liked the concept, including the technology and ala carte options. He said he toured the villas in Coon Rapids and liked the larger campus. He stated the project could reach a large community and will be a great amenity to our citizens.

Commissioner Brauer said this concept reinforces the way we have been marketing the COR, from Jim Deal to Falls Café to Coborns. He said they are all high quality local businesses and Mary T. Inc., would fit in better than a big box retailer as they are local, innovative and important.

Ms. Tjstvold said Coborns is working with General Mills on a take-out meal option.

Mr. Kuker said it is great working with quality people.

Ms. Tjstvold thanked the Commission for meeting with them.

3. COMMISSION / STAFF INPUT

None.

4. ADJOURNMENT

Chairperson Levine adjourned the Work Session at 8:22 p.m.

Respectfully submitted,

Tim Gladhill
Development Services Manager

ATTEST:

JoAnn Shaw
Planning Division Secretary

Drafted by Cathy Sorensen
TimeSaver Off Site Secretarial, Inc.

CC Regular Session**4. 6.****Meeting Date:** 04/23/2013**Submitted For:** Kurt Ulrich**By:** Dean Kapler, Fire Department

Information**Title:**

Extension of Agreement for Interim Fire Chief Services for the City of St Francis

Background:

In May of 2011 the City of St Francis asked the City of Ramsey to enter into a contract naming Fire Chief Dean Kapler as the Interim Fire Chief for the City of St Francis to provide leadership and stabilize the department. The original term of the contract was through October 31, 2011. There has since been 2 additional extensions through April 30, 2013.

With the Shared Fire Services project moving in a positive direction, both City Administrators are in agreement to extend the contract for a period of 12 months or until April 30, 2014. Some positives have already been achieved such as shared training opportunities, sharing annual firefighter physicals appointments, and future joint purchases. All of those mentioned should have a positive impact on operational costs. It should be noted that the contract includes a 30 day termination/extension clause.

The City of Ramsey is paid a monthly amount of \$666 as reimbursement of vehicle use, fuel, cell phone use, and time during normal Ramsey work week devoted to St Francis matters. The vast majority of Chief Kapler's time in St Francis is after hours and weekends. Chief Kapler is also paid a monthly sum of \$1334 with funds from St. Francis.

A copy of the contract is attached to the case.

Recommendation:

Staff recommends council authorize an extension to the current contract to the date of April 30, 2014.

The contract could be terminated and/or renegotiated at this time. Neither action is recommended because the contract covers Ramsey's expenditures and provides mutual benefit to Ramsey and St. Francis.

Funding Source:

Within the Compensation section of the contract the City of Ramsey receives a monthly reimbursement for expenses, resulting in no cost to the City of Ramsey.

Council Action:

Approve the extension to the current contract until April 30, 2014.

AttachmentsInterim Fire Chief Agreement

Form Review

Inbox	Reviewed By	Date
Diana Lund	Dean Kapler	04/18/2013 01:42 PM
Dean Kapler	Kathy Schmitz	04/18/2013 02:16 PM
Diana Lund	Diana Lund	04/18/2013 02:16 PM
Dean Kapler	Kathy Schmitz	04/18/2013 02:19 PM
Kurt Ulrich	Kurt Ulrich	04/18/2013 03:37 PM

Form Started By: Dean Kapler Started On: 04/18/2013 01:02 PM

**AGREEMENT FOR INTERIM
FIRE CHIEF SERVICES
FOR
THE CITY OF ST. FRANCIS, MINNESOTA**

This agreement (this "Agreement") is made and entered into this ____ day of May, 2011 by and between the City of St. Francis, a Minnesota municipal corporation ("St. Francis"), the City of Ramsey, a Minnesota municipal corporation ("Ramsey"), and Dean Kapler, 16350 Yttrium Street NW, Ramsey, Minnesota 55303 ("Chief Kapler").

WHEREAS, Chief Kapler is the Chief of the Ramsey Fire Department and as such has acquired knowledge and expertise in the supervision and operation of a municipal fire department; and

WHEREAS, St. Francis has a fire department and is in immediate need of an interim fire chief to supervise and lead its fire department pending the hiring of a fire chief; and

WHEREAS, Chief Kapler is willing to accept the position of interim St. Francis Fire Chief; and

WHEREAS, Ramsey is willing to assist St. Francis on a temporary basis by permitting Chief Kapler to accept the position of interim St. Francis Fire Chief while continuing to maintain his full time position Ramsey Fire Chief.

NOW THEREFORE, in consideration of the premises and good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. **PURPOSE.** The purpose of this Agreement is for St. Francis to retain the temporary services of Chief Kapler to act as its interim fire chief.

2. **OBJECTIVES.** As interim St. Francis Fire Chief Kapler's objective will be to:

- Stabilize the St. Francis Fire Department (the "SFFD") both structurally and operationally;
- Provide interim leadership/management of all aspects of SFFD including its operations, officer placement/roles and responsibilities, and its 2012 budget calendar year;
- Conduct a management analysis of SFFD in comparison of community needs
- Review/analyze services provided by SFFD including code enforcement; and
- Create/implement a sustainable structure within the SFFD, including how the Fire Department interacts within the city structure.

3. **STRATEGY AND TACTICS.** Chief Kapler will be expected to employ the following strategies and tactics as interim St. Francis Fire Chief:

- One on one (mandatory) meetings with each member of the SFFD including those on administrative leave;
- Attend most/all internal meetings including officer meetings, general assembly, training, other miscellaneous fired department personnel meeting;
- Review/amend job descriptions for all levels of SFFD staff;
- Respond to SFFD emergency incidents depending on severity of the incident; and
- Meet with a select group of business owners and the public to discuss the public's perception of the services provided by SFFD.

4. **TERM.** The term of this Agreement shall be from May ____, 2011 to and including October 31, 2011 unless earlier terminated or extended by law or according to the provisions herein.

5. **COMPENSATION.** The total compensation to be paid by St. Francis for Chief Kapler's services as defined herein shall be \$2,000/month. Compensation shall be pro-rated for any part of a month during which this Agreement is in effect and paid as follows:

- a. \$666.00 shall be paid monthly to Ramsey as reimbursement to said city for Chief Kapler's use of his Ramsey Chief's vehicle, Ramsey cell phone and time during his normal Ramsey work week when he is devoting time to SFFD matters.
- b. \$1,334.00 shall be paid directly to Chief Kapler, subject to normal state and federal withholding.

6. **EMPLOYMENT STATUS.** While attending to SFFD matters, Chief Kapler shall be deemed an employee of St. Francis. St. Francis shall have control over the manner and services performed by Chief Kapler under this Agreement, and shall be responsible for his wages, benefits, worker's compensation, disability and retirement benefits.

7. **INSURANCE AND LIABILITY.**

- a. **Insurance.** While attending to SFFD matters, Chief Kapler will be insured by St. Francis under its insurance coverages including commercial general liability, automobile liability, including owned, hired and non-owned automobiles. St. Francis agrees to carry worker's compensation insurance covering Chief Kapler as required by State law.
- b. **Liability of St. Francis.** St. Francis agrees to defend and indemnify Ramsey and its employees, officials, volunteers and agents from and against all claims, actions, damages, losses and expenses arising out of Chief Kapler's performance or failure to perform his duties under this Agreement.

- c. **Certificate of Insurance.** St. Francis shall provide Ramsey with a certificate of insurance showing the required coverages prior to performing any work under this Agreement.

8. **DISPUTE RESOLUTION.** The parties shall cooperate and use their best efforts to ensure that the various provisions of this Agreement are fulfilled. The parties agree to act in good faith to undertake resolution of disputes, in an equitable and timely manner and in accordance with the provisions of this Agreement. If disputes cannot be resolved informally by the parties, the following procedures shall be used:

- a. **Mediation.** Whenever there is a failure between the parties to resolve a dispute on their own, the parties shall first attempt to mediate the dispute. The parties shall agree upon a mediator, or if they cannot agree, shall obtain a list of court-approved mediators from the Anoka County District Court Administrator and select a mediator by alternately striking names until one remains. St. Francis shall strike the first name followed by Ramsey, and shall continue in that order until one name remains.
- b. **Litigation.** If the dispute is not resolved within 30 days after the end of mediation proceedings, the parties may litigate the matter.
- c. **Termination.** In addition to the remedies outlined in this Paragraph, an ongoing dispute may also be resolved by terminating the Agreement as outlined in Paragraph 9.

9. **TERMINATION/EXTENSION.** This Agreement may be terminated at any time by the party desiring that the Agreement be terminated providing thirty (30) days written prior notice to all other parties. This Agreement may be extended beyond October 31, 2011 by written agreement of all of the parties hereto which written agreement will contain any amendment of the existing terms of this Agreement.

10. **GENERAL PROVISIONS.**

- a. **Entire Agreement.** This Agreement supersedes any prior or contemporaneous representations or agreements, whether written or oral, between the parties and contains the entire agreement.
- b. **Amendments.** Any modification or amendment to this Agreement shall require a written agreement signed by all parties.
- c. **Notice.** Any notice, statement or other written documents required to be given under this Agreement shall be considered served and received if delivered personally to the other party, or if deposited in the U.S. First Class mail, postage prepaid, as follows:
 - i. Notice to: City of St. Francis
City Administrator
23340 Cree Street NW

St. Francis, MN 55070

ii. Notice to: City of Ramsey
City Administrator
7550 Sunwood Drive NW
Ramsey, MN 55303

iii. Notice to: Dean Kapler
16350 Yttrium Street NW
Ramsey, MN 55303

- d. **Governing Law.** This Agreement shall be governed by and interpreted in accordance with the laws of the State of Minnesota.
- e. **Captions.** Captions or headings contained in this Agreement are included for convenience only and form no part of this Agreement between the parties.
- f. **Waivers.** The wavier by any party of any breach or failure to comply with any provision of this Agreement by another party shall not be construed as, or constitute a continuing waiver of such provision or a waiver of any other breach of or failure to comply with any other provision of this Agreement.
- g. **Counterparts.** This Agreement may be executed in several counterparts, each of which shall be an original, all of which shall constitute but one and the same instrument.
- h. **Savings Clause.** If any court finds any portion of this Agreement to be contrary to law or invalid, the remainder of this Agreement will remain in full force and effect.

IN WITNESS WHEREOF, the parties, by action of their respective governing bodies, caused this Agreement to be approved on the dates below.

CITY OF ST. FRANCIS

CITY OF RAMSEY

By: _____
Jerry Tveit, Mayor

By: _____
Bob Ramsey, Mayor

ATTEST:

ATTEST:

By: _____
Matt Hylen, City Administrator

By: _____
Kurt Ulrich, City Administrator

Dated: May _____, 2011

Dated: May _____, 2011

Dean Kapler

Dated: May _____, 2011

CC Regular Session

4. 7.

Meeting Date: 04/23/2013

By: Jo Thieling, Administrative Services

Information

Title:

Approve License Applications

Background:

Attached is a list of licenses for Council approval.

Council Action:

Motion to approve license applications.

Attachments

License Applications

Form Review

Form Started By: Jo Thieling

Started On: 04/12/2013

Final Approval Date: 02/21/2013

**License Applications
For Year 2013**

*Peddlers/ Solicitors	AM&M Witt Vending Sales, LLC	14224 Argon St NW	Ramsey, MN 55303	763-355-5182
**Special Events Permit	American Cancer Society – Kimberly Gust			763-433-8955
***Special Events Permit	The Residence at The COR	7700 Sunwood Drive NW	Ramsey, MN 55303	763-208-5931

*Peddlers/Solicitors –AM&M Witt Vending Sales – to sell ice cream novelties, soda pop, water and candy.

**Special Events Permit: Kimberly Gust is requesting a special events permit to conduct the American Cancer Society Bark for Life which honors the caregiving qualities of canine companions, and is a non-competitive walking event for dogs and their owners to raise funds.

***Special Events Permit: Jessica, Manager of The Residence at The COR is requesting a special events permit to conduct tailgating parties. It will be a party for prospects, future residents, etc., and will be held in the Municipal Parking Ramp. Acapuco will be catering in food for the event. There will also be wine and beer served – not sold. Age verification will be conducted. They will set up a small canopy at the far west end of the first floor – parking ramp. Staff met to discuss any public safety issues – and there are no concerns. The applicant will provide trash receptacles and clean up. The events will take place on 4/25, 5/9, 6/19 and 7/19 – prior to Minnesota Twins Games. The first event – 4/25 may take place in Acapulco Restaurante if the weather is not cooperative. The parties will begin at 4:00 p.m. and end by 5:30 p.m. The estimated number of persons expected is 35 per event.

CC Regular Session**4. 8.****Meeting Date:** 04/23/2013**Submitted For:** Jo Thieling**By:** Jo Thieling, Administrative Services

Information**Title:**

Approve Request to Declare Surplus Property

Background:

Staff is requesting Council declare the following property surplus and authorize trade-in of same:

HP DesignJet 800 ps plotter - SG51682040

HP DesignJet 815 mfp Scanner - DK51682040

HP DesignJet 1050c plotter - ESA9207105

A new plotter/scanner (combination) has been ordered for the Engineering Department and staff has been quoted approximately an \$850 trade-in value for the old equipment. The value of the old equipment is primarily to use it for parts; therefore, staff feels an \$850 trade-in value is fair.

Council Action:

Motion to declare the two HP DesignJet plotters and the HP DesignJet scanner as surplus property; allowing staff to trade them in for credit toward the purchase of the replacement equipment for the Engineering Department.

Form Review**Inbox**

Kurt Ulrich

Reviewed By

Kurt Ulrich

Date

04/18/2013 03:03 PM

Form Started By: Jo Thieling

Started On: 04/12/2013

Final Approval Date: 04/18/2013

CC Regular Session**4. 9.****Meeting Date:** 04/23/2013**By:** Jo Thieling, Administrative Services

Information**Title:**

Approve the Following Meeting Minutes:

1. City Council Work Session - April 9, 2013
2. City Council Regular Session - April 9, 2013

Background:

The meeting minutes are attached for Council review and approval.

Council Action:

Motion to approve the Following Meeting Minutes:

1. City Council Work Session - April 9, 2013
2. City Council Regular Session - April 9, 2013

Attachments040913 CCWS Mts040913 CC Mts

Form Review

Form Started By: Jo Thieling

Started On: 04/17/2013

Final Approval Date: 03/06/2013

**CITY COUNCIL WORK SESSION
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA**

The Ramsey City Council conducted a City Council Work Session on Tuesday, April 9, 2013, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Mayor Sarah Strommen
Councilmember Randy Backous
Councilmember David Elvig
Councilmember Mark Kuzma
Councilmember John LeTourneau
Councilmember Chris Riley
Councilmember Jason Tossey (arrived at 6:58 p.m.)

Also Present: City Administrator Kurtis Ulrich
Fire Chief Dean Kapler
Assistant Fire Chief Matt Kohner
Police Captain Jeff Katers
Parks and Assistant Public Works Superintendent Mark Riverblood
Public Works Superintendent Grant Riemer
Development Services Manager Timothy Gladhill
City Engineer Bruce Westby

1. CALL TO ORDER

Mayor Strommen called the City Council Work Session to order at 6:00 p.m.

2. TOPICS FOR DISCUSSION

2.01: Ramsey Fire Station #2 Rebuild – The History

Fire Chief Kapler stated the purpose of this item is to bring the Council up to date. He introduced Assistant Chief Kohner and Police Captain Katers who were also available to answer questions. Fire Chief Kapler presented the history of the Fire Station's establishment and locations/relocations. He displayed a map of the desired 2.4-acre site on Alpine Drive. Because the Fire Department will remain a paid-on-call department for the foreseeable future, he noted the Department needs to pull from the area for fire fighters. He felt the locations for Station #1 and #2 were well placed as well as Station #3 that came with the Nowthen contract; however, there are a few homes outside of the five-mile driving radius from the three stations, triggering a higher homeowner's insurance rate for those homes. Fire Chief Kapler advised that the Nowthen agreement has worked well, including the shared costs.

Fire Chief Kapler described the 2.4-acre site, its surrounding uses, and determination by a consultant that the lot will support the Fire Department building under consideration. He stated

the 12,000-square-foot design is on the high side but that was the suggestion of the consultant. Fire Chief Kapler addressed needs versus wants relating to building components, including training space that has been beneficial at the Fire Station on Armstrong Boulevard.

Fire Chief Kapler explained the BKV Group estimate from today until the building can be used is 13 months. If the project is moved forward and the current lot is sold, the Council will have to address where staff and apparatus will go until the new Station is completed. He stated he would like to consider budgeting funds in 2014 to start the design phase (expected to take 5 months). It was noted that a public informational meeting will be held on April 18, 2013.

Councilmember Kuzma asked how much the design phase will cost.

Fire Chief Kapler stated estimated \$50,000 to \$60,000.

Councilmember Elvig asked if the Council has already received a project budget that included the design phase.

Fire Chief Kapler stated the Council did receive a project budget.

Councilmember LeTourneau asked what is the motivation for this consideration, because there is a user for the current site or needs.

Fire Chief Kapler stated it is all of the above, explaining there are safety issues and lack of efficiencies as the Fire Station is using a fraction of the old City Hall building but the entire building is heated and moderately cooled. He indicated the Fire Department can continue to use the current site but if a user is found, it would be a better use. In addition, staff has run funding scenarios and if the old City Hall property is sold for the expected use (data center), the sale will cover much of the anticipated costs.

Mayor Strommen explained that when the new Municipal Center was constructed and the Fire Department moved into the old City Hall, it was never expected that the Fire Department would remain there forever.

Councilmember Backous asked if grants are available for Fire Station construction.

Fire Chief Kapler stated he did make application for a federal grant but it was not approved.

Councilmember Elvig stated he is willing to consider moving forward with the design phase and asked about a temporary site.

Fire Chief Kapler stated if the two overlap (sale of the old City Hall site and construction of the new Fire station), they could consider interim use of the old grocery store in the commercial node at 167th or the concrete plant by Public Works. He stated there is not an ideal site to keep the coverage area perfect, but it would be a reasonable risk as long as it is on a timeline.

Councilmember Elvig noted it may be down to a time period of nine months if the design phase can be completed first. He felt that would be a reasonable approach.

City Administrator Ulrich stated the City purchased the land a while ago and it was the intended plan to move forward but the Council needs to be comfortable with selling the old City Hall site and moving forward with constructing a new Fire Station. He noted when the old City Hall is sold, development could occur in phases and staff will look at the options of a temporary site. He asked whether the proposed site meets the needs of the five cities considering the potential of a combined services agreement.

Fire Chief Kapler stated the future third station has been “taken off the table.” With the Nowthen shared services agreement, staff has driven the distances for all communities in the shared studies group and determined that Ramsey’s two stations are needed whether or not it pursues a shared service because there is not enough overlap to the south to abandon one of the City’s Fire Stations.

Councilmember Elvig stated a data center use is a tremendous need so he would support staff looking at the costs and moving forward with the design phase for the Fire Station, noting it does not need a 23-acre site and it has been in the City’s plans for ten years to construct another Fire Station.

Councilmember Backous concurred and asked how long it will take to move out of the current City Hall site if there was an interested buyer. He agreed the old City Hall site is highly marketable and undertaking the design phase now will move the construction schedule forward.

Fire Chief Kapler stated if there is an alternate site he would estimate two weeks. He stated staff can put more effort into finding an alternate site.

Councilmember Riley stated it makes sense to move forward with the design phase since it has always been planned to construct another Fire Station. However, depending on the timing, an alternate site may not be needed. He agreed that making plans now will lessen the possibility that an interim location is needed.

Mayor Strommen supported having an alternate plan in place, just in case it is needed.

Mayor Strommen stated there is Council consensus for staff to bring back a Case on the cost to move forward with the design phase, and interim plan to house fire service.

2.02: Acknowledge Pending Resolution Establishing No Parking Zones on Riverdale Drive, Rivlyn Avenue and Tungsten Street; and Approve Letter to Affected Parties

Parks and Assistant Public Works Superintendent Riverblood briefed the Council on the need for No Parking zones on Riverdale Drive, Rivlyn Avenue, and Tungsten Street. He displayed a map of the subject site, King’s Island, and advised the City of Anoka received funding from the DNR to restore the side channels. He then described the natural features in this area and proposed trail alignment. Parks and Assistant Public Works Superintendent Riverblood stated it is staff’s

recommendation to send the letter to affected residents and move forward with the Resolution establishing No Parking zones along the MRT route and to examine the future schedule for Riverdale Drive's reconstruction as part of the Street Reconstruction Plan and Policy project scheduled to begin in September 2013. He advised Ramsey has access to \$52,504 in grant money that will be shared with the City of Anoka for this project.

Councilmember Riley stated he did not think the parking would be an issue and asked if this is being considered to create a trail or get money to reconstruct the road.

Parks and Assistant Public Works Superintendent Riverblood stated it is about the Mississippi River Trail and eventually through reconstruction projects, it will become an off-road trail.

Councilmember Elvig asked what is the long-term plan for the trail and if it will take resident's front yards.

Parks and Assistant Public Works Superintendent Riverblood stated there is no intention to acquire additional right-of-way and the trail will remain on the road until redevelopment occurs and Riverdale Drive narrowed in width.

The consensus of the Council was to acknowledge the required No Parking zones on Riverdale Drive, Rivlyn Avenue and Tungsten Street, and letter to affected parties; understanding that all resident comment on the No Parking zones will be brought back for City Council information as appropriate.

2.03: Select Park Monuments' Scope and Cost for The Draw – 2013 Parks Capital Improvement

Parks and Assistant Public Works Superintendent Riverblood described features within The Draw and current signage. He stated staff receives feedback that residents have a hard time finding The Draw so it was envisioned to have a more traditional park sign on Ramsey Boulevard as well as a kiosk in the northwest corner of The Draw to advertise upcoming events. Because there was a lot of discussion at the Parks & Recreation Commission meeting on signage, staff obtained quotes for base, medium, and optimal designs. Parks and Assistant Public Works Superintendent Riverblood presented the Parks and Recreation Commission recommendation of approval for a \$20,000 traditional sign on Ramsey Boulevard and \$36,000 kiosk at The Draw.

Councilmember Elvig stated he is taken aback on the high prices for the signs and has been disappointed with how sterile The Draw appears due to the amount of metal. Because of that, he would support the use of a lit kiosk to create a warmer atmosphere.

Councilmember Riley stated he supports the recommended middle-of-the road monument sign but was unsure of the higher-end kiosk.

Parks and Assistant Public Works Superintendent Riverblood stated the kiosk will alert people of the location of The Draw and provide wayfinding because many residents do not know there is an amphitheater in that area.

Councilmember Kuzma stated he receives many comments that residents do not know the location of The Draw so he supports signage.

Councilmember Backous stated he would support considering this type of signage as one of the finishing touches. He asked if there were cheaper options, such as a spotlight during the concert series to draw attention and recognition. He stated the sign on Ramsey Boulevard makes sense because the City wants to attract businesses but he thinks this consideration is premature.

Parks and Assistant Public Works Superintendent Riverblood offered the option of considering the sign on Ramsey Boulevard and saving the kiosk for later consideration.

Councilmember LeTourneau agreed there is a lot of work remaining in The COR but The Draw is a functioning element and missing some identification so he can justify the need for additional signage and understands how funding would be allocated. He stated he supports both signs as recommended and asked if the kiosks would advertise upcoming events.

Parks and Assistant Public Works Superintendent Riverblood displayed the proposed kiosk and noted the area that can contain “coming soon” information.

Councilmember LeTourneau supported the continuing informational element of the kiosk.

Mayor Strommen stated she thinks the signs are fine and agrees the City has invested in the park and should finish its identity. She also thinks that just adding two signs may not fix the issue and there are other options, as mentioned by Councilmember Backous. She stated another concern is that there is a brand identity issue because The COR and The Draw sound similar and the logo color difference is too subtle.

Parks and Assistant Public Works Superintendent Riverblood stated in the future, the City will be considering changes to some street sign blades to provide additional wayfinding and to divide The COR into districts.

Mayor Strommen stated it may be a matter of timing, as mentioned by Councilmember Backous.

Parks and Assistant Public Works Superintendent Riverblood asked if staff should move forward to obtain competitive quotes to address that concern of Councilmember Elvig, and allow staff to work on innovative ideas to draw attention to The DRAW.

The consensus of the Council was to direct staff to proceed on a scope and cost for the two signs.

3. FUTURE TOPICS FOR DISCUSSION

Noted.

4. MAYOR / COUNCIL / STAFF INPUT

City Administrator Ulrich asked if the Council would like to schedule joint meetings with other communities, such as Elk River.

Mayor Strommen suggested there should be an issue or agenda before scheduling such a meeting. She stated the City of Dayton has requested a joint meeting to discuss the bridge and asked staff to determine the purpose should a joint meeting be scheduled.

Councilmember Tossey arrived at 6:58 p.m.

Councilmember Elvig stated Nowthen and Anoka are important communities since there are shared services and commuter travel through these communities.

City Administrator Ulrich stated staff will further consider this matter and determine where priorities lie.

5. ADJOURNMENT

Mayor Strommen declared the Work Session of the City Council adjourned at 7:00 p.m.

Respectfully submitted,

Kurtis G. Ulrich
City Administrator

ATTEST:

Jo Ann M. Thieling
City Clerk

Drafted by Carla Wirth
TimeSaver Off Site Secretarial, Inc.

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**CITY COUNCIL
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA**

The Ramsey City Council conducted a regular meeting on Tuesday, April 9, 2013, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Mayor Sarah Strommen
Councilmember Randy Backous
Councilmember David Elvig
Councilmember Mark Kuzma
Councilmember John LeTourneau
Councilmember Chris Riley
Councilmember Jason Tossey

Members Absent: None

Also Present: City Administrator Kurtis Ulrich
Finance Director Diana Lund
Parks and Assistant Public Works Superintendent Mark Riverblood
Public Works Superintendent Grant Riemer
Development Services Manager Timothy Gladhill
City Engineer Bruce Westby
Assistant to the City Administrator Patrick Brama
City Attorney William Goodrich

1. CALL TO ORDER

Mayor Strommen called the regular meeting of the Ramsey City Council to order at 7:06 p.m., followed by the Pledge of Allegiance led by Mayor Strommen.

2. PRESENTATION

2.01: Robin Roland, State Representative for the Government Finance Officer's Association

Mayor Strommen recognized and welcomed Robin Roland the Government Finance Officer's Association State Representative.

Ms. Roland introduced herself and presented the Certificate of Achievement for Excellence in Financial Reporting.

Finance Director Lund thanked Assistant Finance Director McAlpine and the Finance Department as a whole for their work, noting this is the 18th consecutive year the City has achieved this award.

The Council congratulated Finance Director Lund and the Finance Department on this achievement.

3. CITIZEN INPUT

None.

4. CONSENT AGENDA

Motion by Councilmember Backous, seconded by Councilmember LeTourneau, to approve the following items on the Consent Agenda:

- 4.01: Receive 2013 Building Division Month End Report: March
- 4.02: Note the following Board and Commission Meeting Minutes:
 - 1) Economic Development Authority Meeting Minutes dated January 10, 2013
 - 2) Economic Development Authority Meeting Minutes dated February 14, 2013
 - 3) Environmental Policy Board Meeting Minutes dated February 4, 2013
 - 4) Environmental Policy Board Meeting Minutes dated March 4, 2013
- 4.03: Approve License Applications:
 - Peddlers / Solicitors
Blaine Anoka Ice Cream, 922 – 94th Avenue NE, Blaine, MN 55434
 - Transient Merchant
Ramsey Garden Club, 7550 Sunwood Drive NW, Ramsey, MN 55303
- 4.04: Approve the Following Meeting Minutes:
 - 1) City Council Work Session dated February 5, 2013
 - 2) City Council Work Session dated March 5, 2013
 - 3) City Council Work Session dated March 12, 2013
 - 4) City Council Regular Session dated March 12, 2013
 - 5) City Council Work Session dated March 19, 2013
 - 6) City Council Work Session dated March 26, 2013
 - 7) City Council Regular Session dated March 26, 2013
- 4.05: Introduce Ordinance #13-09 to Vacate an Easement for Street and Utility Purposes on Lots 1 and 2, Block 1, Park 67 Industrial Park; Case of Sharp & Associates and Transwest, LLC
- 4.06: Adopt Resolution #13-04-066 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of March 21, 2013, through April 3, 2013
- 4.07: Adopt Resolution #13-04-070 Supporting Legislation Authorizing the Establishment of Municipal Street Improvement Districts
- 4.08: Adopt Updated *MUNICIPAL CENTER FACILITY USE & RENTAL POLICY*
- 4.03: Report from the Public Works Committee Meeting dated March 19, 2013:

- 1) Nominate Chair and Vice-Chair for the Public Works Committee – *Ratify the recommendation of the Public Works Committee and approve Councilmember Backous as Chair and Councilmember Kuzma as Vice-Chair.*
- 2) Consider Interim Trail in the Right-of-Way of US Highway 10 and 169 – *Ratify the recommendation of the Public Works Committee and address the request for a temporary trail within the right-of-way of Highways 10 and 169 between Bowers Drive and Llama Street by altering driveway/ditch approaches, etc. such that a trail may be mowed by the City a few times a year at minimal expense and direct staff to investigate the permanent grant funded bituminous trail for construction in 2013 with reimbursement of Federal monies at some point in 2015.*
- 3) Review Automated Vehicle Locator (AVL) System and Consider Purchase – *Ratify the recommendation of the Public Works Committee and approve staff to purchase the Precise MRM System and installation in all large plow equipment and sidewalk cleaning machine.*

Motion carried. Voting Yes: Mayor Strommen, Councilmembers Backous, LeTourneau, Elvig, Kuzma, Riley, and Tossey. Voting No: None.

5. APPROVE AGENDA

Motion by Councilmember LeTourneau, seconded by Councilmember Kuzma, to approve the agenda as presented.

Motion carried. Voting Yes: Mayor Strommen, Councilmembers LeTourneau, Kuzma, Backous, Elvig, Riley, and Tossey. Voting No: None.

6. PUBLIC HEARING

None.

7. COUNCIL BUSINESS

7.01: Authorize Contracted Mowing Services for The Draw, Municipal Center, and the Northstar Commuter Rail Station

Parks and Assistant Public Works Superintendent Riverblood reviewed the staff report and recommendation to use Village Green Landscapes.

The Council acknowledged this is a well thought out strategic plan.

Motion by Councilmember Elvig, seconded by Councilmember Backous, to approve Village Green Landscapes for the 2013 mowing of The Draw, the Municipal Center, and the Northstar Rail Station and authorize the City Administrator to enter into such agreements with Metropolitan Transit as may be necessary for the City to provide summer outdoor landscape services at the Northstar Commuter Rail Station.

Motion carried. Voting Yes: Mayor Strommen, Councilmembers Elvig, Backous, Kuzma, LeTourneau, Riley, and Tossey. Voting No: None.

7.02: Approve Play Structure for North Commons

Parks and Assistant Public Works Superintendent Riverblood reviewed the staff report and recommendation to approve the North Commons play structure.

Motion by Councilmember LeTourneau, seconded by Councilmember Kuzma, to approve a not-to-exceed amount of \$48,000 for the North Commons playground project for 2013 implementation from the Lawful Gambling Fund.

Motion carried. Voting Yes: Mayor Strommen, Councilmembers LeTourneau, Kuzma, Backous, Elvig, Riley, and Tossey. Voting No: None.

7.03: Adopt Ordinance #13-08 to Sell Surplus City Owned Lands

Assistant to the City Administrator Brama reviewed the staff report and recommendation to adopt an ordinance to sell City-owned property at 14280 Azurite Street NW, which had been deemed to be surplus land.

Motion by Councilmember Riley, seconded by Councilmember Backous, to Adopt Ordinance #13-08 Authorizing the City of Ramsey to Sell/Convey Surplus Land and to Waive Reading of the Ordinance as otherwise required by the City Charter.

A roll call vote was performed by the Recording Secretary:

Councilmember Tossey	aye
Councilmember Riley	aye
Councilmember LeTourneau	aye
Councilmember Backous	aye
Councilmember Elvig	aye
Councilmember Kuzma	aye
Mayor Strommen	aye

Motion carried.

7.04: Approve Amended Easement for Emergency Egress – Ramsey Rail Station

City Administrator Ulrich reviewed the staff report and recommendation to approve the amended easement for the new utility building at the south side of the tracks at the Ramsey Rail Station.

Motion by Councilmember LeTourneau, seconded by Councilmember Backous, to approve the emergency easement for Ramsey Rail Station as amended from 42.00 feet to 46.00 feet.

Motion carried. Voting Yes: Mayor Strommen, Councilmembers LeTourneau, Backous, Elvig, Kuzma, Riley, and Tossey. Voting No: None.

8. MAYOR, COUNCIL AND STAFF INPUT

At the invitation of City Administrator Ulrich, newly hired City Engineer Bruce Westby introduced himself, stated he is excited to be with Ramsey, and looks forward to being part of its initiatives. The Council extended its welcome to City Engineer Westby.

City Administrator Ulrich announced upcoming meetings and reminded the Council that he and Mayor Strommen will travel to Washington, D.C. on May 21-22, 2013, to lobby for the Highway 10 and Armstrong Boulevard interchange. He reported that the Governor's Bonding Bill did not include this project, the House Bonding Bill included \$10 million for this project, and the Senate Bonding Bill has not yet come out.

Mayor Strommen announced that last week she and City Administrator Ulrich met with Senator Franken to address issues including the Highway 10 and Armstrong interchange so their trip to Washington, D.C. will be a timely follow up.

Councilmember Tossey stated he believes there will be support by the Governor and Mn/DOT even if the project is not included in the Governor's Bonding Bill. He announced the May 17, 2013, Mayor's Prayer Breakfast fundraiser for Youth First and encouraged all to participate.

9. ADJOURNMENT

Motion by Councilmember Tossey, seconded by Councilmember LeTourneau, to adjourn the meeting.

Motion carried.

The regular meeting of the City Council adjourned at 7:33 p.m.

Respectfully submitted,

Kurtis G. Ulrich
City Administrator

ATTEST:

Jo Ann M. Thieling
City Clerk

Drafted by Carla Wirth, *TimeSaver Off Site Secretarial, Inc.*

CC Regular Session**4. 10.****Meeting Date:** 04/23/2013**By:** Jackie Lipski, Finance

Information**Title:**

Adopt Resolution #13-04-073 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of April 4, 2013 through April 17, 2013

Funding Source:

N/A

Council Action:

Motion to Adopt Resolution #13-04-073 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of April 4, 2013 through April 17, 2013.

Attachments

Bills list 4/23/2013

Resolution 04/23/2013

Form Review

Inbox	Reviewed By	Date
Diana Lund	Diana Lund	04/17/2013 03:35 PM
Kurt Ulrich	Kurt Ulrich	04/18/2013 03:04 PM
Form Started By: Jackie Lipski		Started On: 04/17/2013 02:58 PM
Final Approval Date: 04/18/2013		

RAMSEY CITY COUNCIL MEETING
4/23/2013
BILLS LIST

DISBURSEMENTS TO BE APPROVED THIS MEETING:

DISBURSEMENT TYPE:	<u>SUBMITTED FOR APPROVAL</u>
Purchase Journal:	
Prepays 4/4/13-4/17/13	1,454,896.56
Accounts Payable 4/4/13-4/17/13	361,529.72
Payroll 4/11/13	113,530.15
Pay Estimates-Projects	19,426.11

TOTAL SUBMITTED FOR APPROVAL THIS MEETING

\$ 1,949,382.54

<u>DISBURSEMENTS PREVIOUSLY APPROVED AND PAID:</u>	<u>APPROVED PREV. MTG</u>	<u>2012 Y.T.D.</u>
NET PAYROLL TOTAL	\$ 110,115.27	\$ 806,867.90
- CORRECTION TO PAYROLL		
PREPAIDS		
- PREPAID ADJUSTMENTS	164,629.54	3,410,932.73
WIRE TRANSFERS FOR DEBT SERVICE	147,527.50	554,583.75
- CORRECTION TO D.S.		
ACCOUNTS PAYABLE INVOICING - PREVIOUS MEETING:		
- BILLS LIST SUBMITTED	133,914.14	1,161,761.99
ADD (DELETE) BILLS LIST SUBMITTED		
PAY ESTIMATE(S)		135,783.39
- CHECKS VOIDED	0.00	0.00
TOTAL CASH DISBURSEMENTS PREVIOUSLY APPROVED	\$ 556,186.45	\$ 6,069,929.76

CITY OF RAMSEY

Council Check Register

4/4/2013 - 12/31/2013

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
91176	4/4/2013		100056 ANOKA, CITY OF						
		5,679.75	MISS RIVER TRAIL		66892	201303072258A	0452.6315		MISCELLANEOUS PROFESSIO
		5,679.75							
91177	4/4/2013		110734 CITY OF RAMSEY						
		200.00	ACCOUNT 718889		66895	040413	9601.4651		WATER REVENUE
		200.00							
91178	4/4/2013		100678 PETTY CASH						
		4.89	CC DESSERT		66893	040313	0111.6249		MISCELLANEOUS OPERATING
		7.58	CC DESSERT		66893	040313	0111.6249		MISCELLANEOUS OPERATING
		8.24	TRAINING- MEAL		66893	040313	0211.6331		TRAVEL & LODGING
		8.24	TRAINING- MEAL		66893	040313	0211.6331		TRAVEL & LODGING
		24.58	PD BOOT POLISH		66893	040313	0211.6249		MISCELLANEOUS OPERATING
		53.53							
91179	4/4/2013		112688 TITAN MACHINERY						
		38.95	WIPER BLADES		66894	219855	0312.6257	00000601	OTHER VEHICLE PARTS
		38.95							
91180	4/4/2013		113191 UBS FINANCIAL SERVICES INC						
		7,039.06	PURCH-FHLB10-25-27		66896	040413	9701.4701		INTEREST ON INVESTMENTS
		750,000.00	PURCH-FHLB10-25-27		66896	040413	9701.1035		PRUDENTIAL - INVESTMENTS
		757,039.06							
91244	4/11/2013		106346 BAUER BUILT INCORPORATED						
		375.00	REPAIR ON 603		66945	940014510	0311.6388	00000603	OTHER VEHICLE REPAIR
		3,509.30	REPAIR ON 603		66945	940014510	0311.6257	00000603	OTHER VEHICLE PARTS
		3,884.30							
91245	4/11/2013		100404 CENTURYLINK						
		65.35	MARCH 2013 BILLING		66946	763 422-1452 795 MAR 13	0452.6321		TELEPHONE
		65.35							
91246	4/11/2013		100116 CONNEXUS ENERGY						
		39.98	MISC CITY ACCOUNTS		66947	759126-303107MA R13	9410.6371	00041018	ELECTRIC UTILITIES
		78.10	MISC CITY ACCOUNTS		66947	759126-303107MA R13	0295.6371		ELECTRIC UTILITIES
		83.81	MISC CITY ACCOUNTS		66947	759126-303107MA R13	9230.6371		ELECTRIC UTILITIES
		117.16	MISC CITY ACCOUNTS		66947	759126-303107MA R13	0194.6371		ELECTRIC UTILITIES
		394.90	MISC CITY ACCOUNTS		66947	759126-303107MA R13	9410.6371	00041012	ELECTRIC UTILITIES
		1,802.86	MISC CITY ACCOUNTS		66947	759126-303107MA R13	0220.6371		ELECTRIC UTILITIES
		4,545.16	MISC CITY ACCOUNTS		66947	759126-303107MA R13	9240.6371		ELECTRIC UTILITIES
		5,144.00	MISC CITY ACCOUNTS		66947	759126-303107MA R13	0194.6371		ELECTRIC UTILITIES
		12,205.97							
91247	4/11/2013		113321 FACTORY MOTOR PARTS						
		37.61	MISC PARTS 640		66948	6-1317802	0311.6257	00000640	OTHER VEHICLE PARTS
		192.73	ALTERNATOR 640		66949	6-1317788	0311.6257	00000640	OTHER VEHICLE PARTS

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		230.34							
91248	4/11/2013		100291 MET COUNCIL SAC						
		413.95-	MARCH 13 SAC CHARGES		66954	041113	9602.4356		SEWER AVAILABILITY CHARGE
		41,395.00	MARCH 13 SAC CHARGES		66954	041113	9602.2083		SAC CHARGES
		40,981.05							
91249	4/11/2013		100510 VERIZON WIRELESS						
		84.42	FEB-MAR 13 BILLING		66955	9701888380	0130.6323		CELLULAR PHONES
		84.42							
91250	4/11/2013		112719 WHEELS OF THUNDER						
		1,657.00	MAY/JUNE 13 NEWSLETTER		66956	040913	9101.4609		OTHER MISCELLANEOUS REV
		1,657.00							
91251	4/11/2013		111137 WRIGHT HENNEPIN COOPERATIVE EL						
		26.67	MAR 13 7550 SUNWOOD DR		66950	150-1681-6340	0194.6489		OTHER CONTRACTED SERVIC
						MAR 13			
		26.67	MAR13 7650 SUNWOOD DR		66951	150-1681-4280MA	9240.6315		MISCELLANEOUS PROFESSIO
						R13			
		29.87	MAR 13 7550 SUNWOOD DR-POLICE		66952	150-1682-6501	0211.6489		OTHER CONTRACTED SERVIC
						MAR 13			
		29.87	MAR 13 6701 HWY 10		66953	150-1687-1105-M	9410.6315	00041012	MISCELLANEOUS PROFESSIO
						AR 13			
		113.08							
91252	4/11/2013		111501 LANDFORM PROFESSIONAL SERVICES						
		15,000.00	SERVICES THROUGH FEB 2013		66996	21299	0295.6315		MISCELLANEOUS PROFESSIO
		15,000.00							
91253	4/12/2013		107962 GENESIS EMPLOYEE BENEFITS						
		3,875.00			66932	04101313333110	9101.2176		LIFE/HEALTH-EMPLOYEE
		3,875.00							
91254	4/15/2013		100391 POSTMASTER						
		1,302.47	POSTAGE FOR EDA BIZ EXPO 2013		67001	041513	9230.6249	00923001	MISCELLANEOUS OPERATING
		1,302.47							
91255	4/16/2013		100404 CENTURYLINK						
		305.50	APRIL 2013 BILLING		67003	612 E34-0550	0192.6321		TELEPHONE
						637 APR13			
		305.50	APRIL 2013 BILLING		67004	612 E34-0549	0192.6321		TELEPHONE
						596APR13			
		305.50	APRIL 2013 BILLING		67005	612 E34-0544	0192.6321		TELEPHONE
						018 APR13			
		916.50							
91256	4/16/2013		100117 CONNEXUS ENERGY						
		5,796.87	RE: ELECTRICAL BOX		67006	AI00000607 A	9496.6315		MISCELLANEOUS PROFESSIO
		5,796.87							
91257	4/16/2013		113191 UBS FINANCIAL SERVICES INC						
		500,000.00	PURCH CUSIP 313382QZ9		67007	041613	9701.1035		PRUDENTIAL - INVESTMENTS
		500,000.00							
90245330	4/11/2013		100398 PUBLIC EMPLOYEES RETIREMENT AS						
		12,916.90			66941	0410131333317	9101.2174		PERA-EMPLOYEE

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		17,307.91			66942	0410131333318	9101.2183		PERA-EMPLOYER
		30,224.81							
92599680	4/11/2013		100601 MN DEPT OF REV WH						
		7,774.90			66943	0410131333319	9101.2172		STATE WITHHOLDING
		7,774.90							
95977259	4/11/2013		100113 BANK OF THE WEST						
		19,167.31			66931	0410131333311	9101.2171		FEDERAL WITHHOLDING
		8,402.51			66936	0410131333312	9101.2173		FICA & MEDICARE-EMPLOYEE
		8,402.51			66937	0410131333313	9101.2182		FICA & MEDICARE-EMPLOYER
		35,972.33							
99033113	4/17/2013		100219 HOME DEPOT COMMERCIAL ACCT PRO						
		36.37	MARCH 2013 BILLING		67062	032813	0312.6257		OTHER VEHICLE PARTS
		57.78	MARCH 2013 BILLING		67062	032813	0194.6281		SMALL TOOLS & MINOR EQUIP
		196.31	MARCH 2013 BILLING		67062	032813	0452.6229		SHOP MATERIALS
		290.46							
99041151	4/11/2013		111465 STATE STREET BANK						
		2,849.00			66934	04101313333112	9101.2175		DEFERRED COMPENSATION
		2,849.00							
99041154	4/11/2013		111465 STATE STREET BANK						
		416.10			66935	04101313333113	9101.2176		LIFE/HEALTH-EMPLOYEE
		416.10							
99041213	4/12/2013		107885 DEPARTMENT OF LABOR AND INDUST						
		172.73	2013Q1 SURCHAGE		66944	2013Q1 SURCHAGE	9101.4604		SURCHARGES
		4,318.33	2013Q1 SURCHAGE		66944	2013Q1 SURCHAGE	9101.2081		SURCHARGES-PERMITS
		4,145.60							
99041313	4/12/2013		108768 COMDATA NETWORK INC						
		1,337.28	USAIRWAY , ULRICH		66999	MAR13 COMDATA PCARDS	0130.6331		TRAVEL & LODGING
		1,337.28	USAIRWAY , ULRICH		66999	MAR13 COMDATA PCARDS	0130.6331		TRAVEL & LODGING
		86.31	HOTELS.COM US , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6335		TRAINING
		.43	CENTRAL HYDRAULICS , RIEMER		66999	MAR13 COMDATA PCARDS	0240.6249		MISCELLANEOUS OPERATING
		2.13	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6281		SMALL TOOLS & MINOR EQUIP
		2.14	TARGET , WIEMANN		66999	MAR13 COMDATA PCARDS	0211.6208		MISCELLANEOUS OFFICE SUF
		2.99	TARGET , GLADHILL		66999	MAR13 COMDATA PCARDS	0240.6249		MISCELLANEOUS OPERATING
		2.99	TARGET , GLADHILL		66999	MAR13 COMDATA PCARDS	0240.6249		MISCELLANEOUS OPERATING
		4.11	THE HOME DEPOT , KAPLER		66999	MAR13 COMDATA PCARDS	0220.6335		TRAINING
		5.39	COBORN'S SUPERSTORE , LASHER		66999	MAR13 COMDATA PCARDS	0111.6249		MISCELLANEOUS OPERATING
		9.81	REPLACEMENT PARTSWIEMANN		66999	MAR13 COMDATA PCARDS	0211.6275		OTHER EQUIPMENT PARTS
		9.96	AMAZON MKTPLACE PMTS , FREDRIC		66999	MAR13 COMDATA PCARDS	0191.6208		MISCELLANEOUS OFFICE SUF

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		10.67	AMAZON MKTPLACE PMTS , FREDRIC		66999	MAR13 COMDATA PCARDS	0191.6208		MISCELLANEOUS OFFICE SUF
		9.99	TARGET , WIEMANN		66999	MAR13 COMDATA PCARDS	0211.6208		MISCELLANEOUS OFFICE SUF
		9.99	TARGET , WIEMANN		66999	MAR13 COMDATA PCARDS	0211.6208		MISCELLANEOUS OFFICE SUF
		9.99	TARGET , WIEMANN		66999	MAR13 COMDATA PCARDS	0211.6208		MISCELLANEOUS OFFICE SUF
		12.25	ICE HOUSE RESTAURANT , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6335		TRAINING
		16.01	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		18.51	FRATTALLONES ANDOVER , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6249		MISCELLANEOUS OPERATING
		18.86	LITTLE DUKES RAMSEY , BRAY		66999	MAR13 COMDATA PCARDS	0194.6225		DIESEL FUEL
		21.26	AMAZON MKTPLACE PMTS , FREDRIC		66999	MAR13 COMDATA PCARDS	0191.6208		MISCELLANEOUS OFFICE SUF
		23.55	WWW.DICKSPORTNGGOODS. , WIEMA		66999	MAR13 COMDATA PCARDS	0223.6249		MISCELLANEOUS OPERATING
		25.15	KMART , WIEMANN		66999	MAR13 COMDATA PCARDS	0211.6208		MISCELLANEOUS OFFICE SUF
		29.90	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		29.91	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		32.12	CELLULAR EXPERTS , KAPLER		66999	MAR13 COMDATA PCARDS	0220.6249		MISCELLANEOUS OPERATING
		32.12	DICK'S SPORTING GOODS , WIEMAN		66999	MAR13 COMDATA PCARDS	0223.6249		MISCELLANEOUS OPERATING
		33.25	MILLS FLEET FARM #2,40 , RIEME		66999	MAR13 COMDATA PCARDS	0194.6257		OTHER VEHICLE PARTS
		33.43	SWEET WATER BAR AND GRILL , UL		66999	MAR13 COMDATA PCARDS	0130.6249		MISCELLANEOUS OPERATING
		36.42	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6281		SMALL TOOLS & MINOR EQUIF
		40.60	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6281		SMALL TOOLS & MINOR EQUIF
		42.74	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		41.26	WAL-MART , WIEMANN		66999	MAR13 COMDATA PCARDS	0211.6208		MISCELLANEOUS OFFICE SUF
		43.92	MAI VILLAGE RESTAURANT , ULRIC		66999	MAR13 COMDATA PCARDS	0130.6249		MISCELLANEOUS OPERATING
		43.92	ACAPULCO MEXICAN RESTA , ULRIC		66999	MAR13 COMDATA PCARDS	0130.6249		MISCELLANEOUS OPERATING
		47.01	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		45.86	HOLIDAY , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6223		GASOLINE
		47.23	COBORN'S SUPERSTORE , KAPLER		66999	MAR13 COMDATA PCARDS	0220.6335		TRAINING
		48.00	SENSIBLE LAND USE COAL , GLADH		66999	MAR13 COMDATA PCARDS	0191.6335		TRAINING
		48.53	WAL-MART , BRAY		66999	MAR13 COMDATA PCARDS	0111.6249		MISCELLANEOUS OPERATING

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		49.24	FALLS CAFE , ULRICH		66999	MAR13 COMDATA PCARDS	0130.6249		MISCELLANEOUS OPERATING
		50.31	HOLIDAY , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6223		GASOLINE
		51.48	BACHMAN'S , ULRICH		66999	MAR13 COMDATA PCARDS	0130.6249		MISCELLANEOUS OPERATING
		53.18	DINO MART , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6223		GASOLINE
		60.62	PROVANTAGE LLC , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6281		SMALL TOOLS & MINOR EQUIP
		59.84	THE HOME DEPOT , KAPLER		66999	MAR13 COMDATA PCARDS	0220.6335		TRAINING
		60.00	MINNESOTA GOVERNMENT F , LUND		66999	MAR13 COMDATA PCARDS	0153.6451		MEMBERSHIP DUES
		66.21	CHANTICLEAR PIZZA , BRAMA		66999	MAR13 COMDATA PCARDS	0111.6249		MISCELLANEOUS OPERATING
		67.40	MAMA DE LUCAS PIZZERIA , ULRIC		66999	MAR13 COMDATA PCARDS	0111.6249		MISCELLANEOUS OPERATING
		90.84	CENTRAL HYDRAULICS , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6257		OTHER VEHICLE PARTS
		100.76	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		98.88	BEST WESTERN , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6335		TRAINING
		109.98	CENTRAL HYDRAULICS , RIEMER		66999	MAR13 COMDATA PCARDS	0194.6257		OTHER VEHICLE PARTS
		121.50	JIMMY JOHNS , ULRICH		66999	MAR13 COMDATA PCARDS	0111.6249		MISCELLANEOUS OPERATING
		125.00	CRAGUNS LODGE AND GOLF , WIEMA		66999	MAR13 COMDATA PCARDS	0211.6331		TRAVEL & LODGING
		130.00	CENTRAL HYDRAULICS , RIEMER		66999	MAR13 COMDATA PCARDS	9605.6257		OTHER VEHICLE PARTS
		130.00	THE MARPA GROUP INC , DWYER		66999	MAR13 COMDATA PCARDS	0211.6335		TRAINING
		170.99	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		173.00	CHOICEPOINT INC , LASHER		66999	MAR13 COMDATA PCARDS	0130.6306		PERSONNEL TESTING & RECF
		175.69	JIMMY JOHNS , KAPLER		66999	MAR13 COMDATA PCARDS	0220.6335		TRAINING
		213.73	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		210.00	NAHRO , GLADHILL		66999	MAR13 COMDATA PCARDS	0191.6451		MEMBERSHIP DUES
		221.13	GILLUND ENTERPRISES , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6249		MISCELLANEOUS OPERATING
		225.00	GTS EDUCATIONAL EVE , ULRICH		66999	MAR13 COMDATA PCARDS	0130.6335		TRAINING
		225.00	GTS EDUCATIONAL EVE , BRAMA		66999	MAR13 COMDATA PCARDS	0130.6451		MEMBERSHIP DUES
		256.03	JEFF STEIN SNAPON , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6281		SMALL TOOLS & MINOR EQUIP
		337.83	N SUBURBAN RENTAL CTR , RIEMER		66999	MAR13 COMDATA PCARDS	0452.6415		OTHER EQUIPMENT RENTAL
		416.12	BLUE VELVET CAR WASH , DWYER		66999	MAR13 COMDATA PCARDS	0211.6249		MISCELLANEOUS OPERATING

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		420.95	LANDS END BUS OUTFITTER , WIEM		66999	MAR13 COMDATA PCARDS	0211.6231		UNIFORMS & TURN-OUT GEAF
		428.50	JEFF STEIN SNAPON , RIEMER		66999	MAR13 COMDATA PCARDS	0311.6281		SMALL TOOLS & MINOR EQUIF
		534.36	AMAZON MKTPLACE PMTS , BRAMA		66999	MAR13 COMDATA PCARDS	0296.6249		MISCELLANEOUS OPERATING
		703.48	USAIRWAY , ULRICH		66999	MAR13 COMDATA PCARDS	0130.6331		TRAVEL & LODGING
		703.48	USAIRWAY , ULRICH		66999	MAR13 COMDATA PCARDS	0130.6331		TRAVEL & LODGING
		850.00	ATOM , DWYER		66999	MAR13 COMDATA PCARDS	0211.6335		TRAINING
		1,624.48	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		1,654.40	WWW.NEWEGG.COM , FREDRICKSON		66999	MAR13 COMDATA PCARDS	0192.6405		OFFICE & DATA PROCESSING
		265.12-			66999	MAR13 COMDATA PCARDS	9101.2082		SALES/USE TAX PAYABLE
		34.37-			66999	MAR13 COMDATA PCARDS	9297.2082		SALES/USE TAX PAYABLE
		.54	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		.64	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		3.08	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		3.62	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		7.13	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		11.86	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		14.24	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		15.57	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE
		15.86	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		16.00	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		16.09	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		17.00	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		19.63	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		19.83	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		19.92	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		20.41	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		20.41	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		20.71	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE

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		21.22	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		21.35	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		22.35	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		22.43	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		22.54	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		22.81	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		23.00	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		23.01	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		23.12	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		23.13	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000563	GASOLINE
		23.35	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		23.47	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE
		23.49	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		23.75	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		23.80	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		24.11	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000372	GASOLINE
		24.79	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		25.15	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		25.22	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		25.35	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		25.37	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		25.50	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		25.53	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		25.94	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		26.18	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		26.93	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		27.13	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		27.25	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE

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		27.51	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		27.59	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		27.65	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		27.75	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		27.86	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		28.11	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		28.15	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		28.18	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		28.51	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		28.54	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		28.76	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		29.14	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		29.32	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		29.86	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		30.00	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000563	GASOLINE
		30.01	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		30.06	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000563	GASOLINE
		30.34	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		30.44	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		30.59	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		30.62	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		30.74	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000559	GASOLINE
		30.75	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		30.80	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		30.91	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000563	GASOLINE
		31.06	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000563	GASOLINE
		31.08	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000352	GASOLINE
		31.22	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE

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		31.36	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		31.44	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		31.54	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		31.58	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		31.67	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		32.28	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		32.37	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		32.38	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		32.42	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		32.52	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		32.61	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		32.73	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		32.78	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0311.6223	00000405	GASOLINE
		32.83	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		33.06	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		33.09	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		33.09	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		33.22	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		33.37	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		33.55	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		33.72	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		34.05	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE
		34.21	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		34.46	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		34.64	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		34.71	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		34.89	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		35.01	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000557	GASOLINE

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35.37			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
35.59			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
35.84			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
35.92			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
36.01			CASEYS GEN STORE		67000	MAR13 COMDATA FUEL	0452.6223	00000654	GASOLINE
36.25			SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
36.58			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
36.63			HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
36.69			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
36.85			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
36.96			HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
36.99			HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
37.00			SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
37.07			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
37.22			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
37.23			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
37.24			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
37.40			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
37.44			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE
37.54			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000654	GASOLINE
37.67			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
37.68			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
37.68			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
37.76			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
38.00			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
38.01			HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
38.33			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
38.33			LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000566	GASOLINE

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		38.61	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		38.86	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		39.24	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		39.55	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0301.6223	00000402	GASOLINE
		39.63	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		39.66	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		39.88	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		39.91	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000664	GASOLINE
		40.20	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		40.20	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000365	GASOLINE
		40.62	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0194.6223	00000403	GASOLINE
		40.66	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		40.92	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000875	GASOLINE
		40.95	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		40.98	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0311.6223	00000353	GASOLINE
		41.05	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		41.36	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		41.57	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		41.66	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		41.77	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		41.78	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		42.00	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000563	GASOLINE
		42.59	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		42.77	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		43.19	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		43.34	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		43.39	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE
		43.65	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE

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		44.13	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		44.44	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		44.45	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		44.50	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000566	GASOLINE
		44.63	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0194.6223	00000404	GASOLINE
		44.63	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		45.00	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000557	GASOLINE
		45.22	SHELL OIL		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		45.34	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		45.69	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		46.12	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0240.6223	00000406	GASOLINE
		46.27	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		46.34	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000664	GASOLINE
		46.36	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		46.77	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		46.80	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000365	GASOLINE
		46.81	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE
		46.91	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE
		47.07	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		47.11	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000364	GASOLINE
		47.32	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000351	GASOLINE
		47.41	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		47.71	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000675	GASOLINE
		47.92	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		48.51	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0240.6223	00000406	GASOLINE
		48.59	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000321	GASOLINE
		48.95	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000318	GASOLINE
		49.00	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000365	GASOLINE

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		49.21	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000365	GASOLINE
		49.29	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		49.58	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0194.6223	00000410	GASOLINE
		49.80	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000375	GASOLINE
		49.98	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		50.00	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000665	GASOLINE
		50.05	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		50.07	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		50.09	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000303	GASOLINE
		50.61	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		51.17	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		52.21	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		52.62	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000675	GASOLINE
		52.67	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000392	GASOLINE
		52.88	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000322	GASOLINE
		53.27	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		53.31	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000316	GASOLINE
		54.24	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000375	GASOLINE
		54.60	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		54.85	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		55.00	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		55.86	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		55.94	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000317	GASOLINE
		55.96	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0240.6223	00000401	GASOLINE
		56.00	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000376	GASOLINE
		56.30	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6225	00000560	DIESEL FUEL
		56.49	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		57.25	MARATHON PETRO092296		67000	MAR13 COMDATA FUEL	0211.6223	00000376	GASOLINE

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		57.76	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		58.15	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		58.16	HOLIDAY		67000	MAR13 COMDATA FUEL	0211.6223	00000301	GASOLINE
		58.30	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		58.53	CASEYS GEN STORE		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		59.88	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0301.6223	00000402	GASOLINE
		60.31	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		62.01	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0240.6223	00000401	GASOLINE
		62.01	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000302	GASOLINE
		62.30	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		63.27	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6225	00000565	DIESEL FUEL
		64.01	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000564	GASOLINE
		64.14	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0452.6223	00000675	GASOLINE
		64.76	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000564	GASOLINE
		65.00	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		65.79	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		67.35	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		68.02	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000564	GASOLINE
		68.58	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6223	00000563	GASOLINE
		68.94	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0301.6223	00000402	GASOLINE
		69.49	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000564	GASOLINE
		70.21	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0211.6223	00000386	GASOLINE
		72.03	HOLIDAY		67000	MAR13 COMDATA FUEL	0311.6223	00000676	GASOLINE
		73.45	HOLIDAY		67000	MAR13 COMDATA FUEL	9601.6223	00000667	GASOLINE
		74.25	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		75.00	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0220.6225	00000500	DIESEL FUEL
		76.50	HOLIDAY		67000	MAR13 COMDATA FUEL	0311.6223	00000353	GASOLINE
		76.74	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	9601.6223	00000667	GASOLINE

CITY OF RAMSEY
Council Check Register

4/4/2013 -- 12/31/2013

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
		81.61	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000664	GASOLINE
		81.72	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0311.6223	00000676	GASOLINE
		83.92	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	9601.6223	00000667	GASOLINE
		84.65	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		85.01	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000664	GASOLINE
		87.56	HOLIDAY		67000	MAR13 COMDATA FUEL	9601.6223	00000667	GASOLINE
		88.26	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0194.6223	00000410	GASOLINE
		88.50	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		89.00	HOLIDAY		67000	MAR13 COMDATA FUEL	0311.6223	00000353	GASOLINE
		89.25	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000566	GASOLINE
		92.06	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000675	GASOLINE
		92.50	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0311.6223	00000353	GASOLINE
		92.93	BILLS SUPERETTE		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		93.85	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		94.67	SUPERAMERICA		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		95.42	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0311.6223	00000676	GASOLINE
		95.51	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0311.6223	00000405	GASOLINE
		99.13	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0194.6223	00000410	GASOLINE
		101.13	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000566	GASOLINE
		101.14	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		101.17	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0220.6223	00000566	GASOLINE
		114.18	LITTLE DUKES RAMSEY		67000	MAR13 COMDATA FUEL	0452.6223	00000653	GASOLINE
		115.25	HOLIDAY		67000	MAR13 COMDATA FUEL	0452.6223	00000678	GASOLINE
		20,432.32							
99041513	4/19/2013		100629 MN DEPT OF REV SALES TX						
		.54	MAR2013 SALE/TRAN/USE TAX		67002	MAR2013 SALE/TRAN/USE TAX	9101.4609		OTHER MISCELLANEOUS REV
		6.84	MAR2013 SALE/TRAN/USE TAX		67002	MAR2013 SALE/TRAN/USE TAX	9101.4308		SALES OF MAPS & PUBLICATI
		34.37	MAR2013 SALE/TRAN/USE TAX		67002	MAR2013	9297.2082		SALES/USE TAX PAYABLE

CITY OF RAMSEY

Council Check Register

4/4/2013 — 12/31/2013

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
						SALE/TRAN/USE TAX			
		265.12	MAR2013 SALE/TRAN/USE TAX		67002	MAR2013	9101.2082		SALES/USE TAX PAYABLE
						SALE/TRAN/USE TAX			
		313.44	MAR2013 SALE/TRAN/USE TAX		67002	MAR2013	9601.2082		SALES/USE TAX PAYABLE
						SALE/TRAN/USE TAX			
		777.77	MAR2013 SALE/TRAN/USE TAX		67002	MAR2013	9601.2082		SALES/USE TAX PAYABLE
						SALE/TRAN/USE TAX			
		<u>1,397.00</u>							
99757518	4/11/2013		100223 ICMA RETIREMENT TRUST 457						
		2,270.40			66938	0410131333314	9101.2175		DEFERRED COMPENSATION
		<u>2,270.40</u>							
		<u>1,454,896.56</u>	Grand Total						

Payment Instrument Totals

Check Total	1,349,123.64
Transfer Total	105,772.92
Total Payments	<u>1,454,896.56</u>

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CITY OF RAMSEY
Create Payment Control Groups

Bank Account 00002224 CASH IN BANK
Version LOGIS003V
Originator JLIPSKI
Payment Instrument Check Payment
Pay Through Date 12/31/2013

Payee	Stub	Document	Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Amount
100013	ADVANCE CONSULTING GROUP INC	MARCH 2013 BILLING	PV	66897 001 09230 4/1/2013 040113	495.00
	ADVANCE CONSULTING GROUP INC			Summary Total	495.00
	13868 CRANE STREET NW SUITE 100				
	ANDOVER MN 55304			Payment Amount	495.00
100017	AIRGAS NORTH CENTRAL	OXYGEN FILL	PV	66957 001 09101 3/22/2013 9013990215	45.53
	AIRGAS NORTH CENTRAL			Summary Total	45.53
	PO BOX 802588	MISC GASES	PV	67008 001 09101 3/31/2013 9908803793	23.34
	CHICAGO IL 60680-2588			Summary Total	23.34
		MAINTENANCE FEE-CYLINDERS	PV	67009 001 09101 4/1/2013 9908529747	105.17
				Summary Total	105.17
				Payment Amount	174.04
108664	AMERICAN VENDING INC	2 AIRPOTS	PV	67035 001 09101 4/2/2013 7203	102.81
	AMERICAN VENDING INC			Summary Total	102.81
	10787 93RD AVENUE N				
	MAPLE GROVE MN 55369			Payment Amount	102.81
100035	ANOKA COUNTY CENTRAL COMMUNICATIONS	FIRE RADIO CONTRACT 2013	PV	66958 001 09101 3/28/2013 2013-243	1,650.24
	ANOKA COUNTY CENTRAL COMMUNICATIONS			Summary Total	1,650.24
	325 EAST MAIN STREET	PW RADIO CONTRACT 2013	PV	66959 001 09101 3/28/2013 2013-245	437.76
	ANOKA MN 55303			Summary Total	437.76
				Payment Amount	2,088.00
100046	ANOKA COUNTY SHERIFF'S OFFICE	FIRST AID CLASS	PV	66960 001 09101 3/28/2013 032813	60.00
	ANOKA COUNTY SHERIFF'S OFFICE			Summary Total	60.00
	13301 HANSON BLVD NW				
	ANDOVER MN 55304			Payment Amount	60.00
111377	ANOKA MUNICIPAL UTILITY	BUNKER LK BLVD/DYSPOSIUM	PV	67010 001 09603 4/11/2013 22-612000-01MAR13	34.87

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CITY OF RAMSEY
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Payee	Stub	Document	Due	Invoice	Payment
Number	Name / Mailing Address	Ty	Number	Number	Amount
ANOKA MUNICIPAL UTILITY					
CITY HALL	14034 DYSPROSIUM	PV	67011 001 09603	4/11/2013	22-610280-00MAR2013
					34.87
					51.11
2015 FIRST AVENUE NO					
ANOKA MN 55303	CTY RD 116/HWY 47	PV	67012 001 09603	4/11/2013	22-613120-01MAR2013
					51.11
					111.53
					111.53
	RAMSEY STREET LIGHTS	PV	67013 001 09603	4/11/2013	22-990005-01MAR2013
					58.35
					58.35
					255.86
100055 ANOKA TECHNICAL COLLEGE	AWAIR TRAINING MARCH 21,2013	PV	67014 001 09101	3/27/2013	00112731
					600.00
ANOKA TECHNICAL COLLEGE					
1355 WEST HIGHWAY 10					
ANOKA MN 55303					
					600.00
					600.00
113508 APPRIZE TECHNOLOGY SOLUTIONS	ELECTRONIC BENEFIT-APRIL 2013	PV	66898 001 09101	4/1/2013	8261
					295.00
APPRIZE TECHNOLOGY SOLUTIONS					
1660 S. HWY 100 SUITE 290					
ST LOUIS PARK MN 55416					
					295.00
					295.00
100063 ASPEN MILLS	MISC C. KREYER	PV	66961 001 09101	4/3/2013	133549
					373.85
ASPEN MILLS					
8201 C CENTRAL AVE NE	MISC C. GARDNER	PV	66962 001 09101	4/3/2013	133548
					373.85
					230.38
SPRING LAKE PARK MN 55432					
					230.38
	C. GARDNER PARAGON VEST	PV	67037 001 09290	4/12/2013	133768
					699.00
					699.00
	D. MOLDENHAUER PARAGON VEST	PV	67038 001 09290	4/12/2013	133769
					778.95
					778.95
	RESERVES MISC UNIFORM	PV	67039 001 09101	4/12/2013	133770
					251.08
					251.08
	N. DAHLBERG/C.	PV	67040 001 09101	4/12/2013	133771
					36.60

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Pay Through Date 12/31/2013

Payee		Stub	Document				Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Itm	Co	Date	Number	Amount
		SCHIFERLI MISC							
</									

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CITY OF RAMSEY
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 Pay Through Date 12/31/2013

Payee	Stub	Document	Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Amount
107791	CERTIFIED APPRAISAL SERVICES	APP:15153 NOWTHEN BLVD	PV	66964 001 09230 4/8/2013 13MAR21M	1,600.00
	CERTIFIED APPRAISAL SERVICES INC 13016 OWATONNA STREET NE BLAINE MN 55449			Summary Total	1,600.00
				Payment Amount	1,600.00
100125	COUNTRYSIDE PRINTING INC	INSPECTOR REPORTS	PV	66904 001 09101 3/13/2013 31571	142.46
	COUNTRYSIDE PRINTING 6250 BUNKER LAKE BLVD NW SUITE 113 RAMSEY MN 55303			Summary Total	142.46
				Payment Amount	142.46
100127	CROW RIVER FARM EQUIPMENT COMPANY	MISC SUPPLIES	PV	66966 001 09101 3/13/2013 159768	5.60
	CROW RIVER FARM EQUIPMENT COMPANY 17685 - 53RD STREET NE ROGERS MN 55374			Summary Total	5.60
		MISC SUPPLIES	PV	66967 001 09101 3/8/2013 159708	33.64
				Summary Total	33.64
		MISC SUPPLIES	PV	66968 001 09101 3/8/2013 159690	32.28
				Summary Total	32.28
				Payment Amount	71.52
100129	CRYSTEEL TRUCK EQUIPMENT	BLADES	PV	67042 001 09101 4/12/2013 FP150615	135.13
	CRYSTEEL MANUFACTURING P O BOX 76154 CLEVELAND OH 44101-4755			Summary Total	135.13
				Payment Amount	135.13
100131	CULLIGAN OF ANOKA	COMMERCIAL LEASE APR 2013	PV	67015 001 09101 3/31/2013 100X04113101	132.31
	CULLIGAN DEPARTMENT 8509 P O BOX 77043 MINNEAPOLIS MN 55480-7743			Summary Total	132.31
				Payment Amount	132.31

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CITY OF RAMSEY
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Version LOGIS003V
Originator JLIPSKI
Payment Instrument Check Payment
Pay Through Date 12/31/2013

Payee	Stub	Document	Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Amount
103642	DAVE'S CUSTOM DIGGING	TANK PUMPED-15050 ARMSTRONG	PV	66969 001 09101 4/4/2013 040413	235.00
	DAVE'S CUSTOM DIGGING 16341 NW JARVIS ST ELK RIVER MN 55330			Summary Total	235.00
				Payment Amount	235.00
101185	DO ALL PRINTING COM INC	PD EMBROIDERY- OFFICE STAFF	PV	66970 001 09101 4/5/2013 19845	46.08
	DO ALL PRINTING COM INC 6360 HIGHWAY 10 NW RAMSEY MN 55303			Summary Total	46.08
				Payment Amount	46.08
113306	DOCUMENT TECHNOLOGY SOLUTIONS	PRINTER CONTRACT MAR 2013	PV	66971 001 09101 3/22/2013 INV71594	199.86
	DOCUMENT TECHNOLOGY SOLUTIONS 9401 JAMES AVENUE SOUTH SUITE 120 BLOOMINGTON MN 55431			Summary Total	199.86
				Payment Amount	199.86
113509	DUCKOR AND ASSOCIATES INC	CONSULTING SERVICES	PV	66905 001 09101 3/31/2013 2022	9,375.00
	DUCKOR AND ASSOCIATES INC 3141 DEAN COURT SUITE 804 MINNEAPOLIS MN 55416			Summary Total	9,375.00
				Payment Amount	9,375.00
100158	ECM PUBLISHERS INC	MTG NOTICE STORM WATER	PV	66906 001 09605 3/22/2013 01812222	92.25
	ECM PUBLISHERS INC 4095 COON RAPIDS BLVD COON RAPIDS MN 55433			Summary Total	92.25
				Payment Amount	92.25
100160	EH RENNER AND SONS INC	INSTALL PUMP AND MOTOR	PV	66907 001 09601 3/25/2013 000129420000	2,437.00
	EH RENNER AND SONS INC 15688 JARVIS STREET			Summary Total	2,437.00

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CITY OF RAMSEY
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Bank Account 00002224 CASH IN BANK
Version LOGIS003V
Originator JLIPSKI
Payment Instrument Check Payment
Pay Through Date 12/31/2013

Payee	Stub	Document	Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Amount
ELK RIVER MN 55330					
				Payment Amount	2,437.00
106624 EHLERS AND ASSOCIATES, INC	TIF 1 AND 10 REVIEW	PV 67016 001 09201 4/10/2013 346128			100.00
EHLERS & ASSOCIATES, INC 3060 CENTRE POINTE DRIVE ROSEVILLE MN 55113-1105				Summary Total	100.00
				Payment Amount	100.00
100167 ELK RIVER FORD INC	WORK ON 386	PV 66972 001 09101 4/9/2013 16046420/1			130.50
ELK RIVER FORD INC	WORK ON 386	PV 66972 002 09101 4/9/2013 16046420/1			121.72
17219 HIGHWAY 10 NW PO BOX 304				Summary Total	252.22
	MISC PARTS 384	PV 67043 001 09101 4/9/2013 15059006			6.91
ELK RIVER MN 55330				Summary Total	6.91
				Payment Amount	259.13
100904 ESS BROTHERS AND SONS INC	SANITARY PIPE	PV 67017 001 09602 3/25/2013 SS1137			3,344.12
ESS BROTHERS AND SONS INC 9350 CTY ROAD 19 LORETTO MN 55357				Summary Total	3,344.12
				Payment Amount	3,344.12
113321 FACTORY MOTOR PARTS	OIL FILTERS	PV 66908 001 09101 4/2/2013 6-1320638			25.52
FACTORY MOTOR PARTS 3731 THURSTON AVENUE				Summary Total	25.52
	OIL FILTER	PV 67044 001 09101 4/10/2013 6-1321504			25.52
ANOKA MN 55303				Summary Total	25.52
	FUEL FILTER 653	PV 67045 001 09101 4/10/2013 6-1321542			14.73
				Summary Total	14.73
	TENSIONER	PV 67046 001 09101 4/10/2013 6-1321571			51.91
				Summary Total	51.91
				Payment Amount	117.68
107099 FASTENAL	MISC PARTS	PV 66973 001 09101 4/5/2013 MNTC896671			16.06
FASTENAL COMPANY P O BOX 978				Summary Total	16.06
	MISC PARTS	PV 67018 001 09101 4/9/2013 MNTC896802			22.57
WINONA MN 55987				Summary Total	22.57

CITY OF RAMSEY
Create Payment Control Groups

Bank Account	00002224	CASH IN BANK
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Originator	JLIPSKI	
Payment Instrument		Check Payment
Pay Through Date	12/31/2013	

Payee		Stub	Document			Due	Invoice	Payment	
Number	Name / Mailing Address	Message	Ty	Number	Itm	Co	Date	Number	Amount
Payment Amount								38.63	
112421	FIRST SCRIBE	ROWAY APRIL 2013	PV	66974	001	09101	4/1/2013	2459556	200.00
Summary Total								200.00	
FIRST SCRIBE									
110 CHESHIRE LANE SUITE 105									
MINNETONKA MN 55305									
Payment Amount								200.00	
100186	FRANKENSIGNS INC	WHITE ACRYLIC	PV	66975	001	09101	3/29/2013	260377	30.00
Summary Total								30.00	
FRANKENSIGNS									
P O BOX 49301									
BLAINE MN 55449									
Payment Amount								30.00	
101274	FRANZ REPROGRAPHICS	MISC SUPPLIES	PV	66976	001	09101	3/26/2013	0000117446	109.65
Summary Total								109.65	
FRANZ REPROGRAPHICS									
2781 FREEWAY BLVD									
BROOKLYN CENTER MN 55430									
Payment Amount								109.65	
110388	FRATTALLONE'S ACE	LINT TRAPS/WATER	PV	66909	001	09601	3/29/2013	018585/J	24.29
HARDWARE STORES									
PRES. GAUGE									
Summary Total								24.29	
FRATTALLONE'S ACE HARDWARE STORES									
3527 LEXINGTON AVENUE N									
MISC SUPPLIES									
ARDEN HILLS MN 55126									
Summary Total								11.94	
MISC PARTS									
Summary Total								11.94	
Summary Total								35.33	
Payment Amount								71.56	
100189	G AND K SERVICES INC	UNIFORM CLEANING	PV	66977	001	09101	4/3/2012	1006449979	84.00
G AND K SERVICES INC									
UNIFORM CLEANING									
PO BOX 1450-NW 7536									
UNIFORM CLEANING									
MINNEAPOLIS MN									
UNIFORM CLEANING									
55485-7536									
Summary Total								403.49	
UNIFORM CLEANING									
UNIFORM CLEANING									
UNIFORM CLEANING									
UNIFORM CLEANING									

CITY OF RAMSEY
Create Payment Control Groups

Bank Account	00002224	CASH IN BANK
Version	LOGIS003V	
Originator	JLIPSKI	
Payment Instrument		Check Payment
Pay Through Date	12/31/2013	

Payee		Stub	Document			Due	Invoice	Payment		
Number	Name / Mailing Address	Message	Ty	Number	Itm	Co	Date	Number	Amount	
Summary Total								289.59		
Payment Amount								693.08		
100200	GOPHER STATE ONE CALL INC	42 TICKETS	PV	66911	001	09601	3/31/2013	66732	20.30	
	GOPHER STATE ONE CALL	42 TICKETS	PV	66911	002	09601	3/31/2013	66732	20.30	
	18946 LAKE DRIVE EAST	42 TICKETS	PV	66911	003	09601	3/31/2013	66732	20.30	
	CHANHASSEN MN 55317		Summary Total						60.90	
			Payment Amount						60.90	
100204	GRAFIX SHOPPE	REPAIR ON 317	PV	67047	001	09702	4/10/2013	86358	123.28	
	GRAFIX SHOPPE		Summary Total						123.28	
	3240 MIKE COLLINS DRIVE									
	EAGAN MN 55121		Payment Amount						123.28	
100650	GRAINGER	MISC SUPPLIES	PV	67021	001	09101	4/2/2013	9105881016	75.75	
	GRAINGER INC		Summary Total						75.75	
	DEPT. 806511127									
	PALATINE IL 60038-0001		Payment Amount						75.75	
100209	HAKANSON ANDERSON ASSOC INC	ENGINEER SERVICES FEB-2013	PV	66978	001	09101	3/28/2013	31373	8,600.00	
	HAKANSON ANDERSON ASSOC INC		Summary Total						8,600.00	
	3601 THURSTON AVENUE	RE: RIVERDALE DRIVE	PV	67022	001	09497	3/28/2013	31372	12,474.00	
	ANOKA MN 55303-1063		Summary Total						12,474.00	
			Payment Amount						21,074.00	
100211	HAWKINS INC	CHEMICALS	PV	67023	001	09601	4/5/2013	3453043	7,799.16	
	HAWKINS INC		Summary Total						7,799.16	
	P O BOX 9171									
	MINNEAPOLIS MN 55480-9171		Payment Amount						7,799.16	
106324	INSPECTRON INC	FEBRUARY 2013 BILLING	PV	67024	001	09101	4/8/2013	040813	11,550.00	
	INSPECTRON INC		Summary Total						11,550.00	
	CODE COMPLIANCE INSPECTIONS									

CITY OF RAMSEY
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Pay Through Date	12/31/2013	

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 Pay Through Date 12/31/2013

Payee	Stub	Document	Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Amount
MINNEAPOLIS MN 55458-1517	PREMIUM ANNUAL- 2013	PV 66982 001 09295	3/31/2013	43040	1,304.00
		Summary Total			1,304.00
	RE: T. HOXTER	PV 67059 001 09702	4/1/2013	C0020129 APR 13	1,126.34
		Summary Total			1,126.34
		Payment Amount			193,054.34
111835 LEXISNEXIS RISK ASSETS INC	ANNUAL FEE 2013	PV 67060 001 09101	3/31/2013	167351	512.00
		Summary Total			512.00
LEXISNEXIS RISK ASSETS INC P O BOX 7247-0377 PHILADELPHIA PA 19170-0377		Payment Amount			512.00
100268 LRRWMO CITY OF ANOKA	ANNUAL DUES 2013	PV 67025 001 09605	3/27/2013	290	24,689.00
		Summary Total			24,689.00
LRRWMO CITY OF ANOKA 2015 - 1ST AVENUE NORTH	RE:TOWN CENTER PERMIT 03-07	PV 67026 001 09468	3/27/2013	292	192.10
		Summary Total			192.10
ANOKA MN 55303	RE:SWEETBAY RIDGE 05-15	PV 67027 001 09400	3/27/2013	293	296.10
		Summary Total			296.10
		Payment Amount			25,177.20
100271 MAIN MOTORS	SERVICE ON 676	PV 66983 001 09101	4/3/2013	386858	250.00
		Summary Total			250.00
MAIN MOTORS 435 WEST MAIN STREET ANOKA MN 55303		Payment Amount			250.00
113592 MAWP	2013 CONF G. WIELER	PV 66914 001 09101	3/1/2013	030113	235.00
		Summary Total			235.00
MAWP P O BOX 47173 PLYMOUTH MN 55447		Payment Amount			235.00
113595 MAYER ELECTRIC CORP	WORK AT RAMP	PV 66984 001 09240	4/2/2013	13879	2,109.93
		Summary Total			2,109.93
MAYER ELECTRIC CORP					

CITY OF RAMSEY
Create Payment Control Groups

Payee	Stub	Document	Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Amount
				Payment Amount	2,376.00
108246	MN DEPARTMENT OF NATURAL RESOURCES	WATER USEAGE- ANOKA COUNTY	PV	66917 001 09101 3/25/2013 215984	150.00
	MN DEPARTMENT OF NATURAL RESOURCES 500 LAFAYETTE ROAD ST PAUL MN 55155-4045			Summary Total	150.00
				Payment Amount	150.00
100224	MN OFFICE OF ENTERPRISE TECH SHARED SER.	MARCH 2013 WAN CHARGES	PV	66986 001 09101 4/4/2013 DV13030442	175.20
	MN OFFICE OF ENTERPRISE TECH SHARED TECH ROOM 510 658 CEDAR STREET ST PAUL MN 55155			Summary Total	175.20
				Payment Amount	175.20
100345	NAPA AUTO PARTS ELK RIVER	OIL/FUEL FILTER 632	PV	66918 001 09101 3/29/2013 672957	19.29
	NAPA AUTO PARTS ELK RIVER 17137 YALE STREET NW	AIR/FUEL FILTER 632	PV	66919 001 09101 4/2/2013 673439	65.41
	P O BOX 1041 ELK RIVER MN 55330	HYD FILTER 619	PV	66920 001 09101 3/25/2013 672336	7.42
		MICS SUPPLIES	PV	66921 001 09101 3/26/2013 672552	6.08
		MICS SUPPLIES	PV	66921 002 09101 3/26/2013 672552	7.79
		BULBS FOR 675	PV	66922 001 09101 3/19/2013 671501	10.14
		MISC SUPPLIES/ 641	PV	66987 001 09101 4/5/2013 674099	4.26
		MISC SUPPLIES/ 641	PV	66987 002 09101 4/5/2013 674099	35.56
		OIL/FUEL FILTERS	PV	66988 001 09101 4/3/2013 673666	55.36
		WHEEL BEARING-MOWER TRAILER	PV	67052 001 09101 4/10/2013 674842	26.71
		CARB-CHOKE CLEANER	PV	67053 001 09101 4/11/2013 674957	8.62
				Summary Total	8.62

R04570

CITY OF RAMSEY
Create Payment Control Groups

Bank Account 00002224 CASH IN BANK
Version LOGIS003V
Originator JLIPSKI
Payment Instrument Check Payment
Pay Through Date 12/31/2013

Payee		Stub	Document				Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Itm	Co	Date	Number	Amount
Payment Amount									246.64
110480	OPUS 21 MANAGEMENT SOLUTIONS	MARCH 2013 SERVICES	PV	67054	001	09601	4/10/2013	130392	39.66
	OPUS 21 MANAGEMENT SOLUTIONS	MARCH 2013 SERVICES	PV	67054	002	09601	4/10/2013	130392	31.73
	680 COMMERCE DRIVE SUITE 160	MARCH 2013 SERVICES	PV	67054	003	09601	4/10/2013	130392	31.73
	WOODBURY MN 55125	MARCH 2013 SERVICES	PV	67054	004	09601	4/10/2013	130392	23.79
		MARCH 2013 SERVICES	PV	67054	005	09601	4/10/2013	130392	31.73
Summary Total									158.64
Payment Amount									158.64
100950	PEARSON, AL	STRAW FOR FIRE TRAINING	PV	67058	001	09101	4/16/2013	041613	80.00
	AL PEARSON		Summary Total						80.00
	14821 BOWERS DR								
	RAMSEY MN 55303		Payment Amount						80.00
106216	PIONEER RIM AND WHEEL CO	MISC WORK	PV	66989	001	09101	3/26/2013	1-193432	32.39
	PIONEER RIM AND WHEEL CO		Summary Total						32.39
	2500 KENNEDY ST NE								
	MINNEAPOLIS MN 55413		Payment Amount						32.39
100382	PITNEY BOWES INC	POSTAGE	PV	66923	001	09101	4/3/2013	439970	201.88
		METER-JAN-MAR 2013							
	PITNEY BOWES INC		Summary Total						201.88
	P O BOX 371896								
	PITTSBURGH PA 15250-7896		Payment Amount						201.88
111488	POPP.COM INC	MARCH 2013 BILLING	PV	67030	001	09101	3/31/2013	992097421	112.00
	POPP.COM INC	MARCH 2013 BILLING	PV	67030	002	09101	3/31/2013	992097421	40.00
	P O BOX 27110	MARCH 2013 BILLING	PV	67030	003	09101	3/31/2013	992097421	32.00
	GOLDEN VALLEY MN	MARCH 2013 BILLING	PV	67030	004	09101	3/31/2013	992097421	231.99
	55427-0110								
		MARCH 2013 BILLING	PV	67030	005	09101	3/31/2013	992097421	48.00
		MARCH 2013 BILLING	PV	67030	006	09101	3/31/2013	992097421	56.00

CITY OF RAMSEY
Create Payment Control Groups

Bank Account 00002224 CASH IN BANK
Version LOGIS003V
Originator JLIPSKI
Payment Instrument Check Payment
Pay Through Date 12/31/2013

Payee		Stub	Document				Due	Invoice	Payment	
Number	Name / Mailing Address	Message	Ty	Number	Itm	Co	Date	Number	Amount	
		MARCH 2013 BILLING	PV	67030	007	09101	3/31/2013	992097421	32.00	
		MARCH 2013 BILLING	PV	67030	008	09101	3/31/2013	992097421	8.00	
		MARCH 2013 BILLING	PV	67030	009	09101	3/31/2013	992097421	85.33	
		MARCH 2013 BILLING	PV	67030	010	09101	3/31/2013	992097421	90.09	
		MARCH 2013 BILLING	PV	67030	011	09101	3/31/2013	992097421	110.60	
		MARCH 2013 BILLING	PV	67030	012	09101	3/31/2013	992097421	61.73	
			Summary Total						907.74	
			Payment Amount						907.74	
100403	QUICKSILVER EXPRESS COURIER	RE:LANDFORM	PV	66924	001	09101	3/31/2013	6474055	58.56	
	QUICKSILVER EXPRESS COURIER PO BOX 64417 ST PAUL MN 55164-0417			Summary Total						58.56
				Payment Amount						58.56
107880	RICK JOHNSON DEER AND BEAVER INC	1 DEER CALL- MARCH 2013	PV	66990	001	09101	3/1/2013	2012	90.00	
	RICK JOHNSON DEER AND BEAVER INC 18595 XENOLITH STREET NW BURNS TOWNSHIP MN 55303			Summary Total						90.00
				Payment Amount						90.00
112475	S AND T OFFICE PRODUCTS INC	OFFICE SUPPLIES	PV	67032	001	09101	4/1/2013	01PS5024	121.43	
	S AND T OFFICE PRODUCTS INC 1000 KRISTEN COURT ST PAUL MN 55110	OFFICE SUPPLIES OFFICE SUPPLIES	PV PV	67033	001	09101	4/1/2013	01PS4887 01PS4887	76.31 103.55	
				Summary Total						179.86
				Payment Amount						301.29
100431	SAFETY KLEEN CORPORATION	RECYCLE USED OIL	PV	67031	001	09101	3/31/2013	928916222	101.00	
	SAFETY KLEEN CORPORATION PO BOX 382066 PITTSBURGH PA 15250-8066			Summary Total						101.00
				Payment Amount						101.00
112996	STANTEC CONSULTING SERVICES INC	RE:ZONING ORDINANCE AMEND.	PV	66991	001	09101	4/9/2013	677345	162.75	

R04570

CITY OF RAMSEY
Create Payment Control Groups

Bank Account 00002224 CASH IN BANK
Version LOGIS003V
Originator JLIPSKI
Payment Instrument Check Payment
Pay Through Date 12/31/2013

Payee	Stub	Document	Due	Invoice	Payment
Number	Name / Mailing Address	Message	Ty	Number	Amount
STANTEC CONSULTING SERVICES INC		Summary Total			162.75
13980 COLLECTIONS	DEV REVIEW MTG/PLAN	PV 66992 001 09101	4/9/2013	677344	930.00
CENTER DRIVE	REVIEW				
CHICAGO IL 60693		Summary Total			930.00
		Payment Amount			1,092.75
100469 STREICHER'S POLICE	PD MISC	PV 66993 001 09101	4/1/2013	I1010140	754.22
EQUIPMENT					
STREICHER'S POLICE EQUIPMENT		Summary Total			754.22
LB# 7873	RETURN LEATHER BELT	PD 67055 001 09101	3/14/2013	CM261177	39.99-
P O BOX 9438		Summary Total			39.99-
MINNEAPOLIS MN 55440-9438		Payment Amount			714.23
100485 TIMESAVER OFF SITE	MAR MTGS	PV 66925 001 09101	3/29/2013	M19700	1,102.35
SECRETARIAL INC					
TIMESAVER OFF SITE SECRETARIAL INC		Summary Total			1,102.35
1056 JACKSON STREET S					
SHAKOPEE MN 55379-2077		Payment Amount			1,102.35
112688 TITAN MACHINERY	BULB	PV 66994 001 09101	3/29/2013	853375	4.96
TITAN MACHINERY		Summary Total			4.96
14375 JAMES ROAD					
ROGERS MN 55374		Payment Amount			4.96
112079 TOKLE INSPECTIONS INC	MARCH 2013 BILLING	PV 66926 001 09101	4/2/2013	040213	8,670.75
TOKLE INSPECTIONS INC		Summary Total			8,670.75
1748 123RD AVENUE NW					
COON RAPIDS MN 55448		Payment Amount			8,670.75
113539 TWIN CITIES WINNELSON	MISC SUPPLIES	PV 66927 001 09601	3/14/2013	067006-00	35.87
CO					
TWIN CITIES WINNELSON CO		Summary Total			35.87
13930 RADIUM STREET NW					
RAMSEY MN 55303					

CITY OF RAMSEY
Create Payment Control Groups

Bank Account	00002224	CASH IN BANK
Version	LOGIS003V	
Originator	JLIPSKI	
Payment Instrument		Check Payment
Pay Through Date	12/31/2013	

Payee		Stub	Document				Due	Invoice	Payment					
Number	Name / Mailing Address	Message	Ty	Number	Itm	Co	Date	Number	Amount					
Payment Amount									35.87					
111742	TWIN CITY WATER CLINIC INC	WATER TESTS	PV	66928	001	09601	4/2/2013	3306	150.00					
TWIN CITY WATER CLINIC INC 617 13TH AVENUE SOUTH HOPKINS MN 55343								Summary Total	150.00					
Payment Amount									150.00					
109245	UNITED STATES POSTAL SERVICES	RENEW FOR 2013	PV	66929	001	09101	2/28/2013	022813	89.00					
UNITED STATES POSTAL SERVICES 6060 PRIMACY PARKWAY SUITE 101 MEMPHIS TN 38188								Summary Total	89.00					
Payment Amount									89.00					
100508	VANCE BROTHERS INC	TACK OIL	PV	67034	001	09101	4/3/2013	377128	64.13					
VANCE BROTHERS INC P O BOX 877366 KANSAS CITY MO 64187-7366								Summary Total	64.13					
Payment Amount									64.13					
107877	WILSON DEVELOPMENT SERVICES	RE: WISER CHOICE RELOCATION	PV	67056	001	09496	4/9/2013	23163	171.00					
WILSON DEVELOPMENT SERVICES 510 N CHESTNUT STREET SUITE 200 CHASKA MN 55318								Summary Total	171.00					
Payment Amount									171.00					
100539	WRIGHT TIRE SERVICE INC	TIRES FOR TRAILER	PV	66930	001	09101	3/20/2013	91025	169.55					
WRIGHT TIRE SERVICE INC 710 WEST MAIN STREET ANOKA MN 55303								Summary Total	169.55					
TIRES FOR 674								PV	67057	001	09101	4/10/2013	91769	332.85
Summary Total									332.85					
Payment Amount									502.40					
112515	WSB AND ASSOCIATES INC	RE:SUNWOOD/ARMSTRONG	PV	66995	001	09496	3/22/2013	7- MARCH 2013	3,420.00					
WSB AND ASSOCIATES INC								Summary Total	3,420.00					

R04570

CITY OF RAMSEY
Create Payment Control Groups

Bank Account 00002224 CASH IN BANK
Version LOGIS003V
Originator JLIPSKI
Payment Instrument Check Payment
Pay Through Date 12/31/2013

Payee	Stub	Document	Due	Invoice	Payment
Number Name / Mailing Address	Message	Ty Number Itm Co	Date	Number	Amount
113206 NORTH PINE AGGREGATE INC	PAY EST 8 ARMSTRONG/SUNWOOD	PV 66998 001 09496	4/11/2012	041112	900.37
NORTH PINE AGGREGATE INC 14551 LAKE DRIVE FOREST LAKE MN 55025					
				Summary Total	900.37
				Payment Amount	900.37
101234 NORTH VALLEY, INC	PAY EST 4 ALPINE DRIVE	PV 66997 001 09204	4/11/2013	041113	9,055.70
NORTH VALLEY, INC	PAY EST 4 ALPINE DRIVE	PV 66997 002 09204	4/11/2013	041113	9,470.04
20015 IGUANA STREET NW NOWTHEN MN 55330					
				Summary Total	18,525.74
				Payment Amount	18,525.74
				Total Amount to be Processed	19,426.11
				Total Number of Payments to be Processed	2

Councilmember introduced the following resolution and moved for its adoption:

RESOLUTION #13-04-073

RESOLUTION APPROVING CASH DISBURSEMENTS MADE AND AUTHORIZING PAYMENT OF ACCOUNTS PAYABLE INVOICING RECEIVED DURING THE PERIOD OF APRIL 4, 2013 THROUGH APRIL 17, 2013.

WHEREAS, the City of Ramsey Finance Department has made cash disbursements and received accounts payable invoicing during the period of April 4, 2013, through April 17, 2013, in the amount of \$1,949,382.54; and

WHEREAS, the City Council of the City of Ramsey is required to authorize payment for all disbursement transactions.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

- 1) That the Ramsey City Council hereby approves the cash disbursements made and authorizes payment of the accounts payable invoices as detailed in the attached Bills List for the period April 4, 2013, through April 17, 2013, in the amount of \$1,949,382.54.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember , and upon vote being taken thereon, the following voted in favor thereof:

Mayor Strommen
Councilmember Riley
Councilmember LeTourneau
Councilmember Backous
Councilmember Elvig
Councilmember Kuzma
Councilmember Tossey

and the following voted against the same:

None

and the following abstained:

None

and the following were absent:

None

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 23th day of April 2013.

Mayor

ATTEST:

City Clerk

CC Regular Session**4. 11.****Meeting Date:** 04/23/2013**Submitted For:** MaryJo Warner**By:** MaryJo Warner, Engineering/Public Works

Information**Title:**

Adopt Resolution #13-04-070a Authorizing Partial Payment to North Valley Inc. for IP 12-23; Alpine Drive Reconstruction

Background:

Resolution and Pay Request Attached.

Recommendation:

The Civil Engineer II inspected the completed work and recommends partial payment to North Valley Inc. for IP 12-23; Alpine Drive Reconstruction in the amount of \$18,525.74.

Council Action:

Motion to adopt Resolution #13-04-070a authorizing partial payment to North Valley Inc. for IP 12-23; Alpine Drive Reconstruction in the amount of \$18,525.74.

AttachmentsResolutionPay Request

Form Review

Inbox
Bruce Westby
Kurt Ulrich

Reviewed By
Bruce Westby
Kurt Ulrich

Date
04/17/2013 01:06 PM
04/18/2013 03:03 PM
Started On: 04/09/2013 01:41 PM

Form Started By: MaryJo Warner

Final Approval Date: 04/18/2013

Councilmember Backous introduced the following resolution and moved for its adoption:

RESOLUTION #13-04-070a

**RESOLUTION APPROVING PARTIAL PAYMENT TO NORTH VALLEY INC FOR CITY
PROJECT 12-23,
ALPINE DRIVE RECONSTRUCTION**

WHEREAS, on July 24, 2012 the Ramsey City Council accepted the plans and authorized the solicitation of bids; and

WHEREAS, pursuant to an advertisement for bids for Improvement Project 12-23; Alpine Drive Reconstruction, bids were received, opened and tabulated according to law; and

WHEREAS, North Valley Inc. is the lowest responsible bidder; and

WHEREAS, as of April 23, 2013 \$272,033.27 has been paid to date; and

WHEREAS, Civil Engineer II has inspected the completed work and recommends partial payment to North Valley Inc. in the amount of \$18,525.74.

**NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF
RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:**

- 1) That the City Council hereby authorizes partial payment to North Valley Inc. for Improvement Project 12-23; Alpine Drive Reconstruction in the amount of \$18,525.74.
- 2) That the City Council hereby accepts the project and authorizes the Mayor or City Administrator to sign the release form for this payment.
- 3) That the total amount of this payment is not included in resolutions approving payment of bills for the date of April 23, 2013.
- 4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember Riley and upon vote being taken thereon, the following voted in favor thereof:

Mayor Strommen
Councilmember Backous
Councilmember Kuzma
Councilmember LeTourneau
Councilmember Riley
Councilmember Tossey

and the following voted against the same:

None

and the following abstained:

None

and the following were absent:

None

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 23rd day of April 2013.

Mayor

ATTEST:

City Clerk

Pay Estimate Summary Sheet
IP 12-23; Alpine Drive Reconstruction
SAP 199-107-009
City of Ramsey

Estimate no

4

TOTAL CONTRACT	\$	277,861.67
TOTAL CONTRACT	\$	277,861.67
STORED MATERIALS		
TOTAL, COMPLETED WORK TO DATE	\$	296,488.78
TOTAL WORK COMPLETED PLUS STORED MATERIALS	\$	296,488.78
RETAINED PERCENTAGE 2%	\$	5,929.78
NET AMOUNT DUE TO CONTRACTOR TO DATE	\$	290,559.01
TOTAL AMOUNT PAID ON PREVIOUS ESTIMATES	\$	272,033.27
PAY CONTRACTOR PER ESTIMATE NO. 4	\$	18,525.74

Certificate for Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items, quantities and prices of work and material shown on the this Estimate are correct and that all work has been performed in full accordance with the terms and conditions of the Contract for this project between owner and the undersigned Contractor, and as amended by any authorized changes and the foregoing is a true and correct statement of the contract amount for the period covered by this estimate.

Contractor: North Valley, Inc

By

 President

Name

Title

Date

3/11/2013

CHECKED AND APPROVED AS TO QUANTITIES AND AMOUNT:

ENGINEER: CITY OF RAMSEY

By

 Civil Engineer II

Leonard Linton, PE

Date

4/11/13

APPROVED FOR PAYMENT:

OWNER: City of Ramsey

By

 City Engineer 4/16/13

Name

Title

Date

CC Regular Session**4. 12.****Meeting Date:** 04/23/2013**Submitted For:** MaryJo Warner**By:** MaryJo Warner, Engineering/Public Works

Information**Title:**

Adopt Resolution #13-04-071 Authorizing Partial Payment to North Pine Aggregate Inc. for IP 12-20; CSAH 83 (Armstrong Boulevard) - Sunwood Drive

Background:

Resolution and Pay Request Attached.

Recommendation:

The Engineering Technician IV inspected the completed work and recommends partial payment to North Pine Aggregate Inc. for IP 12-20; CSAH 83 (Armstrong Boulevard) - Sunwood Drive in the amount of \$900.37.

Council Action:

Motion to adopt Resolution #13-04-071 authorizing partial payment to North Pine Aggregate Inc. for IP 12-20; CSAH 83 (Armstrong Boulevard) - Sunwood Drive in the amount of \$900.37.

AttachmentsResolutionPay Request

Form Review

Inbox
Bruce Westby
Kurt Ulrich

Reviewed By
Bruce Westby
Kurt Ulrich

Date
04/17/2013 01:35 PM
04/18/2013 03:03 PM
Started On: 04/09/2013 04:16 PM

Form Started By: MaryJo Warner

Final Approval Date: 04/18/2013

Councilmember introduced the following resolution and moved for its adoption:

RESOLUTION #13-04-071

**RESOLUTION AUTHORIZING PARTIAL PAYMENT TO NORTH PINE
AGGREGATE FOR CITY IMPROVEMENT
PROJECT #12-20; SUNWOOD DRIVE REALIGNMENT**

WHEREAS, on June 28, 2011 the Ramsey Housing and Redevelopment Authority awarded an engineering services contract to Landform Professional Services to complete the necessary Ramsey Town Center AUAR updates, and prepare of a feasibility study for the realignment of Sunwood Drive NW; and

WHEREAS, on July 26, 2011 the Ramsey City Council awarded an engineering services contract to WSB & Associates to prepare a feasibility study for the portion of the Sunwood Drive realignment contained within Anoka County right-of-way, and assist in completing updates to the existing Ramsey Town Center AUAR; and

WHEREAS, on January 24, 2012 the Ramsey City Council accepted the feasibility studies and called for the preparation of plans and specifications for City Improvement Project #12-20; Sunwood Drive Realignment; and

WHEREAS, on May 22, 2012 the Ramsey City Council accepted the plans and specifications and authorized the solicitation of bids; and

WHEREAS, North Pine Aggregates, Inc is the lowest responsible bidder; and

WHEREAS, as of April 23, 2013 \$2,221,070.78 has been paid to date; and

WHEREAS, Engineering Technician IV has inspected the completed work and recommends partial payment to North Pine Aggregate, Inc. in the amount of \$900.37.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

- 1) That the City Council hereby authorizes partial payment to North Pine Aggregates, Inc. for Improvement Project #12-20; CSAH 83(Armstrong Boulevard) – Sunwood Drive in the amount of \$900.37.
- 2) That the City Council hereby accepts the project and authorizes the Mayor or City Administrator to sign the release form for this payment.
- 3) That the total amount of this payment is not included in resolutions approving payment of bills for the date of April 23, 2013.
- 4) That the City of Ramsey Finance Department will be provided a signed copy of this resolution.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 23rd day of April 2013.

Mayor

ATTEST:

City Clerk

Pay Estimate Summary Sheet

IP 12-20; CSAH 83 (ARMSTRONG BOULEVARD)- SUNWOOD DRIVE

SAP 199-020-010 199-104-010

City of Ramsey

Estimate no

8

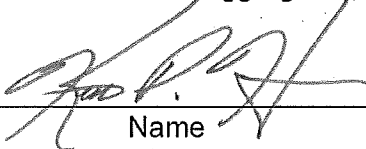
TOTAL CONTRACT	\$	2,342,825.81
CHANGE ORDERS (#1,#2,#3,#4)	\$	79,450.21
TOTAL WITH CHANGE ORDERS	\$	2,422,276.03
STORED MATERIALS		
TOTAL, COMPLETED WORK TO DATE	\$	2,267,317.50
TOTAL WORK COMPLETED PLUS STORED MATERIALS	\$	2,267,317.50
RETAINED PERCENTAGE 2%	\$	45,346.35
NET AMOUNT DUE TO CONTRACTOR TO DATE	\$	2,221,971.15
TOTAL AMOUNT PAID ON PREVIOUS ESTIMATES	\$	2,221,070.78
PAY CONTRACTOR PER ESTIMATE NO. 8	\$	900.37

Certificate for Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items, quantities and prices of work and material shown on the this Estimate are correct and that all work has been performed in full accordance with the terms and conditions of the Contract for this project between owner and the undersigned Contractor, and as amended by any authorized changes and the foregoing is a true and correct statement of the contract amount for the period covered by this estimate.

Contractor: North Pine Aggregates, Inc.

By



Name

Project Manager

Title

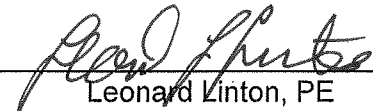
Date

4/9/13

CHECKED AND APPROVED AS TO QUANTITIES AND AMOUNT:

ENGINEER: CITY OF RAMSEY

By



Leonard Linton, PE

Civil Engineer II

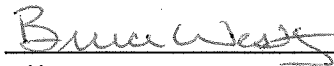
Date

4/11/13

APPROVED FOR PAYMENT:

OWNER: City of Ramsey

By



Name

City Engineer

Title

4/11/13

Date

Meeting Date: 04/23/2013**By:** Chris Anderson, Community
Development

Information**Title:**

Adopt Resolution #13-05-072 Granting Cross of Hope Lutheran Church an Extension for Completion of Required Improvements

Background:

On January 25, 2011, the City Council approved the Plat entitled Cross of Hope Addition as well as the Site Plan for Cross of Hope Lutheran Church. On August 2, 2011, the City Council approved an amendment to the Development Agreement for this project to allow Cross of Hope Lutheran Church to utilize an alternative option to financial sureties for the on-site, private required improvements, which was withholding of the Certificate of Occupancy until all improvements were completed. At that time, it was still anticipated that all required improvements would be completed yet in 2011 or early in the 2012 construction season.

Notification:

Notification is not required for this type of request.

Observations:

The building addition, parking lot expansion and grading and drainage work began in August/September of 2011. However, in March of 2012, Cross of Hope Lutheran Church terminated their contract with their original contractor and took over the remainder of the project. In October of 2012, Cross of Hope requested a Certificate of Occupancy to ensure that their site was available as a polling location. At that time, Staff reviewed what required improvements were still outstanding, collected a surety for those remaining items (consisting mostly of landscaping and establishment of permanent erosion control measures near the storm pond and in the southern portion of the property where spoils from the excavation were spread) and gave a deadline of June 15, 2013 for completion of the required improvements. A temporary Certificate of Occupancy was issued (there remained a few minor building code related items) on November 2, 2012.

Recently, Cross of Hope established that the parking lot (private improvement) was not constructed per the original plan and thus does not function as it was designed. Therefore, they intend to redo the parking lot and are currently working on obtaining new plans. This work has the likely potential to impact landscaping and walkways between the parking lot and the building, which Cross of Hope would prefer to avoid if possible. They are requesting an extension of one year to complete the required improvements within twenty-five (25) feet of the west end of the parking lot and in front of the building. Cross of Hope has reiterated that all other remaining required improvements would be completed by June 15, 2013.

Alternative Options

#1 Approve the extension to June 15, 2014 to complete the required improvements. The intent of the timely completion of required improvements and holding a surety is to avoid having a partially completed project that a developer abandons. Cross of Hope continues to offer services at their site and to make progress toward finalizing their project. The City is holding a surety to ensure that the improvements are completed and even with an extension, a majority of those improvements would be completed by June 15, 2013. Staff supports granting an extension for Cross of Hope to complete the required improvements.

#2 Deny the extension request. This would require Cross of Hope to complete all required improvements no later than June 15. If any items remain outstanding at that time, the City could draw upon the surety to complete the

improvements. However, redoing the parking lot, which would not be completed by June 15, 2013, would potentially damage or disturb this area and this work would have to be repeated. Staff does not recommend this as Cross of Hope has reiterated that all other required improvements either have been or will be completed by June 15, 2013 aside from the areas near the west end of the parking lot and the front of the building. A surety is in place and thus, if needed the City Council could authorize drawing upon the surety to complete the work.

Recommendation:

Staff recommends the City Council adopt Resolution #13-05-072 granting Cross of Hope Lutheran Church an extension for completing the required improvements until June 15, 2014.

Funding Source:

The Developer is responsible for all costs associated with this request.

Council Action:

Motion to adopt Resolution 13-05-072 granting Cross of Hope Lutheran Church an extension for completing the required improvements until June 15, 2014.

Attachments

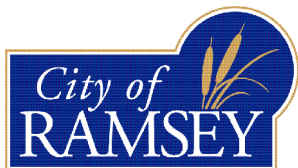
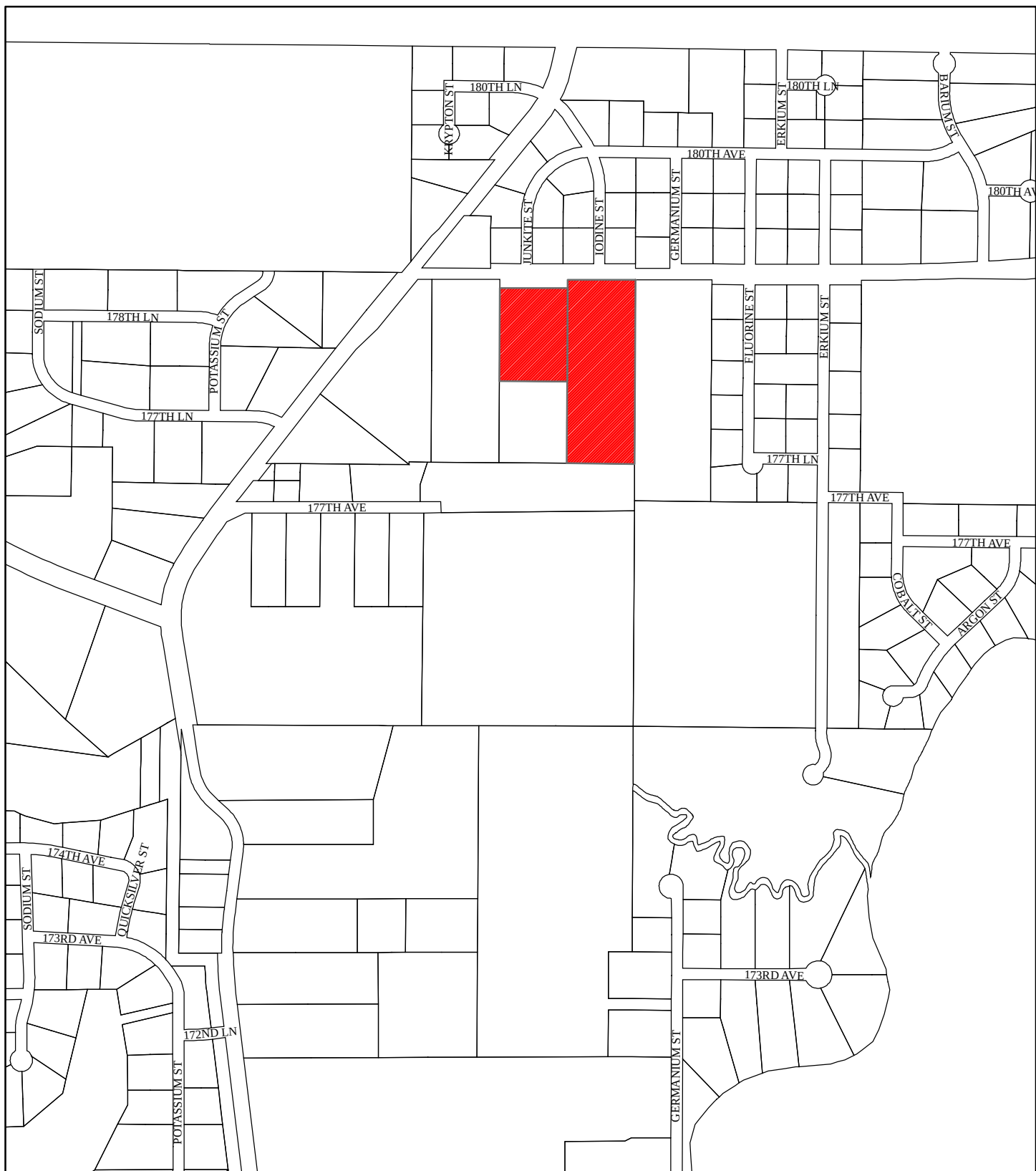
Site Location Map

Cross of Hope Extension Request

Proposed Resolution

Form Review

Inbox	Reviewed By	Date
Len Linton	Len Linton	04/15/2013 11:18 AM
Chris Anderson	Chris Anderson	04/15/2013 11:48 AM
Tim Gladhill	Tim Gladhill	04/18/2013 07:44 AM
Kurt Ulrich	Kurt Ulrich	04/18/2013 03:03 PM
Form Started By: Chris Anderson		Started On: 04/12/2013 11:25 AM
Final Approval Date: 04/18/2013		



Cross of Hope Lutheran Church
5730 179th Lane NW

Legend

-  Site
-  Parcels



0 1,000 2,000 Feet

April 2, 2013

Chris Anderson
City of Ramsey
7550 Sunwood Drive NW
Ramsey, MN 55303

RE: Extension of Improvement Deadline

Dear Chris,

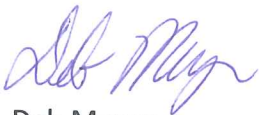
Please be advised that Cross of Hope would like to request an extension of it's current improvement deadline, of June 15, 2013, to June 15, 2014.

The reason for the request is the pending litigation with our contractor. We have established that the parking lot does not meet the original plan and does not function as was designed; therefore we will have an engineered plan created that is the intent of the original plan within the elevations available. Work on the parking lot will have probable impact on the sidewalks and the landscaping in front and we would like to avoid repeating work and/or disturbing areas newly planted.

This request is only related to the improvements in the direct front of the building of landscape trees, shrubs, and perennials that fall within 25 feet of the west end of the parking lot. Other unfinished requirements, which include erosion control to disturbed areas south of the parking lot, the in-filled area in the back of the property, as well as the work necessary in the courtyard space (remove the old blacktop, regrade, add black dirt, and add sod/seed), will be completed as planned. All other requirements related to tree planting and erosion control have been completed.

Please let Ginger Millner know if you have requests of us in this regard.

Sincerely,



Deb Meyer
Council President

CC: Scott Solberg, Ginger Millner, James Strommen

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #13-05-072

RESOLUTION APPROVING AN EXTENSION TO THE DEADLINE FOR COMPLETION OF REQUIRED IMPROVEMENTS FOR CROSS OF HOPE

WHEREAS, Cross of Hope Lutheran Church, hereinafter referred to as “Developer”, received Final Plat, Site Plan and Development Agreement approval on January 25, 2011 for the following described property in the City of Ramsey:

Lot 1, Block 1 Cross of Hope Addition

(the “Subject Property”)

WHEREAS, on August 2, 2011, the City Council approved an amended Development Agreement allowing the Developer to utilize an alternative option to financial sureties for private, on-site required improvements (the “Required Improvements”); and

WHEREAS, on November 2, 2012, a Temporary Certificate of Occupancy was issued to the Developer and a deadline of June 15, 2013 was identified for completion of Required Improvements; and

WHEREAS, the Developer has requested an extension to the June 15, 2013 deadline for completion of Required Improvements.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

- 1) That the Ramsey City Council hereby grants an extension for the completion of the Required Improvements until June 15, 2014.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____, and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 23rd day of April, 2013.

Mayor

ATTEST:

City Clerk

Meeting Date: 04/23/2013

By: Colleen Lasher, Administrative Services

Information

Title:

Report from the Personnel Committee - April 23, 2013 / Resolution to Accept the Resignation of the Patrol Captain, Direct Staff Begin a Promotional Process, and to Authorize Staff to Recruit for a Replacement Patrol Officer

Background:

Earlier this evening the Personnel Committee motioned to recommend approval of this case.

The case was presented as follows:

Accept the Patrol Captain's Resignation

Mr. Tim Dwyer, the Police Department's Patrol Captain, submitted a letter of resignation on April 10, 2013. Mr. Dwyer has been with the city of Ramsey for just over 23 years. Mr. Dwyer accepted the Chief of Police position with the City of Cambridge. His last day of employment with the City of Ramsey will be May 3, 2013; although he will be out of the office after April 26, 2013 using vacation time.

Begin a Promotional Process

Police Chief Jim Way will be out of the office on vacation and then at the Chief's Conference until April 26, 2013. Prior to his departure, Chief Way indicated that he would like the City Council's approval to begin a promotional process to address the job duties left vacant by the Patrol Captain's resignation. Per the meeting schedule, May 14, 2013, will be the first regular City Council meeting after the Police Chief returns; at that time he will be prepared to present his recommendation for the promotional process; as well as maintaining consistency with the City's "A New Day – A New Beginning" strategic planning process, whereby the Police Chief will also discuss the benefits of having cross-trained employees (3 Deep) that are familiar with all duties of the captain(s), such as budgeting, administration, patrol, etc.

Recruit for a Patrol Officer

A Patrol Officer recruitment was held in September through October, resulting in the receipt of 140 applications. Staff held 15 interviews and hired 2 Patrol Officers, the first officer was hired in November and filled the position vacated due to a resignation, and the second officer was hired in February and filled the position vacated due to an officer on a long-term extended medical leave. Drawing upon this recruitment file, staff feels confident that there are still interested and viable candidates left in the 125 remaining applicants that were not interviewed. To be sure, staff polled the next 30 highest scoring applicants and found that 20 of the applicants are still interested in the position. If the City Council were to approve a Patrol Officer recruitment from the existing pool of applicants there would be a significant savings to the City; avoiding advertising costs, staff time, and a delay in the hiring process. Aside from the current applicant pool, staff would like the City Council's approval to invite the Patrol Officer who is currently out on the extended medical leave to apply for the position; subject to his ability to meet the minimum requirements of the Patrol Officer position.

With the Patrol Captain's resignation, the Police Department will have 21 licensed officers, including the Chief of Police, 1 Captain, 4 Sergeants, 2 Investigators and 13 Patrol Officers. The desired number of licenses officers is 23, with the goal of having 22 officers in 2013 and 23 officers in 2014, subject to budget considerations.

Observations:

Alternative: Not begin a promotional process and not hire an officer from the recent recruitment file.

Pros: Short term savings to the City.

Cons: Not beginning a promotional process could create a situation where the City may be ill equipped in the event that the remaining Captain were to take vacation time or become ill. It would also deny internal advancement within the department and would be a missed opportunity to demonstrate the City's desire to utilize employees to their fullest potential. Not back-filling with a new Patrol Officer would bring the department to an undesired staffing level. Also, not allowing the use of the recent hiring process for candidates would be a missed savings opportunity. With Captain Dwyer's departure, the Police department will continue to operate below the number recommended by the Chief

Recommendation:

The Personnel Committee recommended approval of resolution 13-04-077 which, upon City Council approval, authorizes staff to do the following:

- 1) Accept Patrol Captain Tim Dwyer's resignation.
- 2) Direct staff to begin a promotional process to address the job duties left vacant by the Patrol Captain's resignation.
- 3) Recruit for a Patrol Officer from the recent Patrol Officer recruitment file in order to fill the position left vacant by the promotional process and to invite the Patrol Officer who is currently out on the extended medical leave to apply for the Patrol Officer position; subject to his ability to meet the minimum requirements of the Patrol Officer position within the allotted recruitment time-frame.

Funding Source:

There is an annual savings to the City of approximately \$28,451 due to the lower salary levels of new officers.

Council Action:

Motion to approve resolution #13-04-077, authorizing staff to do the following:

- 1) Accept Patrol Captain Tim Dwyer's resignation.
- 2) Direct staff to begin a promotional process to address the job duties left vacant by the Patrol Captain's resignation.
- 3) Recruit for a Patrol Officer from the recent Patrol Officer recruitment file in order to fill the position left vacant by the promotional process and to invite the Patrol Officer who is currently out on the extended medical leave to apply for the Patrol Officer position; subject to his ability to meet the minimum requirements of the Patrol Officer position within the allotted recruitment time-frame.

Attachments

Resolution

Form Review

Inbox
Kurt Ulrich

Reviewed By
Kurt Ulrich

Date
04/18/2013 03:40 PM
Started On: 04/18/2013 01:42 PM

Form Started By: Colleen Lasher

Final Approval Date: 04/18/2013

Councilmember introduced the following resolution and moved for its adoption:

RESOLUTION #13-04-077

RESOLUTION TO ACCEPT THE RESIGNATION OF THE PATROL CAPTAIN, DIRECT STAFF BEGIN A PROMOTIONAL PROCESS, AND TO AUTHORIZE STAFF TO RECRUIT FOR A REPLACEMENT PATROL OFFICER

WHEREAS, Mr. Tim Dwyer, the Police Department's Patrol Captain, submitted a letter of resignation on April 10, 2013; and

WHEREAS, the Police Chief Way recommends beginning a promotional process to address the job duties left vacant by the Patrol Captain's resignation, as well as to maintain consistency with the City's "A New Day – A New Beginning" strategic planning process to have cross-trained employees (3 Deep) that are familiar with all duties of the captain(s); and

WHEREAS, staff recommends recruiting for a Patrol Officer from the recent Patrol Officer recruitment file in order to fill the position left vacant by the promotional process; and

WHEREAS, staff recommends that the City Council authorize the Patrol Officer who is currently out on the extended medical leave to apply for the Patrol Officer position; subject to his ability to meet the minimum requirements of the Patrol Officer position within the allotted recruitment timeframe.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

Confirms the recommendation of the Personnel Committee to do the following:

Motion to approve resolution #13-04-077, to do the following:

- 1) Accept Patrol Captain Tim Dwyer's resignation.
- 2) Direct staff to begin a promotional process to address the job duties left vacant by the Patrol Captain's resignation.
- 3) Recruit for a Patrol Officer from the recent Patrol Officer recruitment file in order to fill the position left vacant by the promotional process and to invite the Patrol Officer who is currently out on the extended medical leave to apply for the Patrol Officer position; subject to his ability to meet the minimum requirements of the Patrol Officer position within the allotted recruitment timeframe.

The motion for the adoption of the foregoing resolution was duly seconded by Council Member, , and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 23rd day of April 2013.

CC Regular Session

6. 1.

Meeting Date: 04/23/2013

By: Chris Anderson, Community
Development

Information

Title:

PUBLIC HEARING: Adopt Ordinance #13-09 to Vacate an Easement for Street and Utility Purposes on Lots 1 & 2 Block 1 Park 67 Industrial Park; Case of Sharp & Associates and Transwest, LLC

Background:

In 1990, the Park 67 Industrial Park plat was approved. The plat provided standard drainage and utility easements of ten (10) feet around the perimeter of each lot. However, a condition of the plat approval required a sixty-six (66) foot wide road easement to provide emergency vehicle access to Lots 1-3 Block 1 of the plat until such time that a public road was constructed and serving access to these lots. That easement, which is still present today, was provided to the City by a Quit Claim Deed in 1991 as a perpetual easement for street and utility purposes over, under and across the west sixty-six (66) feet of Lots 1 & 2, Block 1 Industrial Park for the benefit of Lot 1-3 Block 1 of the same plat.

Notification:

In accordance with State Statute and City Code, Staff attempted to notify all property owners within 350 of the Subject Property of the Public Hearing via Standard US Mail and a Notice of Public Hearing was published in the Anoka County Union.

Observations/Alternatives:

In 2004, Site Plan approval was granted for a mini storage facility located at 6100 Bunker Lake Blvd (Lot 1 Block 1 Park 67 Industrial Park). Since the easement for street and utility purposes was granted via a quit claim deed after the plat was approved, it was not reflected on the plat and thus, at the time of Site Plan review, when the easement should have been vacated, neither the City nor the Applicant had realized it was there.

In 1995/1996, Unity Street (originally named Uranium St) was constructed. This public road now provides access to Lots 1-3 Block 1 Park 67 Industrial Park, rendering the sixty-six (66) foot street and utility easement across the western portion of Lots 1 & 2 unnecessary.

Upon receipt of the application to vacate this easement, Staff contacted the property owner (Transwest, LLC) of Lot 2 Block 1 Park 67 Industrial Park and informed him of the request to vacate the easement. Transwest, LLC supports the request and has co-signed the easement vacation application.

Alternatives:

Deny the easement vacation request. As previously noted, there is now a public road that serves these three lots and the Park 67 Industrial Park plat included ten (10) foot wide drainage and utility easements around the perimeter of each lot. The Development Agreement for this plat clearly indicated that this easement was only to remain until such time that a public road was constructed.

Adopt Ordinance #13-09 vacating the street and utility easement over, under and across the western sixty-six (66) feet of Lots 1 and 2 Block 1 Park 67 Industrial Park. This easement is no longer necessary and should have been vacated previously either after the construction of Unity Street or during the Site Plan review of the mini-storage facility.

The ordinance was introduced at the April 9, 2013 City Council meeting and is now eligible for adoption.

Recommendation:

Staff recommends adopting Ordinance #13-09 vacating an easement for street and utility purposes over, under and across the western sixty-six (66) feet of Lots 1 and 2 Block 1 Park 67 Industrial Park.

Funding Source:

At the March 12, 2013 City Council meeting, the City Council authorized waiving the standard application fee and a portion of the escrow fee related to this request as this matter should have been addressed previously. Thus, the applicants are responsible for the hard costs related to this request, including but not necessarily limited to public hearing costs and recording fees.

Council Action:

Motion to waive the City Charter requirement to read the ordinance aloud;

-AND-

Motion to adopt Ordinance #13-09 to vacate an easement for street and utility purposes over, under and across the western sixty-six (66) feet of Lots 1 and 2 Block 1 Park 67 Industrial Park as shown on the attached exhibit.

Roll Call Vote:

Councilmember Riley
Councilmember Backous
Councilmember Elvig
Councilmember LeTourneau
Councilmember Kuzma
Councilmember Tossey
Mayor Strommen

Attachments

Site Location Map

Aerial with Easement Area Identified

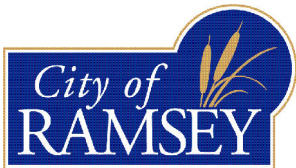
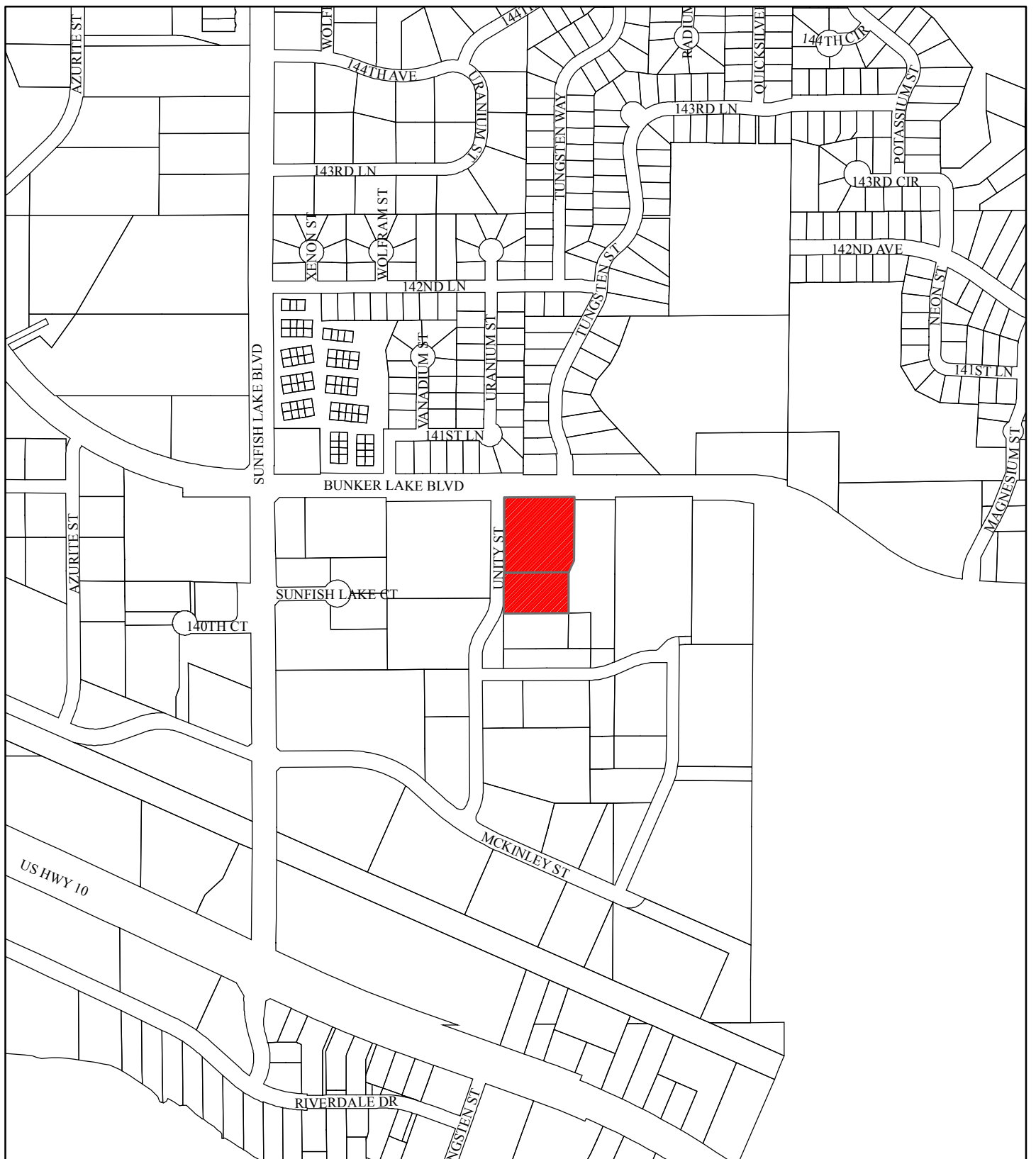
Easement Exhibit and Description

Proposed Ordinance #13-09

Form Review

Inbox	Reviewed By	Date
Hakanson Anderson Engineering	Jo Thieling	04/18/2013 04:21 PM
Tim Gladhill	Jo Thieling	04/18/2013 04:43 PM
Kurt Ulrich	Kurt Ulrich	04/18/2013 05:43 PM
Form Started By: Chris Anderson		Started On: 04/12/2013 10:09 AM

Final Approval Date: 04/18/2013



6100 Bunker Lake Blvd. NW
-and-
14155 Unity St. NW

Legend

-  Site
-  Parcels

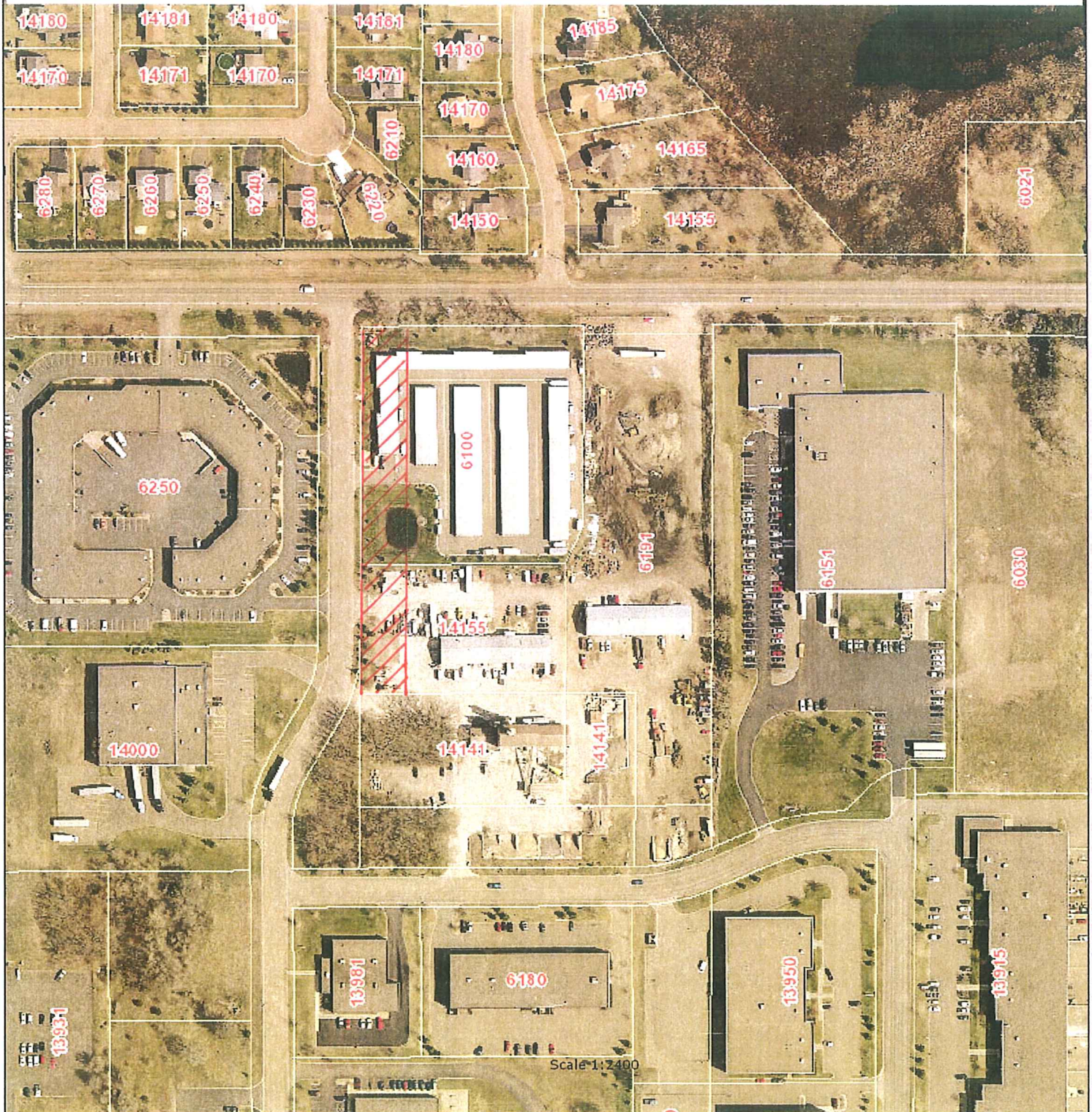


0 850 1,700 Feet

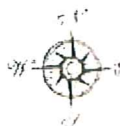
A horizontal scale bar with three segments, corresponding to the distances 0, 850, and 1,700 feet.



EASEMENT VACATION EXHIBIT



Aerial Photo: Flown Spring 2011

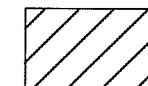


Prepared by Anoka
County GIS Department
This is a reproduction of records as
they appear in the Anoka County
GIS Department's database.
This drawing is to be used only for
reference purposes and the
County is not responsible for any
discrepancies between this exhibit

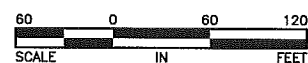
[illegible]

Lot 2 Owner: Park 67 L.L.C.
P.I.D. 35-32-25-21-0007
(Property is Torrens)
Cert. of Title 97926

That perpetual easement for street and utility purposes as per document No. 211848 over, under and across the west 66.00 feet of Lots 1 and 2, Block 1 PARK 67 INDUSTRIAL PARK, Anoka County, Minnesota, according to the recorded plat thereof, which lies southerly of the southerly line of Parcel 17 PE, Anoka County Highway Right-of-Way Plat No. 78, according to the recorded plat thereof. EXCEPTING therefrom those drainage and utility easements on said Lots 1 and 2, Block 1 as per the plat of said PARK 67 INDUSTRIAL PARK.



Denotes easement for street & utility
easement per doc. no. 211848 to be
vacated

[illegible]

Charles R. Christopherson, MN License No. 18420

DESIGNED BY:	CRC
DRAWN BY:	DMS
CHECKED BY:	CRC



Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

EASEMENT VACATION EXHIBIT
FOR
DENNIS SHARP
CITY OF RAMSEY, MINNESOTA

SHEET
1
OF
1
SHEETS

ORDINANCE NO. 13-09

**CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA**

**AN ORDINANCE VACATING AN EASEMENT FOR STREET AND UTILITY
PURPOSES IN THE CITY OF RAMSEY, ANOKA COUNTY, MINNESOTA**

The City of Ramsey Ordains:

SECTION 1. AUTHORITY

This ordinance is adopted pursuant to and under the authority of the Home Rule Charter of the City of Ramsey, Section 12.06 and Minnesota Statutes 412.851

SECTION 2. VACATION

The following described street and utility easement is hereby vacated, to-wit:

That perpetual easement for street and utility purposes as per document No. 211848 over, under and across the west 66 feet of Lots 1 and 2, Block 1 PARK 67 INDUSTRIAL PARK, Anoka County, Minnesota, according to the recorded plat thereof, which lies southerly of the southerly line of Parcel 17 PE, Anoka County Highway Right-of-Way Plat No. 78, according to the recorded plat thereof. EXCEPTING therefrom those drainage and utility easements on said Lots 1 and 2, Block 1 as per the plat of said PARK 67 INDUSTRIAL PARK.

SECTION 3. EFFECTIVE DATE

This Ordinance becomes effective thirty (30) days after its publication subject to the City Charter Section 5.07.

PASSED by the City Council of the City of Ramsey this the ____ day of _____, 2013.

Mayor

ATTEST:

City Administrator

Introduction Date:

Posting Dates:

Adoption Date:

Publication Date:

Effective Date:

CC Regular Session

7. 1.

Meeting Date: 04/23/2013

By: Colleen Lasher, Administrative Services

Information

Title:

Report from the Personnel Committee - April 23, 2013 / Resolution to Hire an Economic Development Manager

Background:

Earlier this evening the Personnel Committee motioned to recommend approval of this case. The case was presented as follows:

At the February 12, 2013 meeting, the City Council motioned to approve a resolution directing staff to conduct a recruitment for an Economic Development Manager.

Staff conducted a recruitment based on the newly updated job description, including the addition of the Housing and Redevelopment Authority (HRA) duties and other updates necessary to best meet the needs of the City. Staff received fourteen applications; conducted six interviews and three candidates were interviewed a second time.

The top candidate, Mr. Sean Sullivan, was selected to advance in the recruitment process and was provided with a contingent job offer on April 9, 2013. Following that, Mr. Sullivan successfully passed the City's background check, reference checks and drug screen, as well as the work-style assessment.

It may be of interest to note that Mr. Sullivan worked for the City of Ramsey as an Economic Development Coordinator from 2000 to 2010 and is therefore very familiar with many of the City's current businesses, the economic development function, many City staff members and other professional contacts in the area. Since then, Mr. Sullivan has continued in his role as an economic development professional and has gained additional skills and credentials.

Notification:

History: The City employed an Economic Development & Marketing Manager from November of 2010 through March 2012. This position was vacated in March 2012, following a resignation. In April 2012, the Assistant City Administrator/Community Development Director position was vacated. Both positions were significantly involved in Economic Development.

Since then, with the City Administrator's general oversight and support, the Assistant to the City Administrator (previously known as the Management Analyst) has been covering many of the City's economic development duties; the Finance Director has been covering the Tax Increment Financing district responsibilities; and the EDA consultant Mike Mulroney has assisted with various economic development projects, as needed.

A needs analysis was conducted for this position. Based on results of that analysis, staff recommended that a full-time Economic Development Manager be hired to perform the City's economic development function. This position would be responsible for the development and implementation of economic development, programs, and services for both commercial and industrial businesses. Without this position it would be very difficult to attain many of the City Council's strategic goals; many of which focus on economic development.

Staff proposed a slight restructure of the position from Economic Development & Marketing Manager to Economic Development Manager to allow this position to focus specifically on economic development. The restructure would place more emphasis on real estate and development transactions such as negotiating and securing property

purchases for the purposes of development and redevelopment; as well as transferring much of the marketing and communications component (via electronic and printed media) to the Assistant to the City Administrator. Lastly, staff proposed continuing the Assistant to the City Administrator's role of assisting in some economic development duties in order to ensure continuity with internal and external customers, and to provide proactive back-up staffing for this important function.

Observations/Alternatives:

Staff recommends this hiring as the best way to properly address the City's economic development priority.

The Council may deny or postpone action on this recommendation to allow further review. However, neither of these alternatives allow this position to be hired in a timely manor.

Recommendation:

The Personnel Committee recommended hiring Mr. Sean Sullivan as the City's new Economic Development Manager, effective on or near May 28, 2013, at \$37.45 per hour (step 4 of the 2013 wage scale) with a credit of 5 vacation days for a mid-career hire.

Funding Source:

The annual funding required for this position, based on salary (step 4) and benefits is approximately \$91,895 (TIF @ 20%, EDA 20%, HRA 60%). Funding for this position is included in the 2013 budget.

Council Action:

Motion to approve resolution #13-04-075, to hire Mr. Sean Sullivan as the City's new Economic Development Manager, effective on or near May 28, 2013, at \$37.45 per hour with a credit of five vacation days.

Attachments

Resolution

Form Review

Inbox
Kurt Ulrich

Reviewed By
Kurt Ulrich

Date
04/18/2013 03:03 PM
Started On: 04/15/2013 09:03 AM

Form Started By: Colleen Lasher

Final Approval Date: 04/18/2013

Councilmember introduced the following resolution and moved for its adoption:

RESOLUTION #13-04-075

RESOLUTION TO HIRE AN ECONOMIC DEVELOPMENT MANAGER

WHEREAS, at the February 12, 2013, City Council meeting, staff was authorized to conduct a recruitment process to fill the Economic Development Manager position; and

WHEREAS, a recruitment process was conducted and six candidates were interviewed; and

WHEREAS, Mr. Sean Sullivan has been selected as the top candidate for the Economic Development Manager position; and

WHEREAS, staff has completed the necessary background checks and is recommending that Mr. Sean Sullivan be hired as the City's Economic Development Manager at \$37.45 per hour, effective on or near May 28, 2013, with a credit of five vacation days.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF RAMSEY, ANOKA COUNTY, STATE OF MINNESOTA, as follows:

Confirms the recommendation of the Personnel Committee to do the following:

Motion to approve resolution #13-04-075, to hire Mr. Sean Sullivan as the City's new Economic Development Manager, effective on or near May 28, 2013, at \$37.45 per hour with a credit of five vacation days.

The motion for the adoption of the foregoing resolution was duly seconded by Council Member, , and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 23rd day of April 2013.

CC Regular Session

7. 2.

Meeting Date: 04/23/2013

By: Shane Nelson, Engineering/Public
Works

Information

Title:

Adopt Resolution #13-04-074 Ordering Preparation of Feasibility Report for Improvement Project #13-10, Garnet Street and 168th Avenue

Background:

NOW AND THEN ESTATES is a large lot subdivision located just north of 167th Ave NW and just east of Nowthen Blvd NW. The two streets providing access to the lots (Garnet St. NW and 168th Ave NW) are in very poor condition with numerous areas of failed pavement. The streets were constructed in 1988 and received a seal coat in 2006. Extensive patching at City cost has occurred continuously for several years. Reconstruction of the streets has been included in the CIP since 2010. At this time, no decision has been made on the exact scope of the work or possible funding sources.

Staff is requesting Council consider ordering a feasibility report regarding reconstruction of Garnet St NW and 168th Ave NW. The feasibility report will review the different construction options, estimate construction costs of each option, evaluate the possible installation of City sewer and water, and review funding methods.

Municipal sewer and water is located both north (within BROOKFIELD subdivision) and south of NOW AND THEN ESTATES (within 167th St. NW). Installation of sewer and water through NOW AND THEN ESTATES will be reviewed as an option within the feasibility report. Preliminary review of NOW AND THEN ESTATES indicates that further development potential could be recognized if sewer and water were available. Water and sewer installation does not necessitate that NOW AND THEN ESTATES redevelop but does allow current residents future alternatives. Sewer and water installation also provides the municipal water system with a loop and provides NOW AND THEN ESTATES with better fire protection and the ability for existing homes to connect to the municipal systems.

Notification:

N/A

Observations/Alternatives:

Ordering the feasibility report is the first of many steps in completing an improvement project. The feasibility report will discuss the project, state the assumptions, and evaluate construction alternatives (including the sewer and water).

The City Council could choose not to adopt Resolution #13-04-074 Ordering the Preparation of Feasibility Report for Improvement Project #13-10, Garnet Street and 168th Avenue. However, ordering the feasibility report does not bind the City to completing the project this year. Upon completion of the feasibility report, several additional actions by the City Council will be required to advance this project through the public improvement process.

Recommendation:

We recommend that the City Council adopt Resolution #13-04-074 Ordering Preparation of Feasibility Report for Improvement Project #13-10, Garnet Street and 168th Avenue.

Funding Source:

N/A - The feasibility report will be prepared by the City of Ramsey Engineering Department. Funding for the project is included in the 2013 budget, although several additional actions of the City Council are required in order to advance this project and encumber the funds.

Council Action:

Motion to approve Resolution #13-04-074 Ordering Preparation of Feasibility Report for Improvement Project #13-10, Garnet Street and 168th Avenue.

Attachments

Resolution

Aerial Photo

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Bruce Westby	04/17/2013 11:57 AM
Grant Riemer	Grant Riemer	04/17/2013 12:13 PM
Diana Lund	Diana Lund	04/17/2013 01:56 PM
Kurt Ulrich	Kurt Ulrich	04/18/2013 03:03 PM
Form Started By: Shane Nelson		Started On: 04/15/2013 04:30 PM
Final Approval Date: 04/18/2013		

Councilmember _____ introduced the following resolution and moved for its adoption:

RESOLUTION #13-04-074

**RESOLUTION ORDERING PREPARATION OF FEASIBILITY REPORT FOR
IMPROVEMENT PROJECT #13-10, GARNET STREET AND 168TH AVENUE**

WHEREAS, it is proposed to improve Garnet Street from 167th Street to the North plat line of Now & Then Estates and 168th Avenue from Garnet Street to the western cul-de-sac; and

WHEREAS, the project proposed to be studied is included in the 2013 Capital Improvement Plan.

**NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE
CITY OF RAMSEY, ANOKA COUNTY, MINNESOTA, as follows:**

- 1) That the proposed improvement be referred to the City of Ramsey Engineering Department for study who is hereby authorized and directed to report to the City Council with all convenient speed advising the City Council in a preliminary way as to whether the proposed improvement is feasible and as to whether it should best be made as proposed or in connection with some other improvement, and the estimated cost of the improvement as recommended.

The motion for the adoption of the foregoing resolution was duly seconded by Councilmember _____ and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against the same:

and the following abstained:

and the following were absent:

Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this 23rd day of April, 2013.

Mayor

ATTEST:

City Clerk



Meeting Date: 04/23/2013

By: Tim Gladhill, Community Development

Information

Title:

Consider Authorization to Order (Begin Official Process and Comment Period) on Completed Draft of Alternative Urbanwide Area Review (AUAR) Update for The COR (formerly Ramsey Town Center)

Background:

In 2003, the City Council approved an Alternative Urbanwide Area Review (AUAR) for the development known as Ramsey Town Center at the time by adopting Resolution #2002-104. An AUAR is an alternative process to other potential required environmental reviews, such as Environmental Assessment Worksheets (EAW) and Environmental Impact Statements (EIS). The AUAR is a tool to review environmental effects in advance of development, thus providing for a shorter review timeframe at time of development. Generally speaking, an EAW or EIS is prepared during subdivision or site plan review (at time of development). The AUAR provides a mechanism to reduce the amount of individual EAW or EIS needs (but does not negate the need for required environmental review). Environmental Review required by the Environmental Quality Board (EQB), a State agency) provides an analysis of impacts and potential mitigation for items such as (but not limited to) surface water, traffic levels and levels of service, natural resource, and habitat impacts. A detailed analysis of impacts and mitigation techniques is included in the current update as well as the 2003 AUAR. Staff will also review the individual items of the Mitigation Summary and Update.

The AUAR is in need of update for two (2) reasons:

1. An AUAR must be updated every five (5) years (expired in 2008)
2. Change in preferred land use plan

It is important to note that not all development projects require the completion of an EAW or EIS. In review of the required thresholds for EAW or EIS review, none of the projects appear to have required preparation of an EAW or EIS that were approved and constructed within the review boundary since the 2008 update. As the City looks forward to potential future projects, it is likely that a number of these developments would require environmental review.

Thresholds guiding types of developments that would require this review through the State EQB are governed by Minnesota Statutes, section 116D.04 and 116D.045 and administrative rules adopted by the EQB as Minnesota Rules, chapter 4410, parts 4410.0200 to 4410.7070.

On February 28, 2012, the Housing and Redevelopment Authority in and for the City of Ramsey (HRA) approved a contract with Landform Professional Services to prepare the update to the AUAR. This was being prepared simultaneously with a Comprehensive Plan Amendment specific to The COR. A requirement of the AUAR is that at least one of the development scenarios needed to be compatible with the Comprehensive Plan. As the Comprehensive Plan Amendment changed the preferred land use plan, this AUAR Update needed to wait until the completion of that process. The AUAR Update is now eligible to proceed, as the Comprehensive Plan Amendment has been approved by the Metropolitan Council.

By ordering the AUAR, the required 120 day process for review begins. Again, the action tonight is not approving the final document, but beginning the process for public comment. Under the current schedule, it is anticipated that the City could adopt the final version in July, 2013.

Notification:

No notification has been provided specific to the AUAR Update at this time. However, the City is required to publish the AUAR Update in the EQB Monitor and post notice of availability in the official City newsletter. In addition, the AUAR process also includes a 30 day public comment period (with certain 15 day extensions). Finally, there is at least one final comment period for state agencies and Metropolitan Council.

Observations/Alternatives:

The preparation of the AUAR Update has been completed with guidance by the EQB and is based on Minnesota Rules 4410.3610, Subp. 4. By ordering the AUAR, the City is not approving the document. Ordering the document only begins the process for review and public comment. There is also time for final edits before sending for the official process.

Attached for review is the original AUAR for Ramsey Town Center. Please note that this is a draft version of the approved document due to file size and format. A full copy of the 2003 AUAR is available in City Hall and is available for viewing upon request. The format of the update is to only note changes from the original document and not redraft the entire document. The Update will sit as an Appendix/Addendum to the original document to preserve the format at content. When a mitigation item is not applicable to this AUAR, it is so stated. Responses to the questions are only provided when there has been a change since the 2003 AUAR. Whenever "no changes" is indicated, refer to the original document.

A majority of the changes are related to the current Development Plan for The COR. The analysis appears to indicate that the impacts are generally consistent with the findings of the 2003 AUAR. The document updates current plans, policies, and completed projects (such as Ramsey Boulevard and Sunfish Lake Boulevard). Changes to the document are indicated by bold/italicised text.

Appendix C is currently blank. This appendix is for future comments, and thus the final draft will populate this appendix as necessary.

The draft schedule is as follows:

1. Responsible Governmental Unit (RGU) orders AUAR (City is the RGU) on April 23, 2013
2. AUAR submitted to EQB on May 6, 2013
3. Press release submitted to Anoka County Union on May 8, 2013
4. EQB publication date on May 13, 2013
5. Planning Commission reviews draft Update on June 6, 2013
6. Comment Deadline on June 12, 2013
7. Revise and distribute final document on June 26, 2013
8. Final document adopted on July 9, 2013

Recommendation:

Staff recommends that the City Council adopt Resolution #13-04-076 to order the AUAR as attached.

Funding Source:

The update to the AUAR for The COR is being funded by Tax Increment Finance (TIF) District #14.

Council Action:

Motion to adopt Resolution #13-04-076 to order the AUAR as attached.

Attachments

Cover Memo

DRAFT AUAR Update

2003 AUAR

EQB Flow Chart

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	04/18/2013 03:03 PM
Form Started By: Tim Gladhill		Started On: 04/03/2013 09:08 PM
Final Approval Date: 04/18/2013		



TO: Tim Gladhill, City of Ramsey Development Services Manager

FROM: Kendra Lindahl, Landform

DATE: April 18, 2013

RE: The COR (formerly Ramsey Town Center) AUAR Update
Landform project 12-015

1. Application Request

The item for the City Council to consider is ordering the Final Alternative Urban Areawide Review (AUAR) Update for The COR (formerly Ramsey Town Center). The purpose of this AUAR Update document is to update the environmental review pursuant to Minnesota Rules. The original AUAR for the study area was adopted by the City in 2003. Pursuant to Minnesota Rules 4410.3610 Subp. 7, for the AUAR to remain valid as the environmental review document for the area, the document needs to be updated every five years until all development in the area has received final approval. Since portions of the study area still remain undeveloped, the AUAR must be updated. The AUAR expired in 2008 without update and this update will extend the AUAR until 2018.

When the Council orders the AUAR, the 120-day period for completion begins. Staff will finalize the draft AUAR document and distribute for review and comment. Key dates under the tentative schedule developed by staff are:

Ramsey AUAR Update Schedule	Ramsey Key Dates
RGU orders AUAR	04/23/13
Draft document distributed for comments	
Deadline for submission to EQB	05/06/13
Submit press release to Anoka County Union	05/08/13
EQB Publication date	05/13/13
Planning Commission review	06/06/13
Comment Deadline	06/12/13
RGU revises and Distributes Final Document	06/26/13
RGU adopts final document	07/09/13

If you have any questions, please feel free to call me at 612.638.0225.

Attachments

1. Draft AUAR

The COR (Formerly Ramsey Town Center)

City of Ramsey

Alternative Urban Areawide Review (AUAR)

Update Report

Original AUAR: June 2003

Update 1: April 2013

Prepared by:

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Figure 1. Location Map

Figure 2. Development Plan 6.0

Appendix A: Figures

Appendix B: DNR Natural Heritage Database Review

Appendix C: Comments and Responses to the AUAR Update

1. Introduction and Purpose

The AUAR study area is the 369.5-acre project known as “The COR” (formerly Ramsey Town Center) in the City of Ramsey. The area is bounded by Highway 10 on the south, Armstrong Boulevard on the west and Ramsey Boulevard (Highway 56) on the east (see Figure 1).

The *Ramsey Town Center Alternative Urban Areawide Review and Mitigation Plan* dated June 24, 2003, (original AUAR), was adopted by the Ramsey City Council in June 24, 2003 by Resolution 2002-104. This AUAR update incorporates this document by reference.

The preparation of this AUAR update report has been completed according to guidance prepared by the Environmental Quality Board (EQB) and is based on Minnesota Rules 4410.3610, Subp. 4.

The mitigation items in the AUAR update follow the standard Environmental Assessment Worksheet (EAW) form. When an EAW item is not applicable to this AUAR, it is so stated. Responses to the questions are only provided when there has been a change since the 2003 AUAR. Whenever “no changes” is indicated, refer to the original document as listed above to review the original response.

The 2003 AUAR included an analysis of existing conditions and the preferred development scenario. The AUAR also included the progression of the conceptual designs to reach the preferred development concept. The AUAR as adopted in 2003 was fully compatible with the *2001 Comprehensive Plan* (as amended in 2002) Land Use plan. In September 2010, the City of Ramsey prepared the *2030 Comprehensive Plan Update*. The land use classifications in this update were fully compatible with the AUAR.

The 2003 AUAR is available for review on the City’s website at www.cityoframsey.com/planning-division. This report is intended to serve as an update of the AUAR and includes a review of the areas that have and have not developed, an update to the environmental analysis if needed and a review of the mitigation measures.

2. Approved Development/Current Conditions

Figure 2(Development Plan 6.0) shows the location of the approved developments within the AUAR area. Of the 369.5 acres in the AUAR, 106.5 acres (738 residential units, 30.5 acres of commercial, 14.1 acres of public park and numerous road improvements) were approved for development. These areas include:

- The Ramsey Municipal Center and Parking Ramp - 5.31 acres
- The Veterans Administration Clinic –2.34 acres
- Allina Clinic—3 acres
- Ramsey Town Center 2nd Addition – 103 units
- Ramsey Town Center 3rd Addition (Northstar Marketplace retail) – 8.92 acres
- Ramsey Town Center 7th Addition - Symphony at Town Center—152 units
- Ramsey Town Center 8th Addition – 23 units (under construction)

- Ramsey Town Center 9th Addition – 90 units (under construction)
- Ramsey Town Center 10th Addition – 44 units (under construction)
- PACT Charter School – 5.34 acres
- NAU Country – 1.23 acres
- COR ONE (Residence at the COR)--326 units (under construction)
- COR TWO (Sunwood Retail) – 4.09 acres Approved)
- COR THREE (North Commons) – 17 units (under construction)
- Fountains of Ramsey Convention Center/Banquet Facility—3.14 acres
- Midwest Medical Examiner’s Office—1.22 acres
- Draw Park – 7.79 acres
- Rhinestone Commons Park – 6.31 acres

The City’s 2030 Comprehensive Plan, as amended by the 2012 Comprehensive Plan Amendment (The COR) (approved by the Metropolitan Council on December 12, 2012 for compliance with regional systems), reflects the land uses in Development Plan 6.0, which was prepared as an update to the Preferred Development Scenario from the 2003 AUAR. All of the developments that have been approved are within the thresholds of the AUAR and the City’s Comprehensive Plan.

3. Areas Remaining to be Developed

Of the 369.05 acres in the AUAR area, approximately 215 acres remain that have not been approved for development. They are shown in **Figure 2** (Development Plan 6.0).

The development of land within The COR is dependent on market forces, but the remaining areas could develop in the next 5-15 years.

4. Update to the Environmental Review

The DNR Natural Heritage Database was reviewed to provide an update for any threatened and endangered species. This review and DNR correspondence is attached in **Appendix B**. There are no new incidents of rare or endangered species within the study area.

The City updated the Comprehensive Sewer and Water Plans in 2012. We have reviewed the sewer and water systems in relation to the existing conditions, past development and the AUAR. The City’s sewer and water systems can accommodate the development proposed within the AUAR area.

A number of street improvements have occurred within the AUAR area. These improvements were noted in the AUAR as part of the mitigation measures and are noted in this AUAR update in **Section 5**.

Stormwater Management regulations have changed since the 2003 AUAR. The Lower Rum River Watershed Management Organization (LRRWMO) adopted new rules in the “3rd Generation Watershed Management Plan” on January 19, 2012. A new stormwater management plan is being completed by the

City of Ramsey to address these new requirements and reflect the new COR development plan. The LRRWMO issued a permit for The COR (formerly Ramsey Town Center), which is still active. The 3rd Generation Plan added a requirement for infiltration for new development. This requirement is being implemented by the City of Ramsey. The City is considering implementation of regional infiltration in conjunction with existing and planned regional facilities, including proposed Lake Ramsey (see Figure 2).

The preferred development scenario that was developed with the 2003 AUAR had been modified as Development Plan 6.0. The land use scenario is not substantially changed from the initial mixed use concept that was approved with the AUAR. Based on this analysis for the AUAR update, the area has developed in conformance with the 2003 AUAR. The areas that are anticipated to develop will be in conformance with the 2003 AUAR, the mitigation measures and this AUAR update. Therefore, the analysis that was completed for the 2003 AUAR remains valid and will be used in conjunction with the mitigation measures in this AUAR update.

5. Mitigation Summary and Update

The mitigation elements from the 2003 AUAR are noted below and updates are provided in ***bold italic***.

Items 1-8 do not contain a Mitigation Element

Item 9 Mitigation element. Assuring the compatibility of development within Ramsey as growth occurs is the primary goal of the comprehensive planning process. Item 27 contains discussion of plan compatibility for a number of other planning documents that cover land in and adjacent to the site. Continued planning efforts will assure that non-compatible uses do not occur as the site develops. ***The City's 2030 Comprehensive Plan update was adopted in 2010 after Metropolitan Council review. The City's 2012 Comprehensive Plan Amendment (The COR) was approved by the Metropolitan Council on December 12, 2012. The City will continue to update plans and ordinances as needed to implement the City's vision and goals in compliance with the AUAR.***

Item 10 Mitigation Element. The only issue related to cover type to emerge during this review is the alteration of wetlands, which is discussed in the mitigation element under Item 12. A complete discussion of loss of cover types with respect to fish, wildlife and ecologically sensitive resources follows in Item 11. ***No change.***

Item 11 Mitigation Element.

Natural Communities: Item 12 of this report addresses wetland mitigation fully. Mitigation for loss of forest/woodland can be accomplished through additional tree planting within some areas of the site listed in Table 10.1 as containing grassland communities. Additional forest/woodland planting can be incorporated into planting plans for the infiltration/wetland system extending south from the COR site to the Mississippi River. The edges of the wetlands and infiltration areas could be established as an oak savanna/woodland natural community.

Wildlife Habitat: Several strategies are proposed to mitigate impacts to wildlife. These include establishing a greenway corridor through the site, wetland restoration and creation and to the extent possible, all culverts and road crossings will be designed to enable upstream or downstream passage of wildlife as they

move through the greenway. ***This activity has occurred--the greenway corridor has been developed as The Draw park and wetland restoration/creation has taken place. The City will continue to work to implement these measures.***

Blanding's Turtles

Strategies outlined for Wildlife Mitigation generally apply to Blanding's turtles. ***The City will continue to work to implement these measures.***

Item 12 Mitigation Element.

Wetland Sequencing - Minnesota Rules 8420, also known as the Wetland Conservation Act (WCA), requires specific steps (sequencing) be taken when evaluating mitigation for unavoidable wetland impacts. ***This activity has occurred and will continue to occur. The wetland mitigation plan has been modified from the original AUAR concept, but has been permitted in compliance with WCA and this AUAR update reflects those changes.***

Stormwater outfall to the Mississippi River:

- ***Reduce Frequency of Stormwater Discharge, Lower Magnitude of Peak Flow Rates:*** The project incorporates a variety of strategies to lower increases in stormwater rate and volume. While all stormwater conveyance features are designed to accommodate the 100-year runoff event without taking infiltration into consideration, on-site retention and infiltration can be incorporated at multiple scales into the development during the detailed design phase for smaller storm retention. Peak flow rates for the 100-year, 24-hour runoff and 100-year, 10-day snowmelt events are 25.1 cfs and 25.3 cfs respectively. ***The City will continue to work to implement this measure.***
- ***Oversize Culvert and Reduced Slope at Outfall:*** The last section of culvert will be enlarged from 21-inches to 36-inches and include an apron and rip-rap to lower velocities and dissipate the energy at the discharge point. This will minimize the potential for scour and erosion. ***This item has been completed. The outlet to the Mississippi River was installed by the city in 2009.***
- ***Directional Boring to Install Culvert:*** If possible, the culvert will be placed within the river bank by directional boring rather than an open cut. This will reduce the need to remove shoreline vegetation and will minimize the area of disturbance. Erosion control measures will be implemented where soil is disturbed. All disturbed areas will be replanted to native trees, shrubs, grasses and forbs and if appropriate, a temporary cover crop will be established. ***This item was completed by the City in 2009.***

Item 13 Mitigation Element. Because the COR site is within a DWSMA, special precautions are needed to protect groundwater resources. To make sure this occurs, any discharge of runoff into an area dedicated to infiltration will be pre-treated through such practices as particulate settling, vegetative filtration, skimming, installation of compact, sub-grade treatment (ex. catch basin inserts, cyclonic separators, filters), and various types of pre-treatment soil filtering systems. These practices will be routinely maintained and inspected to make sure these pre-treatment practices do not provide a pathway for contamination of groundwater. Areas that are potential major sources of contamination ("hot-spots") will be identified during construction and special precautions added. These areas would include any location where pollutant spills are more likely to occur (service stations, public works/police/fire fueling operations, significant chemical storage). The City has completed a Wellhead Protection Plan, which was

approved by the Minnesota Department of Health in January 2010. ***The City will continue to work to implement these measures.***

Within WHPAs, the use of conventional underground storage tanks to store anything other than water is restricted. If underground tanks are utilized in these areas they must be double-walled with interstitial sensors and a network of monitoring wells must be installed to assess potential groundwater contamination. In addition, an emergency response plan should be developed for the immediate remediation of any spills or leaky tanks. ***The City will continue to work to implement these measures.***

When assembling the issues that were to be addressed as part of this AUAR, it was noted by the Anoka Conservation District and by the DNR that there is a possible connection between the increased demand for municipal groundwater and the observed lowering of wetlands in the vicinity of Municipal Wells 3, 4 and 5. Appendix F was prepared to assess the general magnitude of the problem and the solutions required to address the issue. It is now apparent that the wetlands in question experience natural drying during periods of relative low precipitation. The photographic history included as part of the Wetland Delineation report shows wetlands in the vicinity of the COR site disappearing during the mid to late 1980's which is prior to the development of the municipal wells. This same phenomenon occurs again in the mid to late 1990's and prior to the installation of Wells 4 and 5. The evaluation also found, as stated earlier, that drawdown levels in the FIG (Franconia Iron-ton-Galesville) unit are minimal and, therefore, could not be influencing the wetlands. To verify these findings, however, it is recommended that long term monitoring be performed. ***The City will continue to work to implement these measures.***

There is also some concern that increased pumping in the FIG aquifer could impact private wells that pump from this aquifer. Again, the residual drawdown levels in the FIG average 5- to 10-feet during the peak summer pumping period (Appendix F) and recover fully during the Fall, Winter and Spring. Therefore, the radius of influence of the wells will be very small meaning there could be no impacts to private wells developed in the same unit. Before additional wells are constructed, additional appropriations will be applied for through the DNR. This will most likely require both short- and long-term testing and monitoring to verify the above findings. Through this process, the City can insure that there continue to be no impacts on groundwater and surface resources due to their appropriations from the FIG. ***Permits were secured for previous projects and will be obtained for future projects.***

Item 14 Mitigation Element. The Ramsey 2001 Comprehensive Plan was amended in 2002 and contains the measures needed to effectively implement resource protection for all of the resource protection zones adjacent to the COR site. Although Chapter XI of the Ramsey 2001 Comprehensive Plan contains a thorough set of policies and related actions to protect the natural character of the Critical Area, the Chapter does not contain a specific provision addressing control of noise in this area. The next amendments to the City Plan will add a specific provision to address this specific element in Executive Order 79-19. ***The 2030 Comprehensive Plan addressed this issue in Chapter 11 (THE MISSISSIPPI RIVER CRITICAL AREA CORRIDOR/MNRRRA). This AUAR update reflects these policies from the 2030 Comprehensive Plan.***

Item 15 Mitigation Element. Adverse environmental impacts associated with increased small motor and non-motorized boats is not anticipated along the Mississippi River south of the Ramsey Town Center site. In fact, the new Mississippi Regional Park hopes to attract visitors to this portion of the upper River. The use of the park as a formal recreational facility will focus river-related uses to planned areas, and provide resource oversight and supervision of recreational activities. ***No Change/No Action required.***

Item 16 Mitigation Element. Prior to any earth-moving activity on the site, an erosion and sediment control plan will be prepared in accord with the requirements of the City of Ramsey and the LRRWMO. Technical assistance in the preparation of this plan will also be sought from the Anoka Conservation District, the Minnesota Pollution Control Agency and the DNR. The City will be permitted through the Phase II NPDES nonpoint program as a Municipal Separate Storm Sewer System (MS4) operator, and will be subject to all of the provisions of that program, including reducing the discharge of pollutants to the maximum extent practicable (MEP) through construction site runoff control. Any construction on the site will also be permitted through MPCA's NPDES general construction permit process. ***Permits were secured for past projects and will be obtained for future projects. Future NPDES permits will conform to the LRRWMO 3rd Generation Plan requirements for infiltration for new developments.***

Item 17 Mitigation element. The conversion of agricultural land to urban land ultimately increases the amount and rate of runoff leaving the land. Minimizing the impact of that increased runoff is the objective of this mitigation plan.

Mitigation Approach

The City will assure that the developer(s) will design and build the final drainage and runoff management system within this overall framework, in compliance with the mandates of the LRRWMO. Peak discharges from new developments will be limited to 75% of existing flows.

Implementation of BMPs in Preliminary Design

As part of the design process for BMPs, replacement of non-native vegetation with native vegetation will occur whenever practicable and desirable.

Phase II National Pollutant Discharge Elimination System (NPDES) permit

The City of Ramsey has submitted its draft application for a Phase II National Pollutant Discharge Elimination System (NPDES) permit. The unsigned permit was submitted on March 10, 2003 under the MPCA requirements for the program of the U.S. Environmental Protection Agency (EPA). MPCA extended the timeline for receipt of an officially signed permit so that the City could authorize signature through a City Council action. The new deadline for receipt of a signed application is May 9, 2003. After that, the City will need to adopt a Storm Water Pollution Prevention Program (SWPPP). Since the City owns and operates a municipal drainage system, it is subject to the provisions of the Municipal Separate Storm Sewer System (MS4) provisions of the law. Construction activities within the City, and specifically on the Ramsey Town Center site, are also subject to the Phase II General Storm Water Permit for Construction Activity. ***This activity has occurred and will continue to occur.***

The City must identify best management practices (BMPs) and measurable goals associated with each minimum control measure noted above. The City will be given five-years to develop an effective program after the permit is issued. This period of time coincides with the phased development of the Ramsey Town Center site, which must then include the provisions of the City SWPPP. The City will assure that the provisions of its Program are properly implemented within the Center as development proceeds. ***This activity has occurred and will continue to occur.***

Construction within the City of Ramsey is also subject to the provisions of the NPDES Phase II General Storm Water Permit for Construction Activity. This provision is in addition to the construction control measure required under the MS4 permit. ***Permits were secured for past projects and will be obtained for future projects.***

Relationship to Mississippi River TMDL

One water quality element of note in the mitigation plan is the need to reduce the negative impact of a discharge to an impaired water under the Total Maximum Daily Load (TMDL) program. The Mississippi River through the City of Ramsey has been listed on the MPCA recommended “303d” list as impaired relative to fecal coliform, PCB and mercury. The PCB and mercury programs are regional in scale and are the subject of regional MPCA and USEPA remediation programs. The discharge of storm water high in fecal coliform, however, is something that the City will need to address. The implementation of nonpoint source pollution control BMPs does not necessarily assure the reduction of fecal coliform. The process for setting a TMDL includes the initiation of a formal study that results in recommendations for control of the pollutant causing the impairment. MPCA has not yet begun this study for the impaired Mississippi River reach; however, once this study begins (currently scheduled for 2004-2006), the City will cooperate to the best of its ability with the MPCA to reduce the input of fecal coliform to the River. ***The MPCA study is currently underway and it includes the reach in Ramsey. Currently Ramsey is not scheduled to receive a waste load allocation as the reach is classified as a protection watershed. This could change based on future monitoring. The City will continue to cooperate to the best of its ability with the MPCA to reduce the input of fecal coliform to the River.***

Item 18 Mitigation element. Both the wastewater flows and the projected loadings from the COR development can be effectively transported and treated by the MCES system. In addition, future development and resulting flows are within the range of those estimated in the City’s 2001 Comprehensive Plan, as amended in 2002. Therefore, it does not appear that there is any cause for specific remediation actions. A 30-inch sewer main is recommended to serve the COR. As noted earlier, it will be necessary for the City to update its Comprehensive Sewer Plan, following discussion with MCES on increased allocated capacity. In addition, it will be important to measure and test the wastewater flows from the new development on a periodic basis. This will allow the City and MCES officials to monitor the characteristics of the wastewater generated by the development over time and to address any future unforeseen changes. ***The 2030 Comprehensive Plan update includes an update to the Comprehensive Sewer Plan to address these issues. The City has updated the Comprehensive Sewer Plan. Results indicate that there is sufficient capacity in the City’s system to accept the wastewater flow from The COR.***

Item 19 Mitigation Element. The high permeability of the soils at the Town Center are ideal for the implementation of infiltration practices that will manage stormwater runoff, provide flood control and recharge the water table aquifer. However, the high permeability also increases the risk for potential contamination of groundwater resources. In order to mitigate this risk, best management practices (BMPs) and community education programs will be implemented. ***This activity has occurred and will continue to occur.***

Item 20 Mitigation Element. To decrease the amount of solid waste generated within the City, Ramsey maintains the following policies as stated in its 2001 Comprehensive Plan:

- Work with the Anoka County Integrated Waste Management Department to develop and implement programs that contribute to waste reduction, resource recovery, recycling and limited landfilling;
- Continue to support curbside recycling of reusable waste materials through educational events, promotional events, and volunteer efforts;
- Research grants and funding programs through federal, state, and local organizations that support the —Three R’s (reduce, reuse, and recycle); and

- Continue to pursue and support research efforts in innovative techniques that enhance the environment, provide alternative means of energy, and reduce the waste stream.

The implementation of these policies will help to reduce the quantities of solid waste produced at the Town Center. ***The City updated these policies in the 2030 Comprehensive Plan and will continue to work to implement these measures. The City updated the Comprehensive Water Supply and Distribution Plan.***

Within the WHPA, underground storage tanks and infiltration are not recommended. Should contamination occur due to these or any other practice, alternative water supply sources may be required. Currently the city water towers store an extra amount of water equivalent to meet the supply need for one day. There is also an emergency connection with the City of Anoka for additional water needs. A contingency plan should be developed as part of the next water supply plan update to deal with contamination. These could be coordinated with existing city plans, data, and management procedures, many of which are detailed in the city's Water Supply Plan, WHP Plan, 2001 Comprehensive Plan, and this document. A contingency plan is also required by the State as part of the city's water supply plan (M.S., Section 103G.291, subd.3. As part of its next revision, the City of Ramsey will amend its 1999 Water Supply Plan to include an emergency response element. The amendment will include all of the above components. This will occur prior to applying for a DNR appropriation permit amendment, which would likely trigger the DNR request for emergency plan completion, as well. ***These items were completed as part of the Water Element of the 2030 Comprehensive Plan update.***

The installation of monitoring wells throughout the WHPA would be appropriate to protect the water quality of the upper aquifer. Should contamination occur, a network of monitoring wells would help to quickly identify the contaminant source and aid in the quick remediation and possibly reduce the extent of contamination. A monitoring well network would also help to understand the relationship between the pumping in the Franconia-Ironton-Galesville aquifer and the upper aquifer. The extent of any further monitoring will be determined during wellhead protection plan development and State water appropriation permitting. ***The City will continue to work on this item.***

Item 21 Mitigation Element. Analysis of the intersection operations indicates that lane additions and installation of intersection channelization and traffic signals would be adequate to mitigate the project impacts at the intersections in the study area. The following roadway widenings are suggested:

- Ramsey Boulevard—widen to five lane cross section south of Industry Avenue to provide two through lanes in each direction and a left turn lane/center median. ***This item has been completed.***
- Bunker Lake Boulevard (formerly Industry Avenue)—widen to five lane cross section west of Ramsey Boulevard to provide two through lanes in each direction and a left turn lane/center median. ***This item has been partially completed. Bunker Lake Boulevard has been upgraded between Dysprosium Street and Sunfish Lake Boulevard. In addition, the intersections at Ramsey Boulevard (CSAH 56) and Armstrong Boulevard (CSAH 83) have been upgraded. There are two (2) remaining sections to be upgraded, and said Improvement Project is included in the City's five (5) year Capital Improvement Program. This Section of Industry Avenue is now called Bunker Lake Boulevard and is being funded through the existing TIF 14 funds.***

Turn lanes and lane adjustments would be needed at the following intersections:

- TH 10 at Armstrong Boulevard—add an eastbound and a westbound through lane on the intersection approaches; add an eastbound and a southbound left turn lane and a southbound right turn lane. ***The City will continue to work with MnDOT and Anoka County on this item,***

including improvement discussed for the Armstrong Interchange. It is the City's understanding that the Metropolitan Council does not support a third lane on Highway 10.

- TH 10 at Ramsey Boulevard—add an eastbound and a westbound through lane on the intersection approaches; add an eastbound and a southbound left turn lane and a westbound right turn lane. A southbound through lane and a northbound left turn lane and northbound through/right lane would need to be added to serve the Rivenwick 3rd Subdivision traffic independent of the project traffic. ***The City will continue to work with MnDOT and Anoka County on this item. It is the City's understanding that the Metropolitan Council does not support a third lane on Highway 10.***
- TH 10 at Sunfish Lake Boulevard—add an eastbound and a westbound through lane on the intersection approaches; convert the southbound approach from a through/left turn lane and a right turn lane to through/right turn lane and two left turn lanes (this adds one lane to the approach). ***The City will continue to work with MnDOT and Anoka County on this item. It is the City's understanding that the Metropolitan Council does not support a third lane on Highway 10.***
- Bunker Lake Boulevard (formerly Industry Avenue) at Ramsey Boulevard—add a southbound right turn lane; eastbound and northbound approaches would be widened by the above recommendations. ***This item has been completed.***
- Sunwood Drive at Bunker Lake Boulevard (formerly Industry Avenue)—modify the shared lanes on the northbound, eastbound and westbound approaches to provide left turn lanes and shared through/right turn lanes ***The City will continue to work on this item.***

The following stop-controlled intersections would need to be signalized:

- Ramsey Boulevard at Bunker Lake Boulevard (formerly Industry Avenue). ***This item has been completed (Ramsey Boulevard at Bunker Lake Boulevard).***
- Armstrong Boulevard at Bunker Lake Boulevard (formerly Industry Avenue). ***This item has been completed (Armstrong at Bunker Lake Boulevard).***
- Bunker Lake Boulevard (formerly Industry Avenue) at Sunfish Lake Boulevard ***This item has been completed.***
- Ramsey Boulevard at Sunwood Drive ***This item has been completed.***
- Sunwood Drive at Bunker Lake Boulevard (Industry Avenue). ***The City will continue to work on this item. It has been included in the City's capital improvement program (CIP).***
- Sunwood Drive at Armstrong Boulevard. ***This item has been completed, subject to final signal installation.***
- NS3 Street at Bunker Lake Boulevard (formerly Industry Avenue). ***NS3 Street is proposed to be changed to Center Street and this portion of Industry Avenue has been renamed Bunker Lake Boulevard. The City will continue to work on this item.***

The left turn volumes from the EW1 parkway (proposed to be renamed Ramsey Parkway) onto both Armstrong and Ramsey Boulevard cannot be accommodated at an acceptable LOS under stop control and require signalization to achieve acceptable operations. However, the close spacing between the intersections of the EW1 parkway and the intersections of Armstrong and Ramsey Boulevard with Industry Avenue limits the potential for the two parkway intersections to be signalized. Accordingly the parkway intersections should be channelized to provide right-in/right-out and left-in access (¾ access). Left out from the parkway would be prohibited and would redistribute to the north-south streets and to Industry Avenue (these volumes have been included in the mitigated calculations for the other intersections). ***The City completed the Preliminary Engineering Report for Sunwood Drive (December 6, 2011) for realignment of the western portion of Sunwood Drive. The revisioning of The COR and the creation of Development Plan 5.03 (adopted as part of the Comprehensive Plan 2011 Major Update) resulted in some of the residential***

land in the western portion of the project area being converted to commercial/retail in order to provide a better balance of land uses and respond to the current marketplace. Other changes were made in the undeveloped areas, including the creation of Lake Ramsey in the greenway Corridor. This study showed that traffic would increase under this revised scenario by 12.8%. The increased traffic can be accommodated by the improvements previously completed and the improvements planned in the 2011 feasibility study. This work was coordinated with the Armstrong Boulevard and Relocated Sunwood Drive Intersection Improvements Feasibility Report (December 2, 2011). These improvements have been completed. The project combined the Sunwood and EW1 Parkway intersections with Armstrong Boulevard into one fully signalized intersection.

Item 22 Mitigation Element. There are no specific air quality mitigation measures proposed for the Ramsey Town Center Development, because implementation of the project does not result in violation of State or National Air Quality Standards. Carbon monoxide concentrations were modeled along the Highway 10 corridor assuming no road improvements in the project vicinity. The road improvements discussed in Section 21 would help to reduce carbon monoxide emissions, although they are not required as a result of the air quality analysis. **No change.**

Item 23 not required in AUAR. No change.

Item 24 Mitigation Element. Noise wall mitigation would not be practical along Industry Avenue. Driveways and street intersections would create gaps in the wall, defeating its purpose. It is suggested that the proposed residential units in Blocks 28, 36, 37, and 38 be designed to minimize noise impacts. The noise around the homes and surrounding areas can be reduced by providing climate-controlled units, increasing wall insulation, and providing common areas on the side of the buildings furthest from Industry Avenue. **The City will continue to work to implement this measure along Bunker Lake Boulevard (formerly Industry Avenue).**

Item 25 Mitigation Element. Unidentified Resources. Various circumstances may lead to the discovery of unidentified historic or archeological resources within the project boundaries. When any such new discovery is brought to the attention of the developer or the City, an evaluation of the significance will be conducted and appropriate management measures will be devised in consultation with SHPO. **This measure will continue to apply.**

Although the COR site is not within the geographic area covered by MNRRA, every effort will be made by COR LLC to work with Anoka County Parks, Ramsey Parks and the National Park Service to comply with the policies of these agencies and to minimize or avoid any adverse impacts from development of the COR site. **This measure will continue to apply.**

Item 26 Mitigation Element. Light emissions from commercial and residential areas cannot be avoided because of safety issues and the need for residences and businesses to see clearly at night. City Ordinance 9.11.07 describes any lighting used to illuminate an off-street parking area, sign, or other structure, must be arranged so that the light is deflected away from residential districts and public streets. Bulbs emitting in excess of 3,000 lumens (150 watts) must be arranged so that the light is not visible outside of the property where the light is located. There are several methodologies of acceptable screening methods for these nuisances that can also be used for transitioning from high- to low-density residential or from residential to commercial areas. Screening methods typically include a vegetative barrier no less than five feet high or other natural materials. Applying shields to street and parking lot lamps directs the light to the ground surface where it's wanted, not into the adjacent neighborhood. All of these practices should

minimize the impact of the light at the River, but will not eliminate it. ***The City will continue to enforce the adopted lighting ordinance.***

The visual impacts of construction on a scale that will occur at COR over several years will be difficult to mitigate, but several measures to minimize the impact will be followed. The most offensive visual characteristics of construction, and possible mitigating actions are:

- Soil erosion leading to sediment movement off-site - Item 16 spelled-out a mitigation element to control on-site erosion and off-site sedimentation.
- Access streets and roads covered with dirt and gravel/rocks - The erosion and sediment control program will include egress gravel wash pads and will contain a daily sweeping plan for roads affected by construction traffic.
- Swirling dust caused by earth-moving activity on dry soil - A water truck will be available on site to spray areas experiencing dust movement. This will be especially critical on the sandy soils prevalent on site.
- Construction equipment and temporary trailers - Every effort will be made to screen immobile equipment and to park mobile equipment in a visually sheltered location at the end of the working day.

Exposed soil - One of the essential elements in the erosion and sediment control plan will be rapid stabilization, covering and re-vegetation of exposed soils. Although some exposed soil will be impossible to avoid, every attempt will be made to minimize exposure. ***This measure has been followed and will continue to apply.***

Item 27 Mitigation Element. At this time, the Ramsey 2001 Comprehensive Plan, as amended in 2002, fully addresses the development of the COR site and adequately relates this development to the various other agency plans with which it must comply. However, any change in the project that would lead to deviation in one or more of the plans must be corrected by a plan amendment. ***This measure has been followed and will continue to apply. The City adopted the 2030 Comprehensive Plan update in 2010. The City has approved a Comprehensive Plan Amendment in 2012, which and approved by the Metropolitan Council. The City has also adopted a Zoning Ordinance Amendment and COR Design Framework (February 28, 2012, amended November 27, 2012) to implement the 2030 Comprehensive Plan Amendment (including the 2012 amendment) and the revised development plan for the AUAR area ("The COR").***

Item 28 Mitigation Element. The major physical infrastructure elements of roads and streets, sanitary sewer, municipal water and storm sewer have all previously been addressed within this AUAR. An evaluation of the social services needed for the COR development indicates that the planning done for the City has accounted for the growth related to the COR. Police, fire, public works, schools, and related City and postal services will all be impacted by the development. Additional equipment to perform City public works services will be needed. No additional mitigation is needed to meet the expected growth. ***No Change.***

Item 29 not required in AUAR

Item 30 Mitigation Element. No need for mitigation anticipated from the two items identified, but if the need arises during the AUAR review, necessary mitigation will be included here. ***No Change.***

6. AUAR Update Review

Pursuant to Minnesota Rules 4410.3610, Subp. 7, this AUAR update was submitted for public comment. Following the 10-day comment period, the City Council will consider adoption of this document. The COR (formerly Ramsey Town Center) AUAR will remain valid for an additional five years beyond the adoption date.

Appendix A – Figures

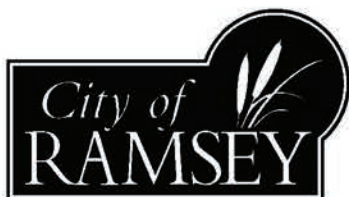
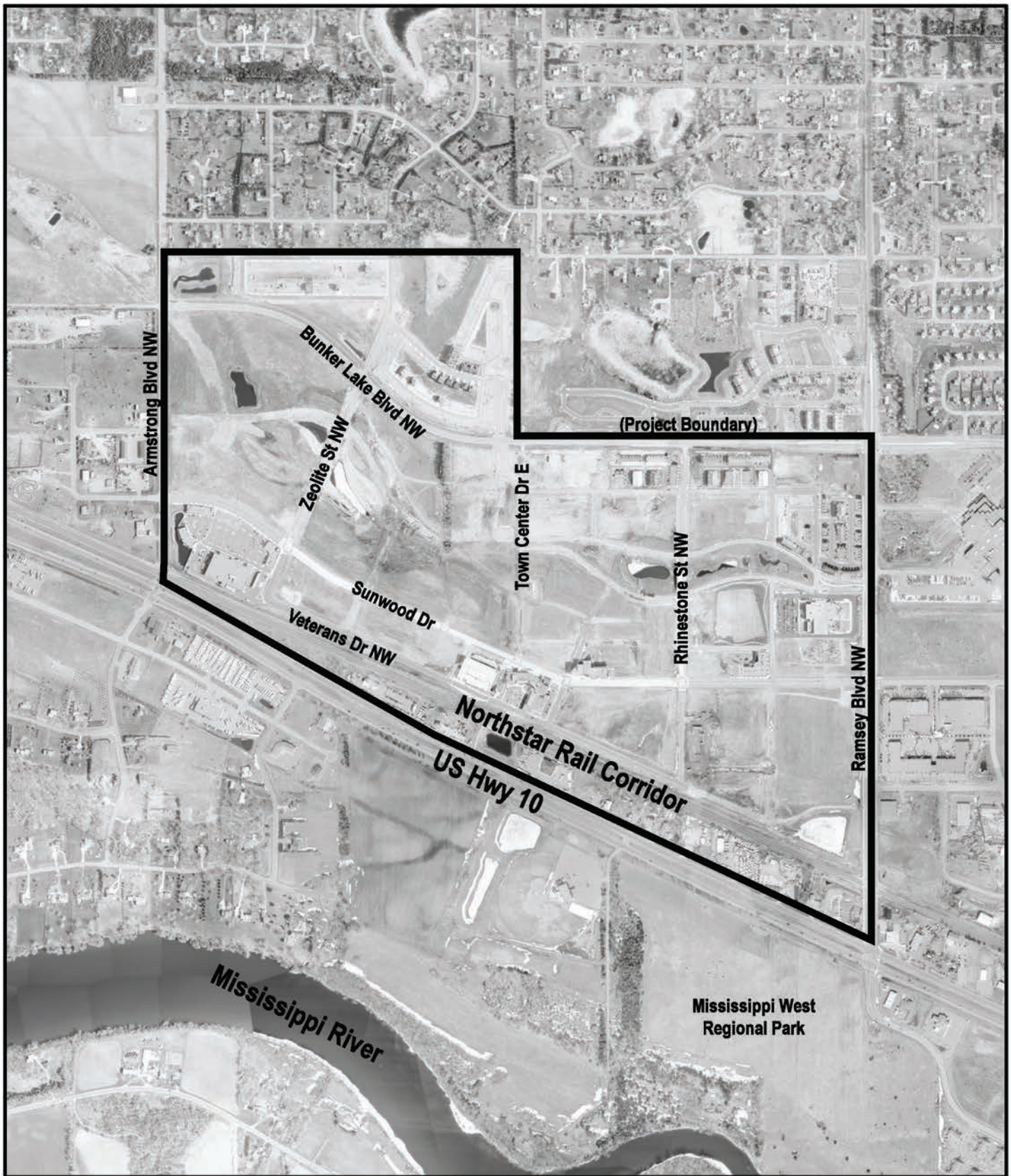
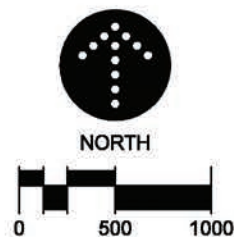


Figure 1
Project Location Map

3.29.13



105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

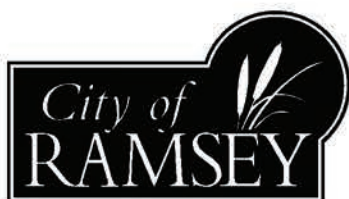
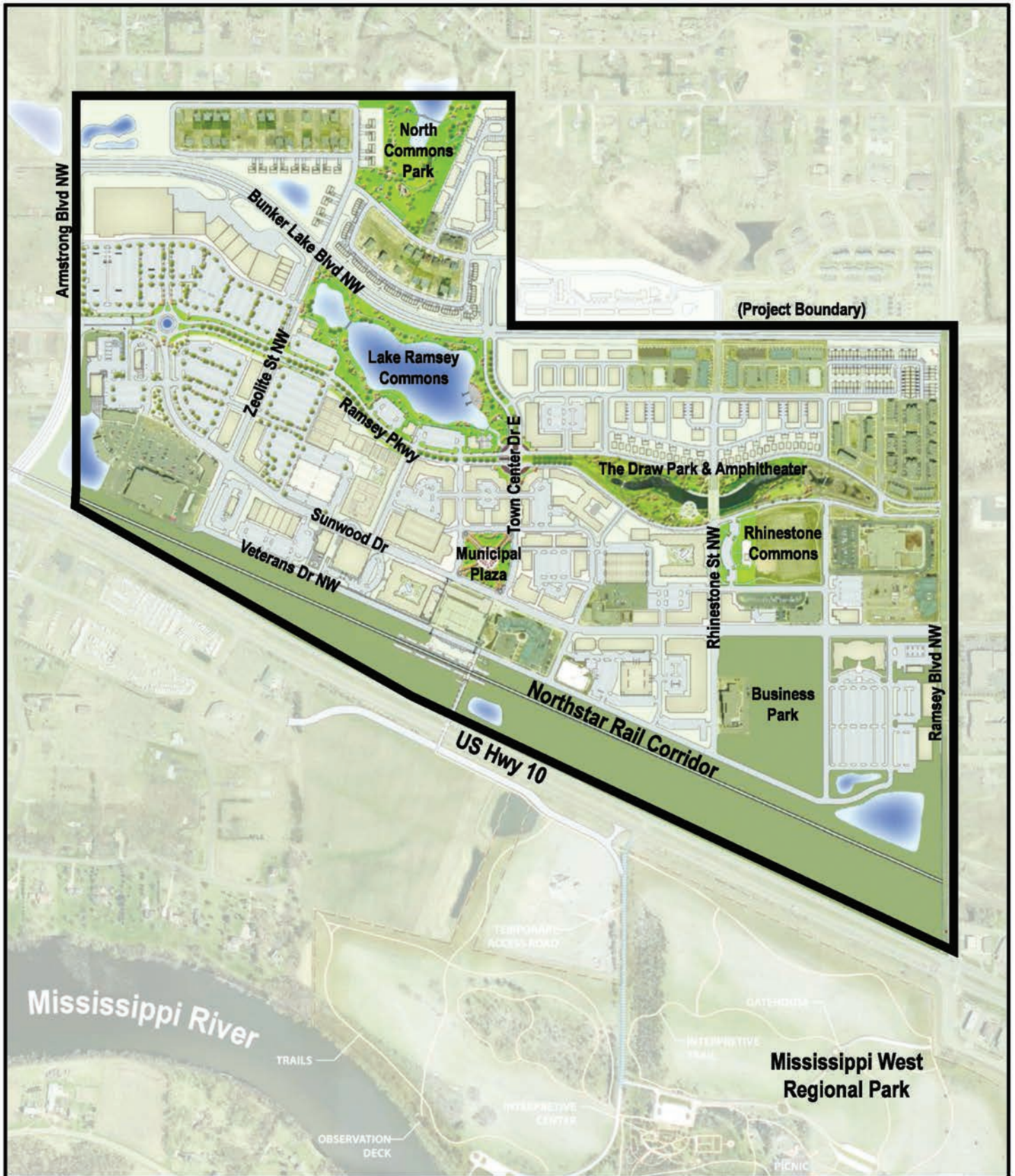
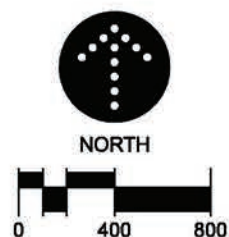


Figure 2
Development Plan 6.0
 3.29.13



LANDFORM
 From Site to Finish
 105 South Fifth Avenue
 Suite 513
 Minneapolis, MN 55401
 Tel: 612-252-9070
 Fax: 612-252-9077
 Web: landform.net

Appendix B -

DNR Natural Heritage Database Review



Minnesota Department of Natural Resources

Division of Ecological and Water Resources, Box 25

500 Lafayette Road

St. Paul, Minnesota 55155-4025

Phone: (651) 259-5109 E-mail: lisa.joyal@state.mn.us

June 29, 2012

Correspondence # ERDB 20120400

Ms. Kendra Lindahl
Landform
105 S 5th Ave
Minneapolis, MN 55401

RE: Natural Heritage Review of the proposed The COR AUAR Update;
T32N R25W Section 18; Anoka County

Dear Ms. Lindahl,

As requested, the Minnesota Natural Heritage Information System (NHIS) has been queried to determine if any rare species or other significant natural features are known to occur within an approximate one-mile radius of the proposed project. Based on this query, the following **rare species may be adversely affected** by the proposed project:

- Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been reported from the vicinity of the proposed project and may be encountered on site. If Blanding's turtles are found on the site, please remember that state law and rules prohibit the destruction of threatened or endangered species, except under certain prescribed conditions. If turtles are in imminent danger they should be moved by hand out of harm's way, otherwise they should be left undisturbed.

For your information, I have attached a Blanding's turtle fact sheet that describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. **Please refer to the first list of recommendations for your project.** If greater protection for turtles is desired, the second list of additional recommendations can also be implemented. In addition, if erosion control blankets will be used, we recommend that they be limited to 'bio-netting' or 'natural-netting' types as the plastic mesh netting can be dangerous to reptiles (please see enclosed fact sheet). The attached flyer should be given to all contractors working in the area.

The Natural Heritage Information System, a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location (noted above) and project description provided on the NHIS Data Request Form. Please contact me if project details change or if an updated review is needed.

Please note that locations of the gray wolf (*Canis lupus*), federally-listed as threatened and state-listed as special concern, and the Canada lynx (*Lynx canadensis*), federally-listed as threatened, are not currently tracked in the NHIS. As such, the Natural Heritage Review does not address these species.

Furthermore, the Natural Heritage Review does not constitute review or approval by the Department of

Natural Resources as a whole. Instead, it identifies issues regarding known occurrences of rare features and potential effects to these rare features. Additional rare features for which we have no data may be present in the project area, or there may be other natural resource concerns associated with the proposed project. For these concerns, please contact your DNR Regional Environmental Assessment Ecologist (contact information available at http://www.dnr.state.mn.us/eco/ereview/erp_regioncontacts.html). Please be aware that additional site assessments or review may be required.

Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources. An invoice will be mailed to you under separate cover.

Sincerely,

A handwritten signature in black ink that reads "Lisa Joyal". The script is cursive and fluid.

Lisa Joyal
Natural Heritage Review Coordinator

enc. Blanding's Turtle Fact Sheet and Flyer
 Erosion Control and Mesh Netting



Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle
(Emydoidea blandingii)

Minnesota Status: Threatened
Federal Status: none

State Rank¹: S2
Global Rank¹: G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding's turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, raccoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	List 2. Additional recommendations for areas known to be of state-wide importance to Blanding's turtles.
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is <u>critical</u> that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid-afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1 st and before June 1 st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is **very important** that the fencing be **removed before August 1st** so the young turtles can escape from the nest when they hatch!

REFERENCES

- ¹Association for Biodiversity Information. "Heritage Status: Global, National, and Subnational Conservation Status Ranks." NatureServe. Version 1.3 (9 April 2001). <http://www.natureserve.org/ranking.htm> (15 April 2001).
- Coffin, B., and L. Pfannmuller. 1988. Minnesota's Endangered Flora and Fauna. University of Minnesota Press, Minneapolis, 473 pp.

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- Moriarty, J. J., and M. Linck. 1994. Suggested guidelines for projects occurring in Blanding's turtle habitat. Unpublished report to the Minnesota DNR. 8 pp.
- Oldfield, B., and J. J. Moriarty. 1994. Amphibians and Reptiles Native to Minnesota. University of Minnesota Press, Minneapolis, 237 pp.
- Sajwaj, T. D., and J. W. Lang. 2000. Thermal ecology of Blanding's turtle in central Minnesota. *Chelonian Conservation and Biology* 3(4):626-636.

CAUTION



BLANDING'S TURTLES

MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are state-listed as Threatened and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-259-5764).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

**BLANDING'S TURTLES DO NOT MAKE GOOD PETS
IT IS ILLEGAL TO KEEP THIS THREATENED SPECIES IN CAPTIVITY**

SUMMARY OF RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS TO BLANDING'S TURTLE POPULATIONS

(see Blanding's Turtle Fact Sheet for full recommendations)

- This flyer should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.
- Turtles that are in imminent danger should be moved, by hand, out of harms way. Turtles that are not in imminent danger should be left undisturbed to continue their travel among wetlands and/or nest sites.
- If a Blanding's turtle nests in your yard, do not disturb the nest and do not allow pets near the nest.
- Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.
- Small, vegetated temporary wetlands should not be dredged, deepened, or filled.
- All wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.
- Roads should be kept to minimum standards on widths and lanes.
- Roads should be ditched, not curbed or below grade. If curbs must be used, 4" high curbs at a 3:1 slope are preferred.
- Culverts under roads crossing wetland areas, between wetland areas, or between wetland and nesting areas should be at least 36 in. diameter and flat-bottomed or elliptical.
- Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.
- Utility access and maintenance roads should be kept to a minimum.
- Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.
- Terrain should be left with as much natural contour as possible.
- Graded areas should be revegetated with native grasses and forbs.
- Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).

Looming Issue with Plastic Mesh/Netting in Erosion Control Products

Plastic mesh netting is a common material in erosion control products. It is utilized to hold loose fibrous materials in place (EG straw) until vegetation is established. These products have been used extensively and are successful for reducing soil erosion, benefitting both soil health and water quality. Unfortunately there is a negative side of this component: It is increasingly being documented that it poses dangers to reptiles, amphibians, and mowing machinery.

Potential Problems:

- Plastic netting lays on the surface long after other components have decomposed.
- Plastic mesh netting can result in entanglement and death of a variety of reptiles (snakes, frogs, toads, and turtles). Ducklings have also been documented entangled in the netting.
- Road maintenance machinery can snag the plastic mesh and pull up long lengths into machinery, thus binding up machinery and causing damage and/or loss of time cleaning it out.

Suggested Alternatives:

- Do not use in known locations of reptiles or amphibians that are listed as Threatened or Endangered species.
- Limit use where reptiles are likely (near wetlands, lakes, watercourses, or rock outcrops).
- Use rapidly degradable material in all components of erosion control blanket, netting or biologs (fiber rolls) that are to be left on site as part of final stabilization.
- Use types with smaller mesh size (smaller than 1/2") or use types with non-welded netting.



Areas near wetlands, lakes, watercourses or rock outcrops are likely habitat for reptiles and amphibians and may not be suitable for plastic mesh erosion control materials.



Snakes get caught in the plastic mesh

http://www.dnr.state.mn.us/waters/watermgmt_section/pwpermits/gp_2004_0001_manual.html

Best Practices for Meeting DNR GP 2004-0001 (May 2011 Edition)

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Appendix C –

Comments and Responses to the AUAR Update

Alternative Urban Areawide Review (AUAR)
Ramsey Town Center
City of Ramsey (RGU)

1. Project Title

Ramsey Town Center

2. Proposer

Ramsey Town Center, LLC
John Feges, President
4200 Central Ave., NE
Minneapolis, MN 55421

Prepared By:

Emmons and Olivier Resources, Inc. (Gary Oberts, AUAR Project Manager)
North American Wetland Engineering, P.A. (Curt Sparks, NAWA Manager)
Meyer, Mohaddes Associates, Inc. (Fred Dock, MMA Manager)

3. RGU (Responsible Governmental Unit)

RGU: City of Ramsey
Contact: Patrick Trudgeon, Principal Planner
15153 Nowthen Boulevard, NW
Ramsey, MN 55303
Direct phone: (763) 433-9843
E-mail: ptrudgeon@ci.ramsey.mn.us

4. Reason for EAW Preparation

This task is not applicable to an AUAR.

5. Project Location

This site is located in Section 28; Township 32N; Range 25W, entirely within Anoka County and the City of Ramsey.

EQB Guidance: A county map is not required. The USGS map should be included. Instead of a site plan map, include: 1) a map clearly depicting the boundaries of the AUAR and any sub-districts used in the AUAR analysis; 2) land use, and planning and zoning maps as required in conjunction with Items 9 and 27; and 3) a cover type map as required for Item 10. Additional maps may be included throughout the document wherever maps are useful for displaying relevant information.

The following series of project location and preliminary site feature maps are included. These maps provide the basis for later reference in subsequent Items.

- USGS map - Figure 5.1
- Site map depicting the boundaries used throughout the AUAR analysis - Figure 5.2 (City location) and Figure 5.3 (County location)
- City Land Use map – Figure 5.4 (also used in Items 9 and 27)
- City Zoning map - Figure 5.5
- Cover-type (Minnesota Land Cover Classification System - MLCCS) map – Figure 5.6 (also used in Item 10)

6. Description of Site

Instead of the information required on the EAW form, the description section of an AUAR should include the following elements for each major development scenario included:

6a. *Anticipated types and intensity (density) of residential and commercial/warehouse/light industrial development throughout the AUAR area;*

6b. *Infrastructure planned to serve development (roads, sewers, water, stormwater system, etc.). Roadways intended primarily to serve as adjoining land uses within an AUAR area are normally expected to be reviewed as part of an AUAR. More “arterial” types of roadways that would cross an AUAR area are an optional inclusion in the AUAR analysis; if they are included, a more intensive level of review, generally including an analysis of alternative routes, is necessary; and*

6c. *Information about the anticipated staging of various developments, to the extent known, and of the infrastructure, and how the infrastructure staging will influence the development schedule.*

***Optional 6d.** *Although the EQB guidance does not require an abstract to be included, one is contained in the AUAR for the purposes of any reference to nature of the document.*

6a. The preferred design concept drawing is presented in Figure 6.1. The progression of conceptual design to get to the preferred one is portrayed in Figure 6.2. This progression extends from the Metropolitan Council’s Smart Growth Illustrative Plan developed by Calthorpe Associates through the various iterations of the City and RTC LLC design team. The preferred design resulted from discussions with City staff, citizens, community leaders, regulatory agencies and nationally recognized urban designers, as well as site visits nationwide to similar communities that have shown success.

The preferred design reflected in Figure 6.1 is consistent with the City’s February 2002 *Comprehensive Plan*, as discussed in Item 27 later in this document.

The preferred design (Figure 6.1) contains the following land use breakdown:

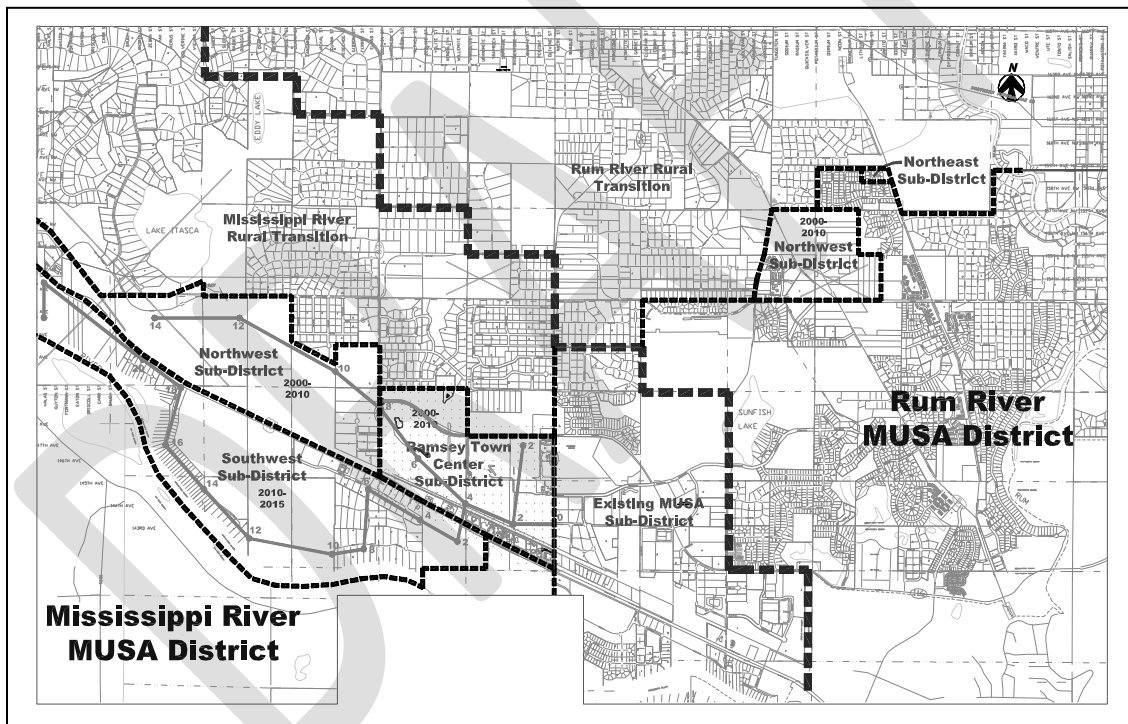
Residential:	93.64 acres
Mixed Use:	56.90
Business Enterprise:	28.43
Commercial Service/Convenience:	7.97
Commercial Shopping:	11.83
Retail:	7.84
Existing Highway Commercial:	25.04
Green/Public Space:	38.31
Railway:	15.74
Roads and streets:	83.82
Total Acreage:	369.5 acres

6b. The infrastructure planned to serve the development has been defined within the City of Ramsey 2001 *Comprehensive Plan*, as amended in February 2002. The infrastructure components for roads/highways, sanitary sewers, municipal water supply, and stormwater follow:

1. Roads and Highways Details of the transportation elements related to this project are contained within Item 21. Figure 6.3 illustrates the general road and highway system serving the RTC site. The complete traffic analysis is included as Appendix B.

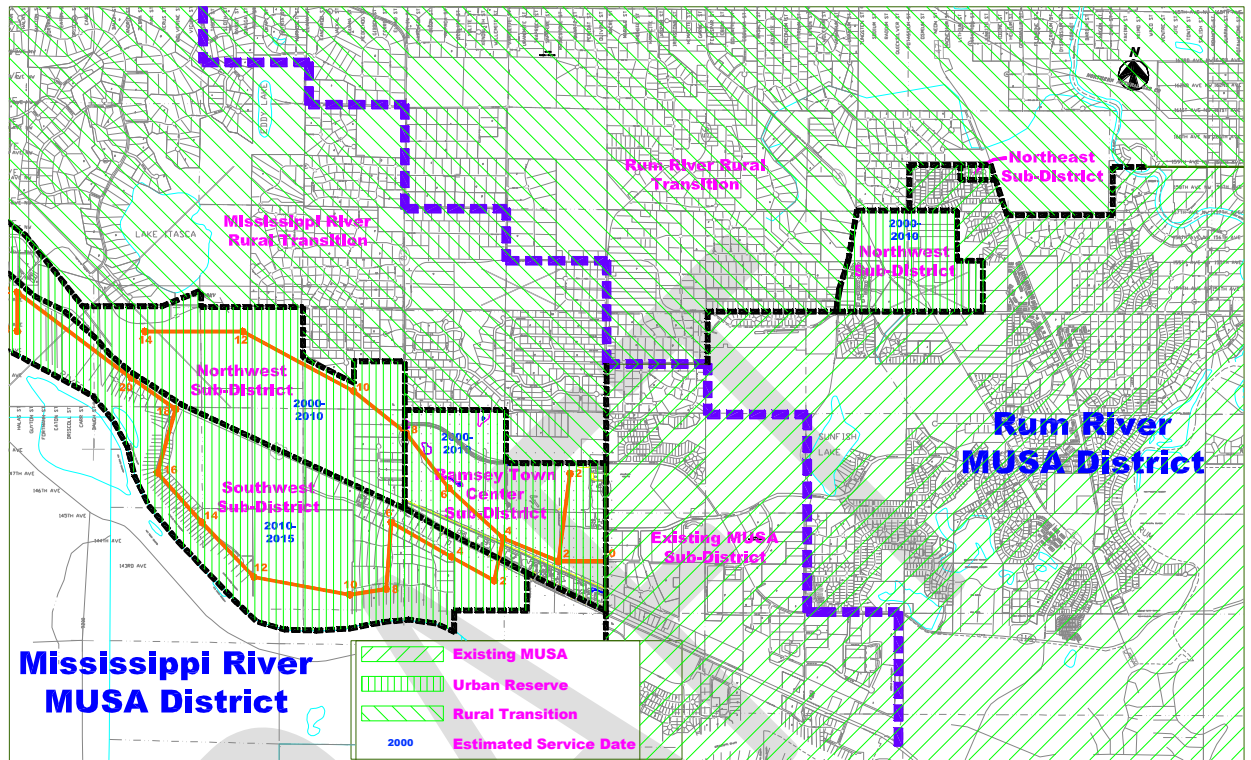
2. Sanitary Sewer Details of the sanitary sewer elements related to this project are contained within Item 18. Figure 6.4 displays both the staging and service areas for sanitary sewer service in Ramsey.

Figure 6.4. Sanitary Sewer Plan for City of Ramsey (see Item 18 for details).



3. Municipal Water Supply Details of the water supply elements related to this project are contained within Item 13. Figure 6.5 shows the water supply staging and plan for future service.

Figure 6.5. City of Ramsey Water Supply System and Plan for Staging.



4. *Stormwater* Details on the stormwater management elements related to this project are contained in Item 17. Figure 6.6 portrays the general stormwater management system that is envisioned for the RTC site and for the drainage that enters the site from the north and northwest. Installation of major water-carrying elements of this system will occur very early in the site development process to assure proper movement and treatment of runoff. The internal site drainage system will be tied into the major stormwater management system as the site develops and design specifics are determined. Item 17 describes the manner in which runoff volume will be mitigated through stormwater management BMPs.

6c. The preferred design in Figure 6.1 shows only a single development concept that will provide the framework for the RTC site. Staging of infrastructure for the various components is addressed as part of the specific infrastructure section as follows: roads and highways in Item 21; sanitary sewer in Item 18; water supply in Item 13; and stormwater in Item 17.

6d. Abstract for the Environmental Quality Board Monitor:

The potential environmental impacts of converting agricultural land to the Ramsey Town Center are assessed in an Alternative Urban Areawide Review (AUAR). Impacts on site drainage, traffic, connection to local and regional trails, groundwater protection and protected wetlands are the centerpieces of the evaluation. A mitigation plan has been developed that lays out the actions that the City of Ramsey will follow to assure minimum environmental impact as the project proceeds in stages, from initiation of construction in 2003, through completion in approximately 2007.

Summary of Environmental Impact. The change in appearance that results from changing over 300 acres of land use from predominantly agricultural to an urban center will be dramatic. The challenge to the City of Ramsey is to implement this change without equally dramatic impacts on the environment. This AUAR lays out a plan by the City to identify and mitigate, to the extent possible, the potential detrimental impacts.

Each of the Items within the AUAR that have an associated potential for impact will include a section summarizing the impact, followed by a mitigation element that addresses how that impact will be mitigated. Obviously, developing over 300 acres of land will have some impact both during and after construction. The goal of the City is to do everything possible to minimize that impact and incorporate amenities that improve the current situation, such as standing water ponds, improved wetlands, open space and parks, trail connections and a nice place for citizens to live, work, shop and recreate.

7. Project Magnitude Data

The cumulative totals of the parameters below should be given for each major development scenario, except that information on “manufacturing”, “other industrial”, “institutional” and “agricultural”.

- Total project acreage: 369.5
- Number of residential units (Table 7.1): 2,400 attached
- Commercial, industrial or institutional area (gross floor space): 1,651,000 total square feet
- Indicate areas of specific uses (in square feet) (Table 7.2):

Table 7.1 Residential Units by Type

Residential Type	Units
Mixed-Use Residential	1012
Apartment	Rural
Duplex	18
Duplex (2 story)	44
Townhouse (2 story)	704
Townhouse (3 story)	120
Townhouse (4 story)	330

Table 7.2 Square Footage by Use Type

Specific Use	Square Footage
Cinema	50,000
City Hall / Police / Transit	50,000
Community Center	25,000
Convenience Retail	20,000
Fitness	40,000
Gas Station, convenience	62,000
Grocery	60,000
Hotel	38,000
Ice Rink	38,000
Live / Work	32,000
Mixed-Use Retail / Office / Clinic	126,000
Mixed- Use Retail / Restaurant	161,000
Office	439,000
Retail	261,000
School	55,000
Variety Store	194,000

8. Permits and Approvals Required

A listing of major approvals and public financial assistance and infrastructure likely to be required by the anticipated types of development projects should be given. This list will help orient reviewers to the framework that will protect environmental resources. The list can also serve as a starting point for the development of the implementation aspects of the mitigation plan to be developed as part of the AUAR.

A project the magnitude of the Ramsey Town Center will require many local, regional, state and federal environmental permits and approvals. This section identifies the many permits and approvals that form the basis for implementation of the mitigation plan (Item 33). Table 8.1 lists the permits and approvals that will be needed for this project. The reader should note that the need for compatibility with plans is addressed in Item 27, and that brief descriptions of the permit requirements for some permits are listed after the table.

The cost of most infrastructure improvements will be borne by the developer. The County may improve the County road system as part of routine upgrades that accompany traffic increases with development. There is a possibility the City will pay for some infrastructure improvements, expansions or upgrades, and service enhancements that it deems appropriate to provide an acceptable quality of service. A level of commitment has not been determined at this time.

Table 8.1. Permits and Approvals

Unit of Government	Type of Permit	Status
City of Ramsey	Site plan	Pre-permit review under way
	Grading and erosion control (1)	NAF*
	Preliminary and final plat approval	NAF
	Obstruction Permit (2)	
	Excavation Permit (3)	
	Sewer and water connection	NAF
	Building and occupancy permits	NAF
	Tree preservation	NAF
Anoka County	Access via County Highway, consistency with County standards	Pre-permit review under way
Metropolitan Council	Sanitary sewer connection	NAF
Lower Rum River WMO	Grading and erosion control	NAF
	Storm sewer	NAF
	Wetland alteration (WCA)	Pre-permit review under way

Minnesota Pollution Control Agency	Sanitary sewer connection and wastewater routing	NAF
	NPDES Phase II construction and MS4 (4)	MS4 Permit application submitted 3/10/03; construction permits submitted as needed
Minnesota Dept. of Transportation	State Highway Access and consistency with standards	Pre-permit review under way
Minnesota Dept. of Natural Resources	Water appropriation for municipal system and construction de-watering	NAF
	Work in the bed of a public water (5)	NAF
Minnesota Dept. of Health	Water system infrastructure (wells, water mains, storage)	NAF
State Historic Preservation Office	Historic and archeological site preservation	No significant sites found
Burlington Northern Santa Fe Railroad	Access Permit (6)	
U.S. Army Corps of Engineers	Section 404 Clean Water Act	Determined not to be "waters of the United States" (see Appendix E)

*NAF = Permit not yet applied for

(1) Grading, mining and filling permits are required to control operations to minimize conflicts with adjacent land uses, to preserve good soils and to regulate the type of materials used for fill, to employ all reasonable means to reduce dust, noise, and nuisances, and to ensure that disturbed areas are restored upon completion of the operation. The following standards need to be applied during construction activities to fulfill the requirements of the permits.

- General Provisions. All equipment used for operations shall be maintained and operated to minimize, as far as is practicable, noises, dust, and vibrations adversely affecting surrounding properties. The maximum noise level at the perimeter of the work site shall not exceed the levels outlined in Table 8.2. There shall be no emission of any solid or liquid particles in concentrations exceeding 0.3 grains per cubic foot of the conveying gas or air. No operations shall be allowed when wind gusts exceed thirty miles per hour. Existing tree and ground cover shall be preserved to the extent feasible.

Table 8.2 Sound levels measured at property line

Octaves, Band Cycles/Sec.		Residential Districts	Non-Residential Districts
37.5	75	58	73
76	150	54	69
151	300	50	65
301	600	46	61
601	1200	40	55
1201	2400	33	48
2401	4800	26	41
Over	4800	20	35

- **Water Resources.** The operation will minimize impacts to surface water drainage outside of the Town Center. Excavation occurring below groundwater elevation may require an analysis performed by a hydrologist or other qualified professional.
- **Safety Fencing.** Safety fencing may be required around all or portions of the operation at the discretion of the Council.
- **Access Roads.** The location of the intersection of access roads with any public roads shall be selected such that traffic on the access roads will have sufficient distance of public roads in view so that any turns onto the public road can be completed with a margin of safety as determined by the City Engineer.
- **Fill Materials.** An analysis of all fill materials must be provided to and approved by the City Engineer prior to commencing any filling activities.
- **Screening Barrier.** To minimize problems of dust and noise and to shield operations from public view, a screening barrier may be required between the work site and adjacent properties.
- **Slopes.** The maximum permitted slope for any operation other than the working face shall be sloped on all sides at a maximum ratio of two (2) foot horizontal to one (1) foot vertical, unless a steeper slope shall be approved by the Engineer. Where excavations are adjacent to a public roadway or other right-of-way, the excavation shall have a maximum four to one slope. Slopes adjacent to or contiguous to bodies of water shall be sloped at a maximum of six to one (6:1).
- **Earth Material.** No earth material shall be imported to or exported from the work site until the haul road has been officially designated as a haul road by the City and all materials hauled from the source shall be hauled over that road. The haul

road designation process shall be pursuant to §2051.3 of the Minnesota Department of Transportation's Standard Specifications for Construction, 1983 Edition. All top soil shall be retained at the work site until complete rehabilitation of the work site has taken place according to the rehabilitation plan.

(2) An obstruction permit is required to allow free and open passage over the specified portion of right-of-way by placing equipment, vehicles, or other obstructions described therein on the right-of-way for the duration specified therein.

(3) An Excavation Permit is required to allow the holder to excavate that part of the right-of-way described in such permit and/or to hinder free and open passage over the specified portion of the right-of-way by placing equipment described therein, to the extent and for the duration specified therein.

(4) The City of Ramsey is required by MPCA to be under the NPDES Phase II Nonpoint Source Control Program for Municipal Separate Storm Sewer Systems (MS4s). Under this program, the City will need to adopt a "Storm Water Pollution Prevention Program (SWPPP)". The City submitted an application on March 10, 2003, and will have until May 9, 2003 to have the application authorized by the City Council. Pollution prevention includes solid waste, hazardous materials, and vehicle washing. The SWPP must include or address the following:

- Six ~~minimum~~ control measures"
 - 1) Public education and outreach on storm water impacts (including at least one public meeting per year)
 - 2) Public participation/involvement
 - 3) Illicit discharge detection and elimination - includes storm sewer map with water bodies and structural pollution control devices, outfalls, discharges to groundwater, and prohibitive ordinances
 - 4) Construction site storm water runoff control - need erosion and sediment control, and onsite waste control
 - 5) Post-construction storm water management in new development
 - 6) Pollution prevention/good housekeeping for municipal operations - training of operation and maintenance staff, annual and 20% inspections
- BMPs for each of the above minimum control measures will need to be described and the following will need to be identified:
 - measurable goals for each BMP
 - timeline for implementation
 - responsible party for implementation and coordination
- Analysis of Total Maximum Daily Load (TMDL) if discharge applies to an adopted TMDL plan. Of note here is that the latest (January 22, 2003) MPCA ~~"impaired waters"~~ (303d) list includes the Mississippi River reach from the Crow River to the Rum River as impaired for fecal coliform, PCB FCA (fish consumption advisory) and Hg FCA, with official TMDL study scheduled, respectively, for 2004-2006, 2002-2015 (regional EPA), and 2002-2015 (regional EPA). All discharges from the RTC site will be treated extensively prior to

ultimate discharge to this reach of the Mississippi River (see Item 17 discussion). The discharge is not expected to impact the existing impairment.

- Design and management strategies to minimize the discharge of pollutants from the MS4 to the Maximum Extent Practicable (MEP) with an annual report on implementation.

The SWPP must be completed at least 30 days prior to commencing construction and prior to applying for construction permits. Elements 4, 5 and 6 are directly applicable to the stormwater management approach adopted for the RTC site as it develops. The stormwater management approach is spelled-out in Item 17.

In addition to the complying with the City's MS4 requirements, essentially any construction activity that is part of this "common plan of development" must apply for a construction permit under the NPDES Phase II Construction Permit process.

Elements of this program are intended to avoid erosion and construction site pollution. To prevent this, construction at the RTC site should:

- Establish fast growing cover crops as soon as possible to disturbed soils to prevent both water and wind erosion. The sand content of the soils on site could lead to wind blown sands could be potentially hazardous, particularly to traffic on Highway 10.
- Install temporary sediment basins for any areas of disturbance, installed before discharge leaves the site or enters a surface water body.
- Install a permanent stormwater management system that assure stormwater is "discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or harmful inundation in wetlands." Maintain peak flow rates from two, twenty, and one hundred year twenty four hour events at existing conditions.
- During construction, the maximum area of disturbance shall not exceed the ability to keep up with exposed area limits on slopes. All areas with greater than 3:1 slopes must have vegetative cover by November first. Site inspections will be once every seven days during construction and within 24 hours after a quarter inch event in 24 hours. At that time, any non-functioning BMPs must be repaired.
- If stormwater discharge to a wetland has potential for significant adverse impacts to the wetland, the impacts should be addressed with BMPs and permit provisions. Appropriate rules (7050.0186) and any applicable regulations must be followed.

All of these elements would be part of the erosion and sediment control plan listed in the mitigation element under Item 16 of the AUAR.

The Mississippi River as it passes through Ramsey is an Outstanding Resource Value Water (ORVW). Prior to stormwater discharge to an ORVW, the MPCA must find that there are no prudent or feasible alternatives to the new or expanded discharge. For ORVWs the following BMPs are also required.

- Any exposed 3:1 slope must have temporary erosion control cover within three days
- For every 5 acres or more disturbed, a temporary sediment basins will be required
- An undisturbed buffer zone of 100 feet will surround the ORVW
- WQ volume treated shall be 1” from new impervious surfaces

Item 17 of the AUAR addresses the actions that will be taken to treat runoff from the site before it reaches the Mississippi River.

(5) DNR also regulates discharges to Waters of the State, as defined in M.S. Chapter 103G.005. Although a defined drainage path to the Mississippi River from the Ramsey Town Center does not exist at present, Items 12 and 17 lay out a recommended flow path for the City, Lower Rum River Watershed Management Organization and DNR to consider. This flow path ultimately results in a discharge of water to the Mississippi River, and will fall under the permitting provisions of the DNR. It also establishes the ordinary high water levels (OHWL) for lakes, and would be issuing a determined level if an outlet is installed on Lake Itasca or any of the public waters wetlands.

(6) An access agreement is required to enter BNSF property. Permits can be applied for through the Staubach Group by contacting Shane Krueger (817) 230-2625. Additionally, for safety purposes, the BNSF road and train masters should be contacted prior to the commencement of construction in the vicinity of the railroad tracks. The road master is Ron Raatike who can be contacted at (320) 267-1831 and the train master is Tom Rowley who can be contacted at (612) 865-6531.

9. Land Use

Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.

The City of Ramsey 2001 *Comprehensive Plan*, as amended in 2002, contains land use maps for both existing (fall 1997) and future (2020) conditions for the site and adjacent lands. Figure 9.1 shows the existing condition, while Figure 5.4 in Item 5 illustrates the 2020 expectation. Metropolitan Council 2000 Land Use was used to portray existing land use. The information that follows characterizes the individual land uses on the Ramsey Town Center site under current conditions and future conditions based on the City of Ramsey *Plan*. Details of compatibility with the City's *Plan* occur in Item 27.

Current Land Use (2000 Met Council Land use)

Commercial:	5.3 acres
Industrial	13.4
Railway	12.4
Major Vehicular Roadways	1.4
Mixed Use	1.9
Single Family Residential:	6.0
Farmstead:	2.8
Undeveloped	19.2
Agricultural:	307.1
Total	369.5 acres

Future (2020) Land Use, from Ramsey Comprehensive Plan, as amended in 2002

Low Density Residential	23.4 acres
Medium Density Residential	10.2
Mixed Use	205.1
Places to Shop	24.4
Places to Work	44.3
Railway	15.7
Roadway	30.7
Wetlands	15.7
Total	369.5

AUAR guidelines also call for an assessment of compatibility of the project with adjacent and nearby land uses, including potential impact on environmental resources. Figures 9.1 and 5.4 clearly illustrate the land uses surrounding the project site now and in 2020.

Following are the narrative summaries:

Adjacent Current Land Use:

North: single-family residential, 149th Lane NW (CR 116), vacant land
East: Ramsey Blvd. NW, Connexus Energy, commercial and industrial properties
South: BNSF Railroad tracks, commercial properties, Hwy. 10, Mississippi Regional Park south of Hwy. 10
West: Armstrong Blvd. NW, commercial and industrial properties, single-family residential properties

Adjacent 2020 City of Ramsey Land Use:

North: 149th Lane NW (CR 116), rural residential
East: Ramsey Blvd. NW, Connexus Energy, commercial and industrial
South: BNSF tracks, commercial properties, Hwy. 10, commercial properties, low density residential, West Mississippi Regional Park, Mississippi River
West: Armstrong Blvd. NW, commercial and industrial properties, high, medium, and low density residential

Figure 9.2 identifies nearby environmental resources, as listed in the following descriptions:

Nearby Environmental Resources:

- Mississippi River (approximately 2000 ft. to the south) within the Mississippi National River and Recreation Area (MNRRA)
- Lake Itasca (approximately 1.25 miles to the east)
- Several wetlands within 0.25 miles of site
- Complex of wetlands along the drainage swale within the site boundary
- MCBS Mapped Floodplain Forest on island in Mississippi River
- Mississippi Regional Park south of the site, between the site and the Mississippi River

Soils contaminated with lead arsenate on the Southeast corner of the site are a potential hazard. Burlington Northern-Santa Fe Railroad (BNSF) has an agreement with the current landowner to remove the contaminated soils and is working with the MPCA to assure proper clean-up. BNSF should be contacted before earth-moving activities begin. An additional hazard may exist at an abandoned farmstead on the proposed Town Center. Improper handling and storage of hazardous materials at this site could pose a potential contamination hazard to soil and groundwater. Phase I investigations indicate the presence of the materials, but no soil or water samples have been collected or analyzed to date. Several abandoned vehicles at this location may pose an additional contamination hazard. More detailed descriptions and mitigation is discussed in Task 20.

Summary of Environmental Impact. The conversion of the RTC site from agricultural to urbanized land is consistent with the future development plans of the City of Ramsey. This change has the potential to adversely impact the environment of the site and surrounding areas if proper mitigation measures are not followed according to this AUAR. Specific potential impacts are discussed by category in following sections of the AUAR.

Mitigation element. Assuring the compatibility of development within Ramsey as growth occurs is the primary goal of the comprehensive planning process. Item 27 contains discussion of plan compatibility for a number of other planning documents that cover land in and adjacent to the RTC site. Continued planning efforts will assure that non-compatible uses do not occur as the RTC site develops.

As stated above, BNSF is currently working to address a contamination problem in the southeast corner of the site. Prior to any earth-moving activity in this area, the developer must notify BNSF, MPCA and the City to make sure that clean-up has progressed such that additional problems will not be caused.

Many of the nearby environmental resources shown in Figure 9.2 can actually be enhanced by the development of the RTC site. There is an intent to link regional, County and City trails through the site, as well as establishing a drainage corridor that could potentially increase habitat and allow movement of wildlife between Lake Itasca and the Mississippi River. Every attempt will be made to incorporate habitat suitable for this to occur.

10. Cover Types

Instead of the EAW requirements, provide information on the following:

10a. *Cover type map, at least at the scale of a USGS topographic map, depicting:*

- *wetlands identified by Circular 30 type*
- *watercourses (rivers, streams, creeks, ditches)*
- *lakes (identify protected waters status and shoreland management classification)*
- *woodlands (breakdown by classes where possible)*
- *grasslands (identify native and old field)*
- *cropland*
- *current development*

10b. *An “overlay” map showing anticipated development in relation to the cover types; this map should also depict any “protection areas”, existing or proposed, that will preserve sensitive cover types. Separate maps for each major development scenario should generally be provided.*

Cover types based on the Minnesota Land Cover Classification System (MLCCS) are depicted in Figure 5.6 (Item 5). This MLCCS was completed to a Level 5 for the Highway 10 Corridor (Mn/DOT) and for the MNRRA Corridor (National Park Service). Figure 10.1 is the wetland delineation map prepared for this site (full report in Appendix A). Data for this map were collected by North American Wetland Engineering (NAWE) in October 2002, and reviewed by a WCA Technical Evaluation Panel (TEP) on February 4, 2003 (see discussion also in Item 12). A revision to the delineation was made on March 14, 2003 and is reflected in the current delineation document.

Figure 5.6 presents MLCCS data for all vegetative and non-vegetative land coverage, including artificial surfaces, planted/cultivated cropland, forests, woodlands (none on site), shrublands (none on site), herbaceous vegetation (including wetlands), nonvascular vegetation (none on site), sparse vegetation (none on site) and open water (watercourses, rivers, streams, creeks, ditches, lakes). Table 10.1 summarizes all of the cover types on the site to Level 5.

Figure 10.2 shows the MLCCS coverage in Figure 5.6 next to the preferred design shown in Figure 6.1. Creating an overlay, as suggested in the AUAR guidelines, created an image with details that could not be seen. This image replaces the suggested overlay. Table 10.1 provides a summary of existing and proposed cover types with both MLCCS and general cover type categories listed for existing and proposed conditions.

Figure 10.1. Wetland Delineation (NAWE, revised March 14, 2003). See Appendix A for full report.

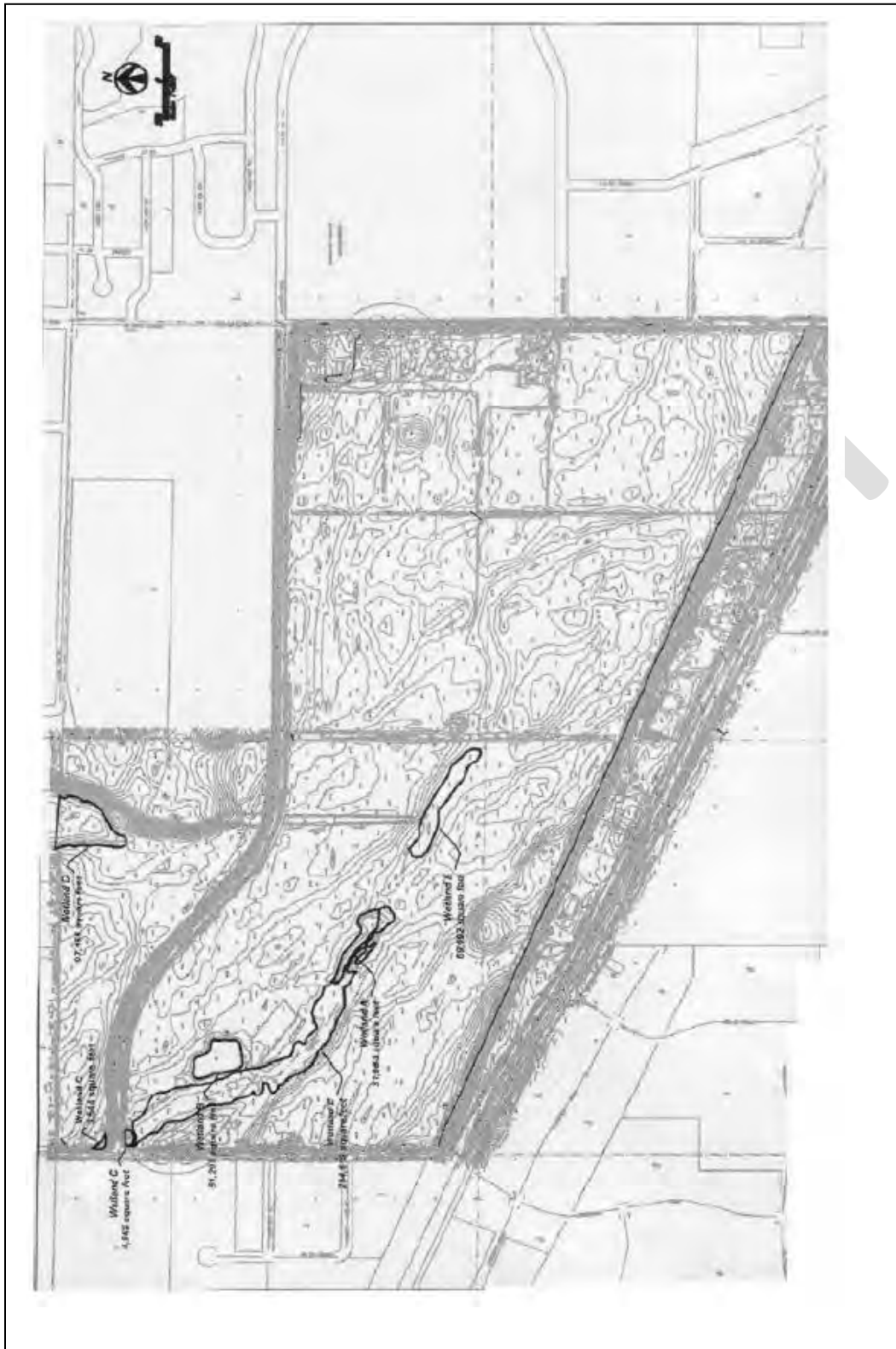


Table 10.1. Summary of Existing and Proposed Cover Types

Cover Type	Minnesota Land Cover Classification	Circular 39	Acres	
			Existing	Proposed
Open Water	Littoral – open water (storm water ponds)	NA	0	5.80
	Subtotal		0	5.80
Wetlands	Cropped Hydric Soils	Type 1	8.13	0
	Wet Meadow/Wet Prairie*	Type 1	0	4.45
	Nonnative dominated graminoid vegetation	Type 2	2.23	0
	Wet Meadow*	Type 2	0	2.68
	Cattail marsh, seasonally flooded	Type 3	0.72	0
	Mixed emergent marsh (seasonally flooded)*	Type 3	.20	0.65
	Mixed emergent marsh (semipermanently flooded)	Type 4	1.18	1.18
	Subtotal		12.46	8.96
Forests and Woodland	Boxelder-green ash disturbed native forest	NA	4.01	0
	Boxelder-green ash forest with 11-25% impervious cover	NA	7.58	0
	Subtotal		11.59	0
Grasslands	Long grasses with sparse tree cover	NA	3.85	1.87
	Medium-tall grass, nonnative-dominated	NA	6.29	2.80
	Short grasses on upland soils	NA	0	2.03
	Short grasses and mixed trees with 4-10% impervious cover		4.73	14.49
	Mesic/Dry Prairie*	NA	0	5.36
	Subtotal		14.87	26.55
Cropland	Cropland on up-land soils	NA	284.27	0
	Subtotal		284.27	0
Residential, Commercial, Transportation	Short grasses with 11-25% impervious cover	NA	13.31	4.84
	Short grasses with 26-50% impervious cover	NA	11.92	10.45
	Short grasses with 51-75% impervious cover	NA	0	8.49
	26-50% impervious with perennial grasses and sparse trees	NA	2.81	2.72
	Short grasses and mixed trees with 11-25% impervious cover		6.39	7.23
	Short grasses and mixed trees with 26-50% impervious cover	NA	0	75.21
	Short grasses and mixed trees with 51-75% impervious cover	NA	0	88.51
	Buildings/pavement with 76-90% impervious cover	NA	11.48	33.24
	Buildings/pavement with 91-100% impervious cover	NA	0	13.39
	Pavement with 76-90% impervious cover	NA	0	0.31
	Pavement with 91-100% impervious cover	NA	0.41	83.80
	Subtotal		46.32	328.19
TOTAL ACRES FOR ALL COVER TYPES			369.50	369.50

*Native plant communities created as part of wetland mitigation

Following is a general description of cover types within the project area:

Open Water

Figure 10.3 is a map of DNR Public Waters within the RTC drainage area. Under existing conditions, no lakes, ponds or other open water exists. It is anticipated that under proposed conditions, a total of 7.06 acres of open water will be created. This open water is expected to be created within several stormwater detention ponds proposed for the project.

Wetlands

Based on the wetland delineation completed for the project (Appendix A, *Ramsey Station Wetland Delineation Report*), a total of 12.46 acres of wetlands currently exists on the site. Wetland acres are distributed among five separate wetlands, designated as wetlands A through E. The location of these wetlands is shown in Figure 10.1. A breakdown of wetland types for each of the five wetland areas is summarized in Table 10.2. A detailed description of each wetland is provided in Appendix A, *Ramsey Station Wetland Delineation Report*.

Table 10.2. Wetland Inventory According to Circular 39 Classification (NAWE Delineation, October 2002).

Wetland	Type 1	Type 2	Type 3	Type 4	Acres	
					Existing	Proposed
A		40%	60%		0.72	0
B		5%	15%	80%	1.18	1.18
C		50%	50%		0.20	0.20
D		90%	10%		2.23	2.23
E	100%				8.13	1.91
Total					12.46	5.52

Forest/Woodland

Forest and woodland occurs on 11.59 acres of the site under existing conditions. Most of this forest/woodland is located in the vicinity of an abandoned farmstead and several shelterbelt/property line edges. The dominant tree species within these forest/woodlands are boxelder, hackberry, eastern red cedar, black cherry and the non-native Siberian elm. Dominant shrubs include honeysuckle, nannyberry, buckthorn and red raspberry. The ground cover is dominated by mostly weedy native and introduced grasses and forbs including orchard grass, smooth brome, Canada goldenrod and motherwort. In places, the shelter belts contain plantings of Colorado blue spruce. Under proposed conditions, all forest/woodland will be converted to other cover types.

Grassland

Grassland occurs on 14.87 acres of the site under current conditions. Grassland is present along field edges, wetland edges, the railroad right-of-way and in slopes of road right-of-ways. There are also patches of grassland with planted conifers (blue spruce, white spruce, red pine) in the northwestern portion of the project area, located to the south and

west of Wetland B. Grassland in the project area is generally dominated by nonnative species of perennial and annual graminoids including smooth brome, orchard grass, Kentucky blue grass, reed canary grass, yellow foxtail and timothy. A few weedy forbs are present including horseweed, wormwood and Canada goldenrod. In general, grassland consisting of long grass will decrease, while grassland consisting of short grass will increase as a result of the project. Grassland cover types will increase to over 26 acres under proposed conditions.

Cropland

A total of 292.4 acres of cropland is present on the site under existing conditions. The majority of this cropland has been planted to soybeans or corn. All cropland will be converted to other land covers as a result of the project.

Residential/Commercial/Transportation

A total of 46.32 acres of residential/commercial/transportation cover types are presently located on the site. The majority of these cover types contain low percentages of impervious surfaces. Under proposed conditions, the total acreage and percentage impervious will increase significantly. The total acreage of this cover type under proposed conditions will be 328.19 acres, the majority of the project area acreage.

Summary of Environmental Impact. The composition of cover types within the RTC will change substantially from an area dominated by row-crop agriculture with scattered forest and wetland, to urbanized land uses with no agricultural land. Item 11 of this document will discuss natural cover type changes more fully within the context of wildlife habitat. Item 12 will discuss cover type changes with respect to water resource impacts, while Item 17 will discuss how this land use conversion impacts storm water runoff quantity and quality.

Mitigation element. The only issue related to cover type to emerge during this review is the alteration of wetlands, which is discussed in the mitigation element under Item 12. A complete discussion of loss of cover types with respect to fish, wildlife and ecologically sensitive resources follows in Item 11.

11. Fish, Wildlife, and Ecologically Sensitive Resources

11a. Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts. The description of wildlife and fish resources should be related to the habitat types depicted on the cover types maps (of Item 10). Any differences in impacts between development scenarios should be highlighted in the discussion.

11b. Are any state-listed (endangered, threatened or special concern) species, rare plant communities or other sensitive ecological resources such as native prairie habitat, colonial water-bird nesting colonies or regionally rare plant communities on or near the site? X Yes No

*If yes, describe the resource and how it would be affected by the project. Indicate if a site survey of the resources has been conducted and describe the results. If the DNR Natural Heritage and Nongame Research program has been contacted give the correspondence reference number: **ERDB 20030469** (Dec. 5, 2002). Describe measures to minimize or avoid adverse impacts.*

For an AUAR, prior consultation with the DNR Natural Heritage program for information about reports of rare plant and animal species in the vicinity is required. If such consultation indicates the need, an on-site habitat survey for rare species in the appropriate portions of the AUAR area is required. Areas of on-site surveys should be depicted on a map, as should any “protection zones” established as a result.

Plant Communities

The pre-settlement vegetation associated with the RTC was dominated by dry and mesic prairie with oak openings and barrens probably located along the north edge of the site. Today, the RTC site is largely dominated by agricultural land use with only a small portion of the overall site containing low quality native plant communities. Within a one mile radius of the proposed project site are found the following land cover types and natural communities: planted mixed coniferous and deciduous trees, perennial grasses, oak savanna, non-native short- and long-grasses, transitional land, sand and gravel pits, eastern red cedar woodlands, aspen woodlands, non-native upland shrubs, dry prairie, wet prairie, wet meadows, cattail marsh, temporarily flooded aspen forest, mixed hardwood swamps, dry oak savanna, mesic oak savanna, open water wetlands, and the Mississippi River. Table 10.1 and Figure 5.6 detailed existing and proposed cover types within the project area. Figure 11.1 identifies sensitive resources near the RTC site.

Wildlife Resource

Wildlife that might occur within the project area are shown in Table 11.1. Wildlife resources are broken into mammals, amphibians & reptiles, and birds. The table includes species that might be present under existing conditions and the possible future occurrence of these species. The table also shows major habitat types that each species is generally

associated with. In addition, for birds, a column is included that indicates migratory status.

Note that no formal survey has been completed for wildlife; therefore, other species not shown in Table 11.1 may be present and species shown in Table 11.1 may not be present. All of the species shown, however, are documented in Anoka County and known to occur in the types of habitat present on or near the RTC site today.

Under existing conditions, the project area provides habitat to species adapted to a mosaic of cropland, wetland, small woodlots and grassland. The most significant habitat on the site is wetland, which may provide habitat for aquatic fur-bearing mammals, such as muskrat and mink, shorebirds and waterfowl. Forest and woodland occur in the northeastern corner, and as patches and windrows in other portions of the project site. These areas would support birds and mammals that require trees for nesting and cover and provide the moist, shaded conditions favorable to amphibians. Fragmentation of these areas, however, would limit the use of these woodlands, particularly for larger mammals and birds that require interior forest habitat. The grassland habitat is generally low in diversity, but would support species that prefer more open areas. Species typically found in disturbed grassland include such species as the plains pocket gopher, red fox and American kestrel. The dry sandy conditions that occur over much of the project area provide habitat for species that prefer loose, sandy soil for burrowing and nesting. Examples include the badger, prairie skink and Blanding's turtle.

Under proposed conditions, all of the forest/woodland and portions of the wetland/grassland will be converted to non-natural cover types. For this reason, the greatest impact will occur to forest associates. Species associated with wetland and grassland will probably continue to be present, but at much lower numbers. The degree to which these species continue to exist will be a function of how fragmented remaining patches of habitat are under post development conditions. An additional factor is how good of quality these patches are.

Rare Plant Communities

The *Natural Communities and Rare Species of Anoka and Ramsey Counties Map* (DNR Natural Heritage Program, 1994), shows a high quality flood plain forest plant community on an island of the Mississippi River approximately ½ mile south of the RTC site. No impacts to this floodplain forest plant community area expected.

Fisheries

There are no permanent rivers, lakes or ponds known to support fish within the project site. The nearest water bodies supporting fisheries include Lake Itasca and the Mississippi River. No impacts to these fisheries are expected to result from this project.

11b. The DNR Natural Heritage Program database was checked for information concerning reports of rare plant and animal species that might be located at or within approximately one mile of the project location. The results of DNR's search of the

Natural Heritage Database¹ showed that there were no known occurrences on site, but five known occurrences of the Blanding's turtle to the north and west. The general locations of these known occurrences are within Sections 20, 21 and 22, T032N, R25W¹. The closest record of Blanding's turtles lies approximately ½ mile north of the RTC project area. The Blanding's turtle is a state-listed, threatened species in Minnesota.

Most of the local records of Blanding's turtles correspond to roadway sections between different elements of turtle habitat. Turtles often cross roads as they attempt to travel between different wetland and upland areas that provide for their different habitat needs. The turtles use deeper wetlands and lakes for over wintering; sandy, open areas such as dry prairie and grassland for nesting; and shallow emergent marsh and shrub swamps for foraging (Oldfield and Moriarty, 1994). These key habitats can be further described as (Lang, 2002):

- 1) **Activity season wetlands**, encompassing a variety of wetland types and sizes that are typically occupied for various periods during the spring, summer and fall;
- 2) **Over-wintering wetlands**, comprising specific wetlands that provide refuge from lethal winter temperatures and protection from predators during inactivity; and
- 3) **Nesting uplands**, characterized by exposed, well drained soils, used largely during the reproductive season by reproductive females and emerging hatchlings.

Local Blanding's turtle records (DNR Natural Heritage Program, 2003), showed turtle movement during times of the year when they emerge from over wintering wetlands and disperse into activity season wetlands, or as they travel to nesting uplands during the month of June.

The wetland and grassland habitat concentrated around the northwest corner of the RTC site provides potential Blanding's turtle habitat. In particular, the constructed wetland and adjacent wetland swales (delineated wetlands A, B and C), provide potential habitat. This area provides over-wintering habitat within the constructed wetland (Wetland B). Limited activity season habitat is available due to the small size of wetlands, degree of fragmentation and agricultural land uses. Nesting upland habitat is marginal due to the fact that agricultural activities would typically disturb turtle nest before hatchlings have emerged from the nest. Areas not subject to agricultural disturbance are generally narrow or small and would tend to concentrate predators resulting in high mortality. Other possible areas of Blanding's turtle habitat include the wetlands located along the north portion of the RTC, including the two DNR Public Waters Wetlands (670W and 671W). 2.23 acres of DNR Wetland 670W, (delineated wetland D) is located within the project boundaries. Both of these wetlands would be considered activity season wetlands and do not contain sufficient depth of water (under existing conditions) to support over-wintering turtles. Nesting upland habitat is potentially available adjacent to these wetlands.

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Under post-development conditions, turtles attempting to move through or into the RTC site will encounter many physical obstacles. Examples include curb and gutter, retaining walls, discontinuous waterways, stormwater control structures such as skimmers and submerged culverts. These barriers also impact other reptiles, amphibians and mammals attempting to move through the site.

Summary of Environmental Impact.

Natural Communities: Table 10.1 summarizes changes in cover types, including natural communities for post-development conditions. The most significant impacts will be to wetlands and forest/woodlands. No impact to the floodplain forest community on the Mississippi River island is expected.

Fish and Wildlife Habitat: Wildlife that currently use the mixture of agricultural land, forest, grassland and wetland will likely be eliminated or reduced in proportion to acres of habitat converted to other land uses. Additional impacts are expected to occur due to increased mortality related to traffic and other accidents, predation by domestic animals and pesticides and other chemicals concentrated by stormwater runoff.

Blanding's Turtles: Blanding's turtles potentially occur within the project area, either as individuals of nearby populations passing through in route to other areas, or as individuals using specific habitats within the RTC site. Under post-development conditions, turtles may continue to use portions of the site, namely some of the wetlands clustered around the north and northwest portions of the site. These turtles will likely encounter many obstacles and hazards and for this reason the project could be a sink to nearby turtle populations.

Mitigation element.

Natural Communities: Item 12 of this report addresses wetland mitigation fully. Mitigation for loss of forest/woodland can be accomplished through additional tree planting within some areas of the site listed in Table 10.1 as containing grassland communities. Additional forest/woodland planting can be incorporated into planting plans for the infiltration/wetland system extending south from the RTC site to the Mississippi River. The edges of the wetlands and infiltration areas could be established as an oak savanna/woodland natural community.

Wildlife Habitat: Several strategies are proposed to mitigate impacts to wildlife. These include:

1). Establish Greenway Corridor Through the Site. A proposed greenway corridor is shown in Figures 6.1, 12.5 and 12.6. The corridor will incorporate a system of wetland treatment ponds, infiltration ponds and constructed wetlands. Areas of the corridor up to the 100-year flood elevation will be planted to a mixture of native short grasses and forbs. Although this corridor will not extend through the site completely, it will provide an

opportunity for some species (those more tolerant of human presence, noise, etc.) to use natural areas within the site, and to move to and from larger tracks of habitat connected to the site.

2). Wetland Restoration and Creation. As described in Item 12, the combination of existing wetlands and created wetlands will provide more diverse habitat than is generally available now. Most of the existing wetlands have either been cropped or have very low vegetative diversity (primarily reed canary grass). These wetlands will be restored to native wet prairie, wet meadow and shallow emergent marsh. Wetlands within the RTC portion of the greenway will be planted to shorter species of grass and forbs, but will be un-mown, and will provide habitat for many of the wetland species currently found on the RTC site. Additional areas of riparian buffer will be established to provide some upland habitat.

3). Culverts and Road Crossings. To the extent possible, all culverts and road crossings will be designed to enable upstream or downstream passage of wildlife as they move through the greenway. During dry conditions, most of the culverts are expected to be available for terrestrial species to move through. During wet conditions, these culverts may only enable species that swim or move through water to pass through. Fences at major road crossing will be designed and placed so as to funnel wildlife through these crossing areas. These same fences may also be used to discourage larger species, such as white-tailed deer, from crossing roads where they may become a traffic hazard.

Blanding's Turtles

Strategies outlined for Wildlife Mitigation generally apply to Blanding's turtles. Appendix C is the DNR Fact Sheet and Hand-out on Blanding's Turtles. Several additional recommendations applying to Blanding's turtles follow:

- 1). The system of infiltration ponds and wetlands proposed south of the RTC site between TH 10 and the Mississippi River can be designed to provide additional turtle habitat. This system, if developed, should incorporate some deep, over-winter pond area along with a good diversity of wetland community types. Some excavated material should be retained on-site to create sandy, dune-like areas planted to sand gravel prairies. These areas could provide excellent nesting habitat for Blanding's turtles.
- 2). Culvert crossings should be designed so that water (when flowing) flows continuously through the pipe, with no physical barriers such as weirs or gates blocking upstream or downstream travel.
- 3). Fencing may be used to guide or block movement. Depending on the final design of the greenway/stormwater conveyance system, access to the site by turtles should be blocked to reduce the possibility that the site will become a sink to nearby turtle populations.

12. Physical Impacts on Water Resources

Will the project involve the physical or hydrologic alteration (dredging, filling, stream diversion, outfall structure, diking, and impoundment) of any surface waters such as a lake, pond, wetland, stream or drainage ditch? ☒ Yes ☐ No

If yes, identify water resource affected and give the DNR Protected Waters Inventory number(s) if the water resources affected are on the PWI. Describe alternatives considered and proposed mitigation measures to minimize impacts.

For an AUAR, the information called for on the EAW form should be supplied for any of the infrastructure associated with the AUAR development scenarios, and for any development expected to physically impact any water resources. Where it is uncertain whether water resources will be impacted depending on the exact design of future development, the AUAR should cover the possible impacts through “worst case scenario” or else prevent impacts through the provisions of the mitigation plan.

Surface Water Hydrology

The Ramsey Town Center site lies within the Lower Rum River Watershed Management Organization (LRRWMO) boundaries, but actually discharges south to the Mississippi River. The RTC lies within a watershed that extends from Lake Itasca, southeast to the Mississippi River. Figure 12.1 shows the sub-watersheds within this drainage area, as well as the water resource features within this watershed.

Soils on site are illustrated in Figure 12.2, and are discussed in Items 19 and 25.

The following analysis describes direct and indirect impacts to water resources associated with the RTC. A detailed description of watershed hydrology and the stormwater conveyance system is contained in Item 17.

Description of Water Resources and Related Impacts

A wetland delineation was performed in October 2002 by North American Wetland Engineering (NAWE) and reported in November 2002. The results of this delineation were revised on March 14, 2003 after discussion with the WCA Technical Evaluation Panel (TEP) convened to review the delineation. Figure 10.1 shows the location of delineated wetlands located wholly or partially within the RTC project area. Note that wetlands within the project area are denoted by an identifying letter (from A-E). The complete *NAWE Wetland Delineation Report* is contained in Appendix A. Figure 10.3 showed the location of DNR Public Waters within the RTC drainage area. Figures 12.3 and 12.4 show the location of all wetlands within the RTC project area with respect to wetland impacts. A description of each water resource is provided in Table 12.1 and a discussion of each of these water resources with respect to potential impacts follows.

Table 12.1 – Water Resources Potentially Impacted

Basin Name/ID	PWI	Within Project Area*	Wetland Impact (acres)	Type of Impact
A	NA	T	0.72	Fill
B	NA	T	0	Indirect - Stormwater Discharges
C	NA	T	0	Indirect - Stormwater Discharges
D	670W	P	0	Indirect - Stormwater Discharges
E	NA	T	6.22	Fill/Conversion to Stormwater Pond
Lake Itasca	110P	O	0	Potential Outlet
Unnamed Wetland	671W	O	0	Potential Outlet
Mississippi River	NA	O	0	Outfall Structure
TOTAL ACRES IMPACTED			6.94	

* T – Totally within project area

P – Partially within project area

O – Outside project area

Wetland A: Wetland A is expected to be completely filled as part of the project. A total of 0.72 acres of Type 2 and Type 3 wetland will require mitigation.

Wetland B: Wetland B is a 1.18 acre Type 4 wetland. This wetland was constructed in 1997 for mitigation of the Anoka County Road 116 road construction project. The mitigation site has a permanent conservation easement that encompasses both the wetland and an upland buffer area. Stormwater from the RTC has the potential to indirectly impact this wetland by altering the wetland hydroperiod and increasing the discharge of sediments, nutrients and other pollutants. No direct impacts are anticipated to this wetland.

Wetland C: Wetland C is a 0.20 acre Type 2 and Type 3 wetland. Stormwater from the RTC has the potential to indirectly impact this wetland by altering the wetland hydroperiod and increasing the discharge of sediments, nutrients and other pollutants. No direct impacts are expected to this wetland.

Wetland D: Wetland D lies partially within the RTC project and is the only public waters wetland (670W) located within the project area. This wetland is landlocked and does not outlet under existing conditions. The City of Ramsey has proposed installation of an outlet from this wetland, south into the RTC stormwater conveyance system. Any outlet installed for this wetland will be above the DNR ordinary high water (OHW) elevation. Since a key strategy for stormwater management is to maintain or provide on-site storage where possible, this outlet will consist of an emergency overflow located at or above the 100-year flood elevation of 868.0 feet. No OHW is established for this wetland, nor are wetland impacts expected from placement of this outlet pipe.

Wetland E: At 8.13 acres, Wetland E is the largest wetland in the RTC project area. This wetland is located within a shallow, linear, drainage swale that bisects the west central portion of the RTC project area. This entire wetland has been row cropped to soybeans or corn during recent years. A total of 6.22 acres of Type 1 wetland will be directly impacted through a combination of fill and conversion to stormwater ponds. The remaining 1.91 acres will be retained within a proposed water way corridor and 6.22 acres of Wetland E will require mitigation.

Lake Itasca: Lake Itasca and its direct drainage area are located approximately 1.2 miles northwest of the RTC (Figure 12.1). A lake overflow elevation of 871 was determined from a field survey of the area and two-foot contour information from development plans. An analysis of lake elevations for the 100-year, 24-hour rainfall and 100-year, 10-day snowmelt events, show that Lake Itasca does not outlet from the low point along the southeast side of the lake. This assessment held true for both existing and future land uses. Lake levels do, however; rise to within a few one hundredths of a foot for the 100-year, 10-day snowmelt event and within ½ foot for the 100-year, 24-hour rainfall events. For this reason, the City of Ramsey has proposed installation of an outlet for the lake. Since a DNR permit would be required for an outlet below the DNR OHW, it has been assumed that any outlet would be above the OHW and above the 100-year flood elevation of approximately 871.0 feet. This outlet would provide assurances that existing and future homes will not be impacted by high water. No impacts to Lake Itasca or adjacent wetlands are anticipated.

Mississippi River: The Mississippi River is located approximately ½ mile south of the RTC. There currently is no outlet from the RTC to the River; all flow leaving the site crosses Highway 10, flows to the southeast in a ditch, and eventually infiltrates. As shown in Figure 17.2c, an overland waterway system is proposed to convey stormwater south from the RTC to the Mississippi River. This waterway system would consist of a series of water quality treatment ponds, infiltration ponds and constructed wetlands. As discussed in Item 17 of this AUAR, a peak flow rate of 25.3 cfs is predicted under post-development conditions for the 100-year storm event. For small events (1-year and less), discharge ranges from 14.2 cfs, assuming no infiltration in the ponds, to 2.3 cfs when infiltration is included. The outfall to the Mississippi River is proposed to follow a County owned linear piece of land that extends from Highway 10 to the River (see Figure 12.5). The use of this property is not confirmed by the County at this time, but discussions continue. If built, the outlet will consist of a 21-inch pipe, enlarged near the Mississippi River to reduce velocities. Potential impacts include disturbance to the river bluff line where the outfall pipe is installed and in-stream scour and erosion where the pipe meets the river. If the County alternative outlet is not approved, an alternative alignment along Highway 10 to the southeast, with a connection to the River will be pursued.

Groundwater-Surface Water Interaction and Wetland Impacts

As part of the wetland delineation (Appendix A, *NAWE Wetland Delineation Report*) completed for this AUAR, aerial photography for the period 1981 – 1996 was analyzed to determine if any trends existed with respect changes in wetland hydrology. The aerial

photography analysis showed that for the period 1981 through 1996, the acreage of wetlands remained fairly constant. Beginning in 1997, however, the acreage of wetlands visible on the aerial photography declined sharply. With this decline, the area of wetlands visible on aerial photos became progressively smaller each year. Since this decline, wetland hydrology (as defined by water pooling on the surface) has not returned to pre-1997 levels, in spite of the fact that in recent years, northwestern Anoka County has received normal levels of annual precipitation. Both 2000 and 2002 were determined by the State Office of Climatology to be normal precipitation years. An on-site assessment of wetland hydrology and vegetation completed as part of the wetland delineation concurs with the aerial photography analysis.

A groundwater elevation and soils study was conducted by Braun Intertec in January 2003 to evaluate if the wetlands were influenced by groundwater. Results of the study indicated the wetlands at and adjacent to the site are groundwater dependent and directly linked to the regional groundwater system. The study showed that wetland hydrology is not linked to localized conditions, such as impermeable clay lenses that function to "perch" the wetlands above the water table.

There are several land use changes and other activities that might have had an impact on the regional groundwater system. In 1997, County Road 116 (including wetland B) was constructed along the north side of the RTC site. It is possible that this road construction interrupted groundwater flows; however, wetlands both up-gradient and down-gradient of the County Road 116 (with respect to ground water flow direction), appear to be impacted. The City of Ramsey also installed two new municipal wells (Wells No. 3 and 4) along the north side of the County Road 116. Because there are no data linking groundwater pumping to surface water response, these "new" land uses cannot be conclusively proven to have caused the changes in hydrology. It is, however, evident that the groundwater influence, wherever it may come from, on the wetlands has changed. Additional data on the influence of land uses and groundwater appropriations is needed to conclusively determine if these activities are impacting groundwater-dependent wetlands.

Summary of Environmental Impact.

Wetlands – Direct Impacts: Table 12.2 summarizes direct wetland impacts associated with the RTC. A total of 6.94 acres of wetland impact will result from the RTC. A break down of wetland types impacted is also shown.

Table 12.2 Summary of Wetland Impacts

Wetland Type	Acres of Impacted Wetland		Totals (acres)
	Wetland A	Wetland E	
1*		6.22	6.22
2	0.28		0.28
3	0.44		0.44
4			
5			
Total	0.72	6.22	6.94

* All Type 1 Wetland is row cropped under existing conditions

Wetlands – Indirect Impacts: Indirect impacts to wetlands include discharge of stormwater, interference with groundwater-surface water interactions and fragmentation of wetland and upland habitat that diminishes wildlife habitat functions.

DNR Public Waters: Outlet structures are proposed on two public waters wetlands and one lake. These structures are generally proposed to be installed above the OHW and 100-year flood elevation. No impacts are therefore expected within these public waters. The proposed stormwater outfall to the Mississippi River could impact the river bluff zone through alteration of shoreline vegetation, increased susceptibility to erosion, aesthetic views and water quality impacts (discussed in Item 17).

Mitigation element.

Wetland Sequencing - Minnesota Rules 8420, also known as the Wetland Conservation Act (WCA), requires specific steps (“sequencing”) be taken when evaluating mitigation for unavoidable wetland impacts. The WCA requires that wetland impacts be avoided, if possible. If wetland avoidance cannot be accomplished, impacts to wetlands need to be minimized. Finally, any wetland impacts that can not either be avoided or minimized to the extent possible, must be mitigated through wetland replacement. The wetland replacement must mitigate all wetland functions and values lost as part of the wetland impact.

The degradation present on site allows the applicant to evaluate sequencing flexibility in their mitigation plan. It also allows the Technical Evaluation Panel (TEP) the opportunity to be flexible on the sequencing provisions of the WCA rule. This process may only be applied in the event the wetlands on-site are degraded to the point where replacement of the wetland would result in a gain in functions and values. This is an item that will be considered by the TEP during the permitting process.

Wetlands located on site are described in the Wetland Delineation Report (Appendix A), and are discussed in Item 10. With a few exceptions, wetlands located within the boundaries of the RTC are either cropped or are of low quality. These wetlands have

marginal functions and values due to their low vegetative diversity, partial drainage and lack of connectivity to other nearby wetlands and natural areas. Sequencing is addressed as follows:

Avoidance: The better quality portions of existing wetlands are generally avoided. This includes all of wetlands B, C and D.

Minimization: The mix of development proposed as part of the RTC requires that retail, commercial and residential land use blocks are a minimum size with adequate infrastructure to service them. The focus of minimization has been to incorporate as much of existing wetland area into a central greenway corridor, thereby lowering overall wetland loss across the project site. To avoid indirect impacts to remaining wetlands, each of the development blocks will incorporate a treatment train of stormwater best management practices designed to improve water quality and lower wetland bounce magnitude and duration. Currently, row cropping occurs into the wetlands. The RTC will incorporate wetland buffers wherever practical.

Wetland Replacement: The LRRWMO Stormwater Management Plan provides that the following may be eligible for wetland replacement credits:

- Creation of ~~new~~ "wetland" - Rules, Sub-part 11;
- Addition of ~~public value~~ "Rules, Sub-part 6;
- ~~Public value~~ "restoration from invasive species to permanent native, non-invasive species - Rules, Sub-part 8; and
- Incorporation of ~~water quality treatment ponds~~ "under the criteria contained in Sub-part 10(A* and B), with nature of ~~credit~~ "determined by LRRWMO.

**The City of Ramsey has adopted the LRRWMO stormwater management plan by reference for this portion of the City, thus qualifying the City for eligibility under this element.*

As Table 12.2 shows, a total of 6.94 acres of wetland will be impacted and require replacement. A central feature of the RTC is a greenway corridor running through the central portion of the site. A system of stormwater ponds, infiltration swales and meandering channels will link flows entering the site from the northwest with flows generated on-site. This ~~waterway~~ "will continue south from the RTC to the Mississippi River. Within the context of this waterway system, on-site wetland replacement will be provided through a combination of new wetlands, upland buffers and water quality improvement ponds designed to improve functions and values to downstream wetlands. The location of proposed on-site wetland replacement is shown in Figures 12.3 and 12.4. Table 12.3 summarizes the acreage and type of wetland replacement for each location. A general description for each wetland replacement site follows.

Table 12.3 Summary of Proposed Wetland Mitigation

Wetland Type Created	Wetland Replacement by Location (Drainage Area)									Totals (acres)
	6	7	8	10	18	19	24	26a	26b	
Type 1			1.35			1.30	1.80		1.90	6.35
Type 2							0.45			0.45
Type 3							0.45			0.45
Type 4										
Subtotal			1.35			1.30	2.70		1.90	7.25
PVC* (Stormwater)		2.30			3.50			3.40		9.20
PVC* (Buffers)	0.81		1.35			1.30			1.90	5.36
PVC* (Restoration)	0.77			3.79						4.56
Subtotal	1.58	2.30	1.35	3.79	3.50	1.30		3.40	1.90	19.12
Grand Total										26.37

**PVC – Public Value Credits*

Drainage Area 6 includes three existing wetlands (Wetland B, C and E). Wetland B is a created wetland that includes a narrow buffer within a conservation easement. The existing drainageway will be left intact, while 0.81 acres of the cropped wetland will be restored to a Type 1, wet prairie wetland. A 0.77-acre riparian buffer will be incorporated along the wetland transition zone in this area.

Drainage Area 7 will include a 2.30-acre stormwater detention pond. This pond will include a shallow bench that will support a fringe of emergent vegetation. Since this pond will provide pretreatment of stormwater that will benefit the wetland immediately downstream of it (within Drainage Area 8), it is proposed for public value wetland credits.

Drainage Area 8 includes 1.35 acres of wetland and 1.35 acres of PVC buffer with a meandering channel flowing through it. Portions of the basin will be designed to establish Type 1, wet meadow/wet prairie wetland hydrology. The basin will be established with respect to groundwater levels and a low weir will be installed in front of the outlet such that infiltration will be maintained, but water will be retained at a frequency to facilitate saturation of soils. Finer soils could be mixed in to promote Type 1 vegetation.

Within *Drainage Area 10*, and along the north boundary of the RTC site, is a 3.79 acre wetland, where 2.23 acres of this wetland is within the RTC site and is denoted as –Wetland D”. This wetland is a low quality reed canary grass monotype with a few small areas of mixed emergent marsh vegetation. A total of 3.79 acres of wetland restoration

and buffer PVC is proposed for this wetland. The primary objective of this restoration would be to remove the non-native reed canary grass and reestablish a diverse, wetland community of wet meadow and mixed emergent marsh. Since portions of this 3.79-acre wetland occur on private property, landowner cooperation would be necessary to successfully restore this wetland. The 3.79 acres of proposed restoration includes both wetland restoration and establishment of buffers.

Drainage Area 18 will include a 3.5-acre stormwater pond that will function much the same as the stormwater pond proposed for Drainage Area 7. The concept design described for Area 7 generally applies to Area 18.

The wetland system in *Drainage Area 19* will function in a way similar to Drainage Area 8; that is, it will include a narrow, meandering, perennial stream with a wet meadow/wet prairie fringe. The design concept described for Drainage Area 8 describes this wetland. A total of 1.3 acres of wetland and 1.3 acres of buffer are proposed for Drainage Area 19.

Drainage Area 24: This drainage area encompasses a linear area between the Railroad ROW and the RTC. This entire strip of land encompasses some 10.8-acres of land. A total of 2.7-acres, or 1/4 of Area 24, is proposed as new wetland credit. A central, meandering drainage-way of Type 3 wetland is proposed. The edges of this wetland will be bordered with Type 1 and 2 wetland meadow.

Drainage Area 26: Development of this combined wetland/infiltration system is conditioned on approval by Anoka County. This system would receive flows from Drainage Area 25 and would include a wetland treatment/stormwater pond (26a). From this initial pond, flows would outlet into an infiltration pond/wetland system (26b). A landscape theme that incorporates a mixture of dry prairie, oak savanna, and wet prairie with an ephemeral water-way could serve as the cornerstone for this area and provide a valuable link between RTC and Mississippi West Regional Park.

Off-Site Wetland Mitigation

Two additional areas have been identified for off-site wetland mitigation in the event on-site mitigation is not feasible. These sites are illustrated in Figure 12.5.

Site #1 would be within the Mississippi Regional Park when development of the park proceeds. Although a specific location cannot be identified at this time, the City, WMO and County would work together to select and develop a site that would hold the best potential for successful wetland establishment. Figure 12.6 illustrates the Anoka County Park Department's concept for how the Park will be designed. Several locations could be possible sites for incorporation of "new" wetland. To accomplish this action in the future, RTC LLC would need to escrow an amount of funds sufficient to construct the additional wetland acreage not provided for on-site.

Site #2 is located along the south - southeast side of Lake Itasca on land already owned by the City of Ramsey. This area currently contains some excellent quality shrub swamp, wet prairie and emergent marsh along the shores of Lake Itasca. A suitable site could be

located where wetland does not currently exist, but where adequate hydrology is available. There are also several areas of reed canary-dominated wetland that could be improved for public value credit through re-establishment of native wetland communities. Any wetland improvements in this area could be designed to also improve Blanding's turtle habitat.

The following are proposed to mitigate impacts associated with the stormwater outfall to the Mississippi River:

Reduce Frequency of Stormwater Discharge, Lower Magnitude of Peak Flow Rates: The RTC project incorporates a variety of strategies to lower increases in stormwater rate and volume. While all stormwater conveyance features are designed to accommodate the 100-year runoff event without taking infiltration into consideration, on-site retention and infiltration can be incorporated at multiple scales into the RTC during the detailed design phase for smaller storm retention. Peak flow rates for the 100-year, 24-hour runoff and 100-year, 10-day snowmelt events are 25.1 cfs and 25.3 cfs respectively.

Oversize Culvert and Reduced Slope at Outfall: The last section of culvert will be enlarged from 21-inches to 36-inches and include an apron and rip-rap to lower velocities and dissipate the energy at the discharge point. This will minimize the potential for scour and erosion.

Directional Boring to Install Culvert: If possible, the culvert will be placed within the river bank by directional boring rather than an open cut. This will reduce the need to remove shoreline vegetation and will minimize the area of disturbance. Erosion control measures will be implemented where soil is disturbed. All disturbed areas will be replanted to native trees, shrubs, grasses and forbs and if appropriate, a temporary cover crop will be established.

13. Water Use

Will the project involve installation or abandonment of any water wells, connection to or changes in any public water supply or appropriation of any ground or surface water (including dewatering)? ☒ Yes ☐ No

If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and DNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.

If the area requires new water supply wells, specific information about that appropriation and its potential impacts on groundwater levels should be given; if groundwater levels would be affected, any impacts resulting on other resources should be addressed.

Background

Ramsey residents, businesses and others receive their water from one of two sources; the City of Ramsey municipal water system or privately owned wells. Those with private wells are mainly located in the Rural Preserve, Central Rural Reserve, Rural Developing and un-served areas of within the Urban Growth Boundary. Those receiving water from the municipal water system are generally located in the Existing MUSA area (Figure 13.1).

Future municipal water users would be those new developments occurring within the existing MUSA and those areas within the Urban Growth Boundary as designated in the *2001 Ramsey Comprehensive Plan*, as amended in 2002 (*Plan*). Extension of municipal water service into areas outside of the Urban Growth Area may be necessary at a future date due to environmental or public health concerns. The *Plan*, however, states that there are no known concerns at this time and, therefore, there is no known timeline for if or when service may be extended.

Population Projections

The *1999 City of Ramsey Water Study* prepared by Bolton and Menk, Inc., estimated population growth and water service categories as shown in Table 13.1. This report has served as the primary planning document for the City's municipal water system and was incorporated by reference into the City's *Comprehensive Plan*.

Table 13.1 Population Projections and Water Service Category

Year	Total Population	Rural Population (Private Wells)	Urban Population	Municipal Water Service Population
2000	19,630	8,768	10,862	8,412
2005	21,748	9,403	12,345	12,345
2010	23,865	10,037	13,828	13,828
2015	26,873	10,939	15,934	15,934
2020	29,880	11,840	18,040	18,040

These numbers only represent residential populations and do not include water used by businesses for manufacturing, customers, employees, etc. In addition, growth projections for the City were slightly increased in the Comp Plan. Table 13.2 outlines this information. The last column of this table estimates the number of residents and employees that will be served by the municipal water system based on the ratio of rural to urban residents shown in Table 13.1 above.

Table 13.2 2001 Comprehensive Plan Population Projections by City of Ramsey

Year	Population	Number of Households	Number of Employees	Population Served by Municipal System
1990	12,408	3,620	1,941	---
2000	19,630	5,950	2,500	11,000
2010	25,050	8,350	7,000	22,000
2020	32,250	10,750	9,000	28,000

Existing Water System Description

Water Supply. The City currently operates five municipal wells in two well fields (Figure 13.2) and anticipates drilling an additional well in the near future. Approved wellhead protection plans for both well fields are on file with the Minnesota Department of Health (MDH).

All five wells have been developed in the Franconia-Ironton-Galesville (FIG) aquifer. A more complete description of the subsurface stratigraphy and geologic morphology is provided in Item 19. Figure 19.3 graphically displays the well drilling logs for the three wells on and adjacent to the RTC site.

Table 13.3 summarizes the capacity of each well and its permitted appropriation.

Table 13.3: Well Capacities and Permitted Appropriations

Well	DNR Permit Number	Unique Well Number	Permitted Flow (gpm)	Permitted Withdrawal (MGY)	Pump Capacity (gpm)	Maximum Annual Capacity (MGY) ⁽¹⁾
No. 1	856005-1	161441	4,900		970	424.860
No. 2	856005-2	416183	4,900		220	96.360
No. 3	856005-3	580303	4,900		1,450	635.100
No. 4	856005-4	580313	4,900		855	374.490
No. 5	856005-5	593672	4,900		900	394.200
Total				500⁽²⁾	4,395	1,925.010

(1) Assumes 20-hour pumping day for 365-days and does not allow for recharge or resting of the aquifer.

(2) Current DNR Permit allows a combined annual appropriation of 500 MGY.

Water Storage. Storage and distribution pressure for the municipal water system is provided by two elevated storage tanks with capacities of 0.5 and 1.5 million gallons respectively. The *1999 Water System Study* demonstrated the need for the construction of additional elevated storage to meet future demands on the water system. This recommendation was based on an analysis of existing and projected future flows and included factors such as fire flow capacity, emergency storage, daily peak use, and water supply and pumping capacity.

Table 13.4 lists the existing water storage facilities as well as those projected in the *1999 Water System Study* for future construction. The location of these facilities is indicated in Figure 13.3.

Table 13.4: Existing and Future Water Storage Facilities

Description	Usable Storage Volume (gal)	Year Constructed	High Water Elevation
Reservoir No. 1	500,000	1989	1036
Reservoir No. 2	1,500,000	2000	±1035
Reservoir No. 3	1,000,000	Projected 2009	N/A

Water Treatment. The City does not currently operate a water treatment plant. The current water supply does not violate any of the Primary Drinking Water Standards provided for in the Safe Drinking Water Act. Therefore, water treatment would be required only to treat for secondary contaminants and aesthetic purposes. Because of this, the existing City Capital Improvement Program (CIP) projects constructing a water treatment plant within approximately five years.

Table 13.5 is a summary of average water quality data for the system. Variations in quality may occur periodically due to minor differences in concentrations of each

contaminant and depending on which well or combination of wells in operation. Planning for water treatment will occur within the design of the RTC site. Funding for a water treatment facility needs to be identified concurrent with approval for the RTC. This facility should be on line consistent with 60% of the RTC site or completion of wells #6 and #7.

Table 13.5: Water System Quality Data

Parameter	Average Level of Water Quality Parameter ⁽¹⁾	Primary Drinking Water Standard	Secondary Drinking Water Standard
Langelier Index (standard unit)	0.43		
Total Iron (mg/l as Fe)	0.87		0.3
Manganese (mg/l as Mn)	0.21		0.05
Calcium (mg/l as Ca)	58		
Calcium Hardness (mg/l as CaCO ₃)	145		
Magnesium (mg/l as CaCO ₃)	12		
Magnesium Hardness (mg/l as CaCO ₃)	50		
Total Hardness (mg/l as CaCO ₃)	195		
Sodium (mg/l as Na)	8		
Arsenic (mg/l as As)	0.006	0.010	
Chloride (mg/l as Cl)	15		250
Sulfate (mg/l as SO ₄)	4.83	400	250
Total Alkalinity (mg/l as CaCO ₃)	221		
pH (Standard Unit)	7.9		6.5 – 8.5
Total Dissolved Solids (mg/l)	210		500

(1) Based on data collected on 4/6/99 and extrapolated from the 1999 Water System Study. In addition, each parameter has been normalized based on average annual pumping times and rates for each well.

The City currently adds chlorine, fluoride, and polyphosphate to the raw water at each well-house. Chlorine is added as a protective barrier against harmful pathogens that may enter the water system from the raw well water or through breaks or cross connections in the distribution system. Fluoride is added as a dietary supplement that aids in the prevention of tooth decay. Polyphosphate is added to prevent the precipitation of iron and, to a lesser extent, manganese primarily for aesthetic purposes, such as color, and to prevent the staining of plumbing fixtures and laundry.

Water Distribution. The City's water distribution system is comprised of 6-, 8-, 10-, 12- and 16-inch ductile iron pipe. The system includes various necessary appurtenances such as isolation valves, altitude/pressure valves, and fire hydrants. In 1999, the distribution system was analyzed by Bolton and Menk, Inc., using the CYBERNET Hydraulic

Network Model. Results of the model indicated that the system functions well by meeting demand for the existing uses.

Computer modeling and analysis of future expansions to the distribution network, including the RTC development, should be performed at the time of design to ensure there is no impact on the existing users.

Projected Future Water Demands

Flow Projections. Development of the RTC site and the remaining areas within the Urban Growth Boundary will result in an increased demand on the existing water system. Projections for the additional demands will be developed in this section in an effort to quantify the potential impacts on the existing water system infrastructure, ground water resources and other related resources.

Projections of future demands from the RTC site will be based on the latest Design Concept Plan (February 15, 2003, as shown in Figure 6.1). Projections for demands from additional growth in areas within the Urban Growth Boundary will be based on information contained in the *2001 Comprehensive Plan*, as amended in 2002.

Table 13.6: Projected Water Usage for RTC Sub-district Residential Development

Development Type	Quantity	Occupants per Unit	Total Occupants	Usage per Occupant⁽¹⁾ (gpd)	Total Usage (gpd)
Mixed Use Residential	1012	5	5,060	120	607,200
Apartment	172	3	516	120	61,920
Duplex	62	4	186	120	22,320
Townhouse	1154	4	4,616	120	553,920
Total Residential	2,400		10,378	120	1,245,360

(1) Per capita usage based on historic average annual usage for existing Ramsey residents; includes only residential use

Table 13.7: Projected Wastewater Flows in RTC Commercial/Service Development

Development Type	Acres Used (ac)	Usage per Acre ⁽¹⁾ (gpd)	Total Usage (gpd)
Commercial (Existing Hwy. 10)	32.2	2,000	64,400
Commercial (Service/Convenience)	11.6	2,000	23,200
Commercial (Shopping)	24.4	1,600	39,040
Mixed Use (Retail/Office)	30.6	2,300	70,380
Civic Center	3.6	13,300	47,880
Business Enterprise	35.9	1,330	47,747
Transit	4.5	1,330	5,985
Public/Open Space	58.2	1,500	87,300
Total Developed Area	201	1,920⁽²⁾	385,932

(1) Projected water usage based on average existing demand per day including irrigation.

(2) Average per acre water usage.

Appendix I shows the water usage and pumping rates for 2002. This information is combined with the above water usage projections for the RTC site plus the projected water use for the undeveloped Urban Growth Area to determine total projected water demand at 2020 and is summarized in Table 13.8. The projected water use for the undeveloped areas, excluding the RTC site, were based on the wastewater flow projections contained in Item 18 and Appendix G (Wastewater Data) and include a premium for irrigation.

Table 13.8: 2020 Urban Growth Area Projected Water Use

Area	Average Daily Usage ⁽¹⁾ (MGD)	Average Annual Usage (MGY)
RTC Development ⁽²⁾	1.631	595
Future Northwest Sub-district	0.160	58
Future Southwest Sub-district	0.839	306
Future Rum River District Usage	0.677	247
Sub-total Future Usage	3.307	1,207
Existing Service Area Usage	1.198	437
2020 PROJECTED USAGE	4.505	1,645

(1) Future usage estimated based on projected land use and includes irrigation

(2) Sum of totals from Tables 18.6 and 18.7.

Discussion of Results: Historic records show that overall per capita water usage (including both residential and commercial/industrial) in Ramsey averages between 130 and 150 gpd per capita . The total projected water usage for the RTC development is estimated to be about 1.631 MGD. Dividing this number by the upper usage of 150 gpd yields an equivalent design population for the RTC of approximately 10,900. This

compares extremely well with the projected residential population at the RTC site of 10,378 persons (Table 13.6).

Similarly, the total future projected water usage for 2020 is estimated to be 4.505 MGD which equates to an equivalent population of about 30,000 persons. In comparison, the information contained in Tables 13.1 and 13.2 estimates the 2020 population served by the community water system to be approximately 28,000 persons. The difference between the two of 2,000 equivalent persons is in line with the *2001 Comprehensive Plan* and can be attributed to two factors.

First, the number of new housing units to be built between 2000 and 2020 was estimated in the *Plan* to be 4,800 (3,346 single family and 1,434 multi-family units). Of this amount, we now know that the RTC site will contribute 2,400 housing units alone while using only a small percentage of the land available for development within the Urban Growth area. Secondly, the *Plan* did not consider the higher water usage per acre of developed land using the higher density development model inherent in the RTC design.

The historic peaking factor for water usage is about 2.6. Based on the above, the peak daily flows for 2020 will be about 11.7 MGD. Potential impacts on the FIG or other resources during average and peak demand are discussed in Appendix F. In addition, storage and distribution designs for the RTC and future development should take into account the need to meet these demands.

In short, growth projections and the assumed resulting water usage estimated in the *2001 Comprehensive Plan* seem to be generally in line with the projections of this Item. The difference discussed above, which is based on design and growth information not available during the preparation of the *Comprehensive Plan*, results in an increase in future water usage of about 7% above that anticipated.

Summary of Environmental Impact. To meet the projected future demands, the City will most likely increase appropriations from the Franconia-Ironton-Galesville (FIG) aquifer. At a minimum, two additional wells (#6 and #7) will be required to meet the RTC demand with the need for additional wells as growth continues. Appendix F indicates that at full 2020 build out, there will be a need for as many as 4 or 5 additional wells pumping at rates similar to the existing ones.

Groundwater level data for the FIG that is collected continuously by the City shows that trending has been in an upward direction in the last two years meaning a recharge condition existed during this period (Appendix F). In addition, because the pumps operate intermittently, they allow the aquifer to recover on a daily basis with a maximum residual drawdown level averaging of 5- to 10-feet during peak summer demand. This would mean that the radius of influence for the wells is very, very small. Taken together, that water levels are rising in the FIG and that there is very little drawdown, water level fluctuations in the surficial drift material are not anticipated. In addition, it does not appear that the municipal wells would have any negative influence on private wells developed in the same unit. However, long term monitoring of the surficial aquifer's

water level is recommended so that data can be collected to correlate against the long term trending patterns within the FIG.

Permitting: The increase in demand will subsequently require an amended DNR water appropriations permit. At that time, the DNR is likely to require the collection of the surficial groundwater data mentioned above. In addition, the DNR may require a pumping test to correlate short term temporal relationships between the two aquifers. The design of additional wells can then be based on this information in an effort to mitigate impacts, assuming any exist.

Wellhead Protection: The RTC is located directly within the Wellhead Protection Area (WHPA) and Drinking Water Source Management Area (DWSMA) determined by the Ramsey wellhead protection program. Additional groundwater modeling information is included in Appendix H. Any contaminating material that is spilled on the permeable sands within the site can potentially migrate into the groundwater system. Additionally, some net decrease in recharge is expected as the RTC develops and infiltration decreases. Storm water management practices that encourage the infiltration of treated runoff will be part of the design and is discussed in detail in Tasks 17 and 20.

Mitigation element. Because the RTC site is within a DWSMA, special precautions are needed to protect groundwater resources. To make sure this occurs, any discharge of runoff into an area dedicated to infiltration will be pre-treated through such practices as particulate settling, vegetative filtration, skimming, installation of compact, sub-grade treatment (ex. catch basin inserts, cyclonic separators, filters), and various types of pre-treatment soil filtering systems. These practices will be routinely maintained and inspected to make sure these pre-treatment practices do not provide a pathway for contamination of groundwater. Areas that are potential major sources of contamination (“hot-spots”) will be identified during construction and special precautions added. These areas would include any location where pollutant spills are more likely to occur (service stations, public works/police/fire fueling operations, significant chemical storage).

Within WHPAs, the use of conventional underground storage tanks to store anything other than water is restricted. If underground tanks are utilized in these areas they must be double-walled with interstitial sensors and a network of monitoring wells must be installed to assess potential groundwater contamination. In addition, an emergency response plan should be developed for the immediate remediation of any spills or leaky tanks.

When assembling the issues that were to be addressed as part of this AUAR, it was noted by the Anoka Conservation District and by the DNR that there is a possible connection between the increased demand for municipal groundwater and the observed lowering of wetlands in the vicinity of Municipal Wells 3, 4 and 5. Appendix F was prepared to assess the general magnitude of the problem and the solutions required to address the issue. It is now apparent that the wetlands in question experience natural drying during periods of relative low precipitation. The photographic history included as part of the

Wetland Delineation report shows wetlands in the vicinity of the RTC site disappearing during the mid to late 1980's which is prior to the development of the municipal wells. This same phenomenon occurs again in the mid to late 1990's and prior to the installation of Wells 4 and 5. The evaluation also found, as stated earlier, that drawdown levels in the FIG unit are minimal and, therefore, could not be influencing the wetlands. To verify these finding, however, it is recommended that long term monitoring be performed.

There is also some concern that increased pumping in the FIG aquifer could impact private wells that pump from this aquifer. Again, the residual drawdown levels in the FIG average 5- to 10-feet during the peak summer pumping period (Appendix F) and recover fully during the Fall, Winter and Spring. Therefore, the radius of influence of the wells will be very small meaning there could be no impacts to private wells developed in the same unit.

Before additional wells are constructed, additional appropriations will be applied for through the DNR. This will most likely require both short- and long-term testing and monitoring to verify the above findings. Through this process, the City can insure that there continue to be no impacts on groundwater and surface resources due to their appropriations from the FIG.

14. Water-Related Land Use Management District

Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district? ☐ Yes ☒ No

If yes, identify the district and discuss project compatibility with district land use restrictions.

For an AUAR, such districts should be delineated on appropriate maps and the land use restrictions applicable in those districts should be described. If any variances or deviations from these restrictions within the AUAR area are envisioned, this should be discussed.

Resource Protection Zones

Ramsey Town Center does not lie within a protected floodplain or shoreland zone, nor does it occur within the boundaries of a designated resource protection zone (see Figure 9.2). However, the site is adjacent to, and will potentially discharge water into the state-designated Mississippi River Critical Area, the federal Mississippi National River and Recreation Area (MNRRA), a state Wild and Scenic River area, and a regional park. All of these areas overlap in coverage south of Highway 10 adjacent to the Town Center (Figure 14.1).

The City's 2001 *Comprehensive Plan* (Chapter XI), as updated in 2002, contains the City's DNR-approved Mississippi River Critical Area Corridor/MNRRA plan. This chapter of the *Plan* addresses the requirements of the Governor's 1979 Executive Order 79-19, which designated this reach of the Mississippi River as a "critical area" in need of special protection. The Executive Order lays out the required elements, which the City has met and exceeded. The *Plan* chapter similarly is consistent with the National Park Service's MNRRA 1994 management plan.

The City's Critical Area Plan (Chapter XI of the 2002 Ramsey updated LCP) closely follows the directions provided by both the National Park Service and the State of Minnesota. As stated in the 2001 *Comprehensive Plan* (page XI-2), "The [Critical Area] plan achieves the required elements of the Critical Area Act (Tier I) and identifies goals, policies and strategies to protect, preserve and enhance the Mississippi River Corridor beyond the required elements of ... Tier II."

The City's Critical Area Plan presents the following: an inventory of natural and cultural features; existing and planned land use; key issues discussion; 38 policies on protecting the environment, preserving and celebrating history and culture, and ensuring sensitive development; performance criteria for developments within the Corridor; and six implementation strategies to assure that the City's plans get put in place.

Although none of the project site is within the state-designated Mississippi Wild, Scenic, and Recreation River management area, established in 1976, the project is

adjacent to this area and could have some impact upon it as development proceeds. The reach of River covered is classified as “recreational”, which indicates it is a river that “...may have adjacent lands which are considerably developed, but that are still capable of being managed so as to further the purposes of ...” the State act. The established State policy is that it is in the interest of present and future generations to preserve and protect the outstanding scenic, recreational, natural, historical, and scientific values of certain Minnesota rivers and their adjacent lands. All state, local, and special governmental units, councils, commissions, boards, districts, agencies, departments, and other authorities shall exercise their powers so as to further the purpose of the Minnesota Wild and Scenic Rivers Act and adopted management plans for the preservation, protection, and management of designated rivers. State Rules pertaining to River management under this program are contained within Chapter 6105.08. The Environmental Protection/Resource Management element of the LCP and its supporting ordinances fulfill these requirements.

The Ramsey Town Center site is also adjacent to the state-designated Mississippi River Critical Area Corridor (Corridor) established in 1976 and the federal Mississippi National River and Recreation Area (MNRRA), a unit of the National Park System, established in 1988. The purposes of designating the Mississippi River as a Critical Area include protecting and preserving a unique and valuable state and regional resource; preventing and mitigating irreversible damage to this resource; preserving and enhancing its natural, aesthetic, cultural, and historical value for public use; protecting and preserving the river as an essential element in the national, state and regional transportation, sewer and water and recreational systems; and protecting and preserving the biological and ecological functions of the corridor.

Under the Critical Area program, Executive Order 79-19 requires that the Standards and Guidelines provided in the Executive Order shall be followed by local units of government when preparing plans and regulations, and followed by State and regional agencies for permit regulation and in developing plans within their jurisdiction affecting lands within the Corridor. Once plans and regulations have been approved by DNR, local units of government shall permit development only in accordance with those adopted plans and regulations and approval. All capital improvement programs or public facilities programs of local units of government, regional agencies, and State agencies which affect lands within the Corridor are required to be consistent with the standards and guidelines in the Critical Area Executive Order 79-19. The City of Ramsey Critical Area Plan has been approved by the DNR as part of the City’s LCP.

Summary of Environmental Impact. The RTC site borders management districts, but does not include them. The mitigation element addresses the planning efforts that will be used to assure compatibility.

Mitigation element. The Ramsey *2001 Comprehensive Plan* was amended in 2002 and contains the measures needed to effectively implement resource protection for all of the resource protection zones adjacent to the RTC site.

The City's compliance with each of the applicable Executive Order 79-19 Standards and Guidelines that must be followed is assured through implementation of the *Plan*. Since the regulated area is not on the project site, but could be affected by it, the City will evaluate all phases of construction for impact on the regulated area.

DNR has ascertained that, based on the information provided to them, the applicable Executive Order 79-19 Standards and Guidelines for which compliance is needed appear to include the following items. The Executive Order citation is followed by the section in the Ramsey 2001 *Comprehensive Plan (CP)* in which the DNR reference is addressed:

- The lands and waters within the Rural Open Space District shall be used and developed to preserve their open, scenic and natural characteristics and ecological and economic functions. [E.O. 79-19 - A. *CP XI.C.1.a*]
- Protect bluffs greater than 18% and provide conditions for the development of bluffs between 12% and 18% slopes.[E.O. 79-19 - C.1.a.(4) *CP XI.C.2.c*]
- Minimize runoff [E.O. 79-19 - C.1.a.(5) *CP XI.C.2.a*]
- Improve the quality of runoff. [E.O. 79-19 - C.1.a.(5) *CP XI.C.2.a*]
- Minimize site alteration. [E.O. 79-19 - C.1.a.(6) *CP XI.C.1.c*]
- Erosion control. [E.O. 79-19 - C.1.a.(6) *CP XI.C.2.a*]
- Management of vegetation cutting. [E.O. 79-19 - C.1.a.(7) *CP XI.C.2.a*]
- *Control of noise in open space and recreational areas. [E.O. 79-19 - C.1.a.(8)]
- Site plans required for all development for which a permit is required, except single-family residential structures. [E.O. 79-19 - C.2.a. *CP XI.C.2.c*]
 - New development and expansion permitted only after the approval of site plans which adequately assess and minimize adverse effects and maximize beneficial effects.
 - Site plans shall include activities undertaken to ensure consistency with the objectives of the Designation Order and shall include measures which address adverse environmental effects.
 - Site plans shall include standards to ensure that structures, roads, screening, landscaping, construction placement, maintenance, and storm water runoff are compatible with characteristics and use of corridor in that district.
 - Site plans shall contain specific conditions with regard to buffering, landscaping, and revegetation.
- Standards for structure site and location to ensure riverbanks, bluffs, and scenic overlooks remain in their natural state. [E.O. 79-19 - C.2.b. *CP XI.C.2.c*]
- Retention of existing vegetation and landscaping [E.O. 79-19 - C.2.e.(1) *CP XI.C.2.a*]
- Maximization of the creation and maintenance of open space and recreational potential of the Corridor in accordance with the standards. [E.O. 79-19 - C.6 *CP XI.C.2.c*]
- Plans and programs to protect open space areas shall be developed. [E.O. 79-19 - 6. d. *CP XI.C.2.c*]
- Programs to manage undeveloped islands in their natural state. [E.O. 79-19 - 6.e. *CP XI.C.2.c*]

- New or modified utility facilities shall complement the planned land and water uses and shall not stimulate incompatible development. [E.O. 79-19 - C.7.b. *CP XI.C.2.c*]
- Capital improvement programs or public facilities programs shall be consistent with the standards and guidelines in Ex. Ord. Section B. and C. [E.O. 79-19 - C.8. *CP XI.C.2.c*]

*Although Chapter XI of the Ramsey *2001 Comprehensive Plan* contains a thorough set of policies and related actions to protect the natural character of the Critical Area, the Chapter does not contain a specific provision addressing control of noise in this area. The next amendments to the City *Plan* will add a specific provision to address this specific element in Executive Order 79-19.

DNR particularly emphasizes the mandates for protection of slopes and bluffs; minimization of site alteration; retention of existing vegetation; minimization of runoff; erosion control; minimization of adverse effects. Selection from among the many available low-impact stormwater development tools and Best Management Practices, as discussed in Item 17, will occur to achieve both minimization and improvement of runoff. As a best management practice for enhancing ecological function of the Critical Area Corridor, DNR highly encourages the use of native vegetation for the required buffering and landscaping, revegetation of removed vegetated areas, and erosion control (grasses, seeding). DNR is also concerned about any cumulative adverse impacts from this project that accelerate development within the Rural Open Space District in violation of those District's standards, and supports voluntary vegetative buffering of structures outside of the Corridor in order to minimize interference with views of and from the water. Since the project does not directly affect the Critical Area (or MNRRA/WSR), the City will identify those areas potentially under its land use control and apply the appropriate standards from its LCP. The City will also work with Anoka County Parks to implement these standards within MRP land controlled by the County.

15. Water Surface Use

*Will the project change the number or type of watercraft on any water body? ___Yes
_X_No*

If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.

This item need only be addressed if the AUAR area would include or adjoin recreational water bodies.

Within the site, there are no water bodies where watercrafts are operated. The nearest recreational water bodies are Lake Itasca to the northwest and the Mississippi River to the south. There is no public water access on Lake Itasca and surface water use is limited to surrounding residents use. The nearest public water access on the Mississippi River is approximately two and a half miles to the northwest in the city of Dayton. According to the Anoka County Parks Department, travel by boat upstream of Anoka is very difficult because of shallow water and numerous sandbars. However, development of Mississippi Regional Park (MRP) may increase watercraft in the area as boaters with small motors or non-motorized boats make their way to the Park. There is not a landing facility proposed in the latest MRP development plan, but casual landing anywhere in the Park can be expected. Also, the availability of parking stalls in the new park will surely add to the ability of canoe and kayak users to more easily access the River. Limited small engine boat use and non-motorized watercraft are not expected to adversely impact the Mississippi River near the MRP.

Summary of Environmental Impact. None are expected.

Mitigation element - Adverse environmental impacts associated with increased small motor and non-motorized boats is not anticipated along the Mississippi River south of the Ramsey Town Center site. In fact, the new Mississippi Regional Park hopes to attract visitors to this portion of the upper River. The use of the park as a formal recreational facility will focus river-related uses to planned areas, and provide resource oversight and supervision of recreational activities.

16. Erosion and Sedimentation

The number of acres to be graded and the number of cubic yards of soil to be moved need not be given; instead a general discussion of the likely earthmoving needs for development of the area should be given, with an emphasis on unusual or problem areas. In discussing mitigation measures, both the standard requirements of the local ordinances and any special measures (ex. WMO) that would be added for AUAR purposes should be included.

The Ramsey Town Center site is relatively flat and contains very sandy, coarse-grained soils (Figure 12.2). Both of these physical characteristics are advantageous when it comes to erosion and sedimentation. This does not mean, however, that erosion will not occur and that sediment will not move if disturbed. Because the disturbance of over 300 acres of land will present the certainty of erosion, the mitigation plan that follows outlines the measures the City will undertake to minimize its adverse impacts.

Figure 16.1 shows the general areas of borrow and fill that will result when earth-moving activity begins. The general concept that will be followed will be creation of a central low area along the drainage corridor alignment, with land gradually sloping upward to the north and south away from the drainageway. Earth will be moved from the drainageway corridor and placed on the north and south slopes. Some grading will likely also be needed on the southern drainage swale just north of the railroad tracks and around Wetlands B and D (Figure 10.1) as buffer areas are incorporated. Exact numbers on the volume of soil moved will not be available until the detailed design phase.

Care will be taken not to disturb or compact the central drainage corridor that will be used to transmit and store water. Similar efforts will be made to avoid compaction in areas where infiltration best management practices (BMPs) will be used. The soil within any landscaped areas will be loosened after heavy construction traffic has subsided. This will enhance the ability of all landscaped areas, whether formal or native, to infiltrate water.

It is expected that organic topsoil will need to be imported to the site to establish a good vegetative cover. The sandy soils will not support many of the typical landscaping plants and ground cover. Native plants that are inherent to the Anoka Sandplain will be used wherever possible to avoid the need for massive soil importation and extensive irrigation.

Summary of Environmental Impact. The grading and development of over 300 acres of land has the potential to contribute sediment to receiving waters where water could flow. Currently, there are few actual receiving areas where water is present. With the establishment of a central drainage corridor and the possibility of mitigated wetlands and water storage areas, the possibility of water-related impact increases. The following mitigation plan addresses how construction will proceed with adequate erosion BMPs in place.

Mitigation element. Prior to any earth-moving activity on the site, an erosion and sediment control plan will be prepared in accord with the requirements of the City of Ramsey and the LRRWMO. Technical assistance in the preparation of this plan will also be sought from the Anoka Conservation District, the Minnesota Pollution Control Agency and the DNR. The City will be permitted through the Phase II NPDES nonpoint program as a Municipal Separate Storm Sewer System (MS4) operator, and will be subject to all of the provisions of that program, including reducing the discharge of pollutants to the “maximum extent practicable” (MEP) through construction site runoff control. Any construction on the site will also be permitted through MPCA’s NPDES general construction permit process.

Prior to any earth moving in the south east corner of the site, Burlington Northern Santa Fe Railroad should be contacted in regards to arsenic contaminated soils. A more detailed description of contamination and contact information is included in Item 20.

Elements of erosion protection will include: phased construction with minimized periods of bare soil exposure, rapid re-vegetation, slope/grade stabilization, use of mulch and fabric on exposed soils, temporary and permanent (if needed) sediment basins, properly installed and maintained silt fencing, and adoption of a regular maintenance and inspection schedule.

17. Water Quality-Stormwater Runoff

17a. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.

17b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.

For an AUAR the following guidance should be followed in addition to that in “EAW Guidelines”:

- *it is expected that an AUAR will have a detailed analysis of stormwater issues*
- *a map of the proposed stormwater management system and of the water bodies that will receive stormwater should be provided*
- *the description of the stormwater systems would identify on-site and “regional” detention ponding and also indicate whether the various ponds will be new water bodies or converted existing ponds or wetlands. Where on-site ponds will be used but have not yet been designed, the discussion should indicate the design standards that will be followed.*
- *if present in or adjoining the AUAR area, the following types of water bodies must be given special analyses*
 - *lakes: within the TC metro area a nutrient budget analysis must be prepared for any “priority lake” identified by the Metropolitan Council.*

Background

Watershed Setting. The details of the surface water management system being proposed for the RTC site are best described by joining **Items 17a and b** into a single discussion. Figure 17.1 illustrates the entire watershed within which the RTC site lays. The watershed extends from north of Lake Itasca to the Mississippi River, covering an area of approximately 2,687 acres.

The larger watershed can be sub-divided into a series of 31 sub-watersheds, which were shown in Figure 12.1 in Item 12. Each of these smaller units was characterized for water quantity and quality modeling under existing conditions, and was subsequently modeled for fully developed conditions as proposed under the City’s *2001 Comprehensive Plan*, as amended in 2002 (Item 5, Figure 5.4), and the preferred site development (Item 6, Figure 6.1).

Drainage through the site. The principal drainage feature currently passing through the site, and evident in Figure 12.1, is a well- to poorly-defined swale that occurs from the northwest corner of the site to the middle of the site, whereupon it disappears. Historically, this swale appears to have been a more significant drainage feature, but

limited runoff has diminished its overall hydrologic function and subsequent farming activities have taken advantage of the swale as tillable land. Reference to Figure 10.1, however, shows that Wetlands A and C occur within this swale, while Wetland B lies adjacent to it. The Wetland E, Type 1 acreage also occurs within this historic drainage swale. General concept possibilities for the drainage corridor and how it fits into the current design and the overall site stormwater mitigation plan are contained in Figures 17.2a, -b, and -c. The collection of features that will be incorporated into the new drainage swale includes a channel to convey baseflow, ponds to store water and promote infiltration, created and restored wetlands, and open space areas where excess water can temporarily be stored. The specifics of these features will not be fully known until the design phase proceeds prior to construction, but Figures 17.2a, -b, and -c contain schematics of how these features will generally appear.

The presence of an historic drainage swale on the site presents an excellent opportunity to incorporate the feature into the site drainage system as an amenity. Although the actual drainage swale alignment will change, incorporating the vegetative and hydrologic character of this historic drainageway can provide both functional and recreational value to the feature. As shown in the preferred design in Figure 6.1, the corridor extends beyond the current terminus, reaching into the Mississippi Regional Park, creating a natural drainageway that could extend from Lake Itasca to the Mississippi River.

The introduction of a drainage connection to the northern wetlands (see Figure 6.6) provides two more corridor connections that could establish greenways to connect to northern Ramsey natural areas. The surface water system can be modeled with these changes/additions in mind, and various optional innovative/natural surface water management assumptions can be used to maximize storage, infiltration, and water quality treatment within it.

Surface water as an Amenity. Water can be treated as a nuisance that must be moved away quickly, or as an amenity that can enhance the natural features of a site. Ramsey Town Center will use water as an amenity. The large events will be drained to prevent flooding, and smaller events will be stored and infiltrated to the extent possible.

The primary drainage-related consideration for the City is to assure the movement of the 100-year runoff event through the site without damage due to flooding. The proposed stormwater management system accomplishes this. However, with the sandy nature of the soils on site (see Figure 12.2), there is also an opportunity to soak water from smaller events into the ground to retain some of the recharge function that will otherwise be lost with development. This combination of safely routing the 100-year event and trying to reduce overall runoff from the site will form the basis for stormwater management developed in Item 17. Under this approach, provision will be made to route, store and treat the 100-year runoff event safely in a series of storm sewers, drainage swales, floodways and ponds. The system will take maximum advantage of the central drainage swale and its corridor to store water as it meanders through the site. Major storage will occur in lined detention ponds, with open areas also available to detain smaller volumes of water and allow it to soak into the ground after settling and vegetative filtering. The

exact character of the corridor and the stormwater management system has not yet been determined, but a range of runoff management effectiveness is discussed in the mitigation section of this Item. The open space value of the corridor will be enhanced with pathways that will parallel the corridor.

Runoff from the areas draining to the central drainage corridor or elsewhere off of the site also could be managed to reduce overall runoff volumes. During the design phase, each major parking area within the Town Center will be evaluated to see whether a system that will pre-treat runoff prior to its introduction into the central drainage system is feasible. Under the ideal scenario, runoff would be routed to the pre-treatment BMP (small-scale detention or filtration) prior to entry into a vegetated flow system that will encourage further filtration and infiltration. Excess flows from these connector drainage features should only occur with substantial precipitation events. Most routinely occurring, small-scale events would soak into the sandy soils. This conveyance system will likely be a connected system of pervious drainage swales, wetlands and vegetated drainageways, but could also include sub-grade settling and filtration treatment trains. The exact character of this system will be determined as part of the final design prior to building construction.

During the detailed design process, the City has the option of incorporating additional volume control features into the drainage system. The specifics of these features can not be defined until the design phase, but they could be used to minimize runoff on a parcel or block scale within the Town Center to hold down the amount of water that will eventually reach the surface water drainage system. Impervious area reduction BMPs that will be used to do this are numerous and will be pursued at the proper design stage. These alternative design features are not intended to replace standard engineering practices of assuring the movement of large storm-related water volumes, but rather supplement the drainage system by reducing overall runoff volumes and peaks.

In addition to the flow reduction benefits, there are water quality benefits. Pre-treating runoff from potentially high loading areas, such as parking lots and roadways, reduces the amount of pollution moving to the regional collection system. Routing pre-settled runoff through wetlands and vegetated swales furthers treatment through vegetative filtration. It is anticipated that these two BMP suites (pre-settling and filtration) will properly prepare water for infiltration into the soil, where additional physical and biological treatment will cleanse the water on its way toward the regional groundwater system. Using the natural cleansing ability of settling areas, vegetative and soil filtration, microbes in the soil and vegetative uptake of nutrients will make the RTC site compatible with the needs of a wellhead protection area. Additional discussion occurs in the groundwater protection section of Item 13 and a recommendation in the Mitigation Plan (Item 33) is made to assure that an ordinance is adopted to assure that incompatible land uses are not allowed within the DWSMA.

Surface Water Modeling

Development of a flow model (XP-SWMM). To adequately predict the impact that this site will have on water resources, a tool is needed to incorporate development and infrastructure assumptions. The model used by EOR for this exercise is the XP-SWMM model (XP Software, Inc.). This model is used to contrast existing conditions with proposed changes associated with development within a watershed. The model looks at the change in land use and land cover, and relates the change to runoff behavior. Runoff predictions can be made for variable frequency events, and routed through the proposed drainage system. The model output and routing can then be used to determine areas where flooding or high water will occur, and then can be used to design a system of stormwater management facilities, which could include detention storage, diversion, infiltration or any number of associated BMPs.

Existing Conditions. The first phase of the quantity and quality modeling involved defining the water behavior as it exists currently. The physical characteristics of each sub-watershed noted in Figure 12.1 form the basis for determining the amount of water that will run off of it during specified climatic events, specifically rainfall and snowmelt events of certain statistical frequency.

The results of the existing conditions quantity analysis using the XP-SWMM model are displayed in Table 17.1 by sub-watershed for the 100-year frequency, 24-hour rainfall event and 10-day snowmelt. This represents the peak flow and volume discharges that would be expected for an event that would occur with a frequency of once every one-hundred years, or 1% in any given year. Volume discharges are based on a 5-day runoff simulation for the 24-hour rainfall event and a 30-day runoff simulation for the 10-day snowmelt event.

Of note in Table 17.1 is the small amount of flow leaving this site at the Highway 10 culvert (subwatershed 30). During a 100-year event, a peak flow of only 28 cubic feet per second (cfs) leaves the AUAR area, reflective of the sandy nature of the watershed and the low intensity agricultural and low density land use. Flow to the Mississippi River from the southeast corner of the site does not occur, but rather soaks into the sandy soils as it flows in a small ditch to the southeast. Because of this reason, the base level for water quantity and quality eventually reaching the Mississippi River is zero.

Table 17.1. XP-SWMM model results for existing conditions

subwatershed	100-year 24-hour rainfall (5.9 inches precipitation)		100-year 10-day snowmelt (7.2 inches runoff)	
	peak flow discharge (cfs)	volume discharge (ac-ft)	peak flow discharge (cfs)	volume discharge (ac- ft)
1	0.1	0.9	1.6	22.8
2	0.0	0.0	0.0	0.0
3	24.9	14.5	38.7	55.7
4	17.7	64.0	21.2	247.6
5	18.3	67.3	22.2	259.4
6	0.4	-2.6	2.9	1.3
7	22.2	64.7	42.1	279.0
8	10.8	30.1	31.9	159.3
9	0.0	0.0	0.0	0.0
10	0.0	0.0	1.4	6.1
11	0.0	0.0	1.0	8.2
12	4.4	0.9	3.0	12.4
13	0.0	0.0	1.3	11.9
14	2.0	10.7	9.0	28.1
15	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0
17	10.3	6.0	15.4	27.5
18	0.1	0.1	0.7	0.7
19	0.1	0.1	1.3	1.4
20	0.0	0.0	15.1	32.3
21	0.4	-0.5	0.9	1.3
22	2.3	-6.3	10.0	18.0
23	2.0	1.9	7.3	9.3
24	9.4	35.6	16.0	144.8
25	8.8	1.2	5.1	6.3
26	12.4	57.9	87.0	404.4
27	12.4	58.7	84.1	408.5
28	0.0	0.0	1.6	-2.7
29	12.4	53.8	39.2	402.9
30	12.4	54.9	28.3	334.7
31	3.4	0.5	10.4	70.8

*Discharge from AUAR
area at Hwy 10 culvert

Note: Negative volume discharge results from backwater into subwatershed from downstream subwatershed.

Runoff Under Developed Conditions. As development proceeds on the 300+ acres that are part of the RTC, runoff will markedly increase. Conversion of sandy open space and agricultural land to commercial and residential uses invariably leads to increased runoff from paved surfaces associated with that development. The translation of the preferred design in Figure 6.1 to a developed schematic for runoff routing was shown in Figure 6.6 as part of the site description. The essential elements of the drainage system proposed for the site are as follows:

- It incorporates a 100-year design event with no infiltration considered, thus generating the “worst case” scenario upon which design can proceed.
- It routes water locally into the central drainage corridor, using a system of smaller ponds, followed by an area of flood storage and infiltration.
- It uses existing detention storage and develops increased storage for the highly impermeable retail center on City property between the railroad tracks and TH10.
- It proposes a connection of the site to the Mississippi River via the County-owned swath of land. This piece of land would contain a detention facility on the upstream side to add storage, followed by an infiltration zone, then a stabilized channel (piped or series of landscaped drop-structures) over the bluff to the river. Of note here is the additional need of this outflow as an outlet for any future TH10 upgrade. Although the development of this corridor for the passage of water has not been approved yet by the County, discussions are under way. This corridor presents the best option for out-letting this closed basin for the RTC site and for future TH10 work. If reaching the River through this option is not approved, another option will need to be pursued, most likely to the southeast along TH10. However, outflow in that direction is also closed and prevented from out-letting to the River, so additional study would be needed to identify an ultimate connection.
- It incorporates infiltration throughout the RTC site as an added benefit rather than as a design component for runoff management. The LRRWMO will not allow infiltration in design of the 100-year event. Rather, whatever other soaking-in that can be achieved in the central corridor will supplement water management. Infiltration can be used to cut peaks and volume, reduce major parts of small-scale events, maintain recharge and treat water quality. Each infiltration feature will need to be designed with an overflow/outlet to assure that water will not remain a permanent feature.
- It develops on-site detention in the central corridor on the western-most of the two sets of available areas; that is, parcel #s 49 and 54. The eastern-most cells (#s 51 and 56) will then be areas with a meandering (baseflow) stream that will rise during runoff events and spill over into a floodplain/infiltration zone, where water can soak into native vegetation, grading upward to a more landscaped, green

mowed grass up near trails by the road. If additional storage is needed, these cells could be changed to contain ponds of the needed size.

Following the development of a drainage system, detailed modeling was done for the individual blocks within the RTC site, and combined with the model output for the areas draining into the site from the north and northwest. All of this drainage was then routed through the site, into the stormwater handling facilities south of the site, and through the proposed drainage corridor to the Mississippi River.

Two modeling scenarios were run to bracket a range of flow under maximum and minimum conditions. The first run of the XP-SWMM quantity modeling developed traditional runoff estimates for the 100-year design event with no infiltration occurring on site. This —~~maximum~~ runoff condition” is contained in Table 17.2.

In the second scenario, a factor was incorporated into the model on a block-by-block basis to account for some infiltration under small-scale events, reflective of the sandy soils inherent to the site. Infiltration is not a design element for the 100-year event, but rather used to estimate volume and rate reductions during frequently occurring events. Infiltration features will be considered during the design phase, but are not proposed as part of this evaluation. However, to demonstrate the effect of infiltration on the 100-year event, Table 17.3 contains the results of the ~~—minimum~~ runoff condition”.

Table 17.2. XP-SWMM model results for developed conditions (maximum runoff condition”).

subwatershed	100-year 24-hour rainfall (5.9 inches precipitation)		100-year 10-day snowmelt (7.2 inches runoff)	
	peak flow discharge (cfs)	volume discharge (ac-ft)	peak flow discharge (cfs)	volume discharge (ac-ft)
1	0.1	0.8	2.7	32.3
2	0.0	0.0	0.0	0.0
3	24.6	14.5	45.5	66.4
4	9.4	45.6	14.8	284.5
5	9.6	52.2	16.3	302.9
6	11.4	47.5	16.1	301.3
7	23.4	58.2	22.8	329.3
8	24.3	74.1	30.5	371.8
9	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0
11	31.5	9.1	17.5	34.5
12	26.7	11.4	14.4	38.3
13	20.7	74.0	22.6	373.2
14	2.0	10.8	25.1	32.4
15	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0
17	12.0	5.6	17.4	28.3
18	29.4	14.4	16.6	23.3
19	44.9	30.2	34.8	70.0
20	72.8	38.4	36.3	83.5
21	15.1	9.1	7.7	13.5
22	22.8	6.1	7.3	9.3
23	65.3	85.3	32.8	387.7
24	132.6	155.1	87.8	516.4
25	110.0	156.0	74.5	524.1
26 WQ Pond	88.7	155.2	46.3	524.0
26 Inf Basin	25.1	150.3	25.3	520.5
27	5.7	1.1	1.7	2.4
28	0.0	0.0	0.0	0.0
29	0.0	0.0	0.1	0.3
30	12.4	1.3	2.0	2.7
31	3.4	0.4	0.5	0.7

*Discharge to
Mississippi River

Table 17.3. XP-SWMM model results for developed conditions with some infiltration considered (—minimum run off condition”).

subwatershed	100-year 24-hour rainfall (5.9 inches precipitation)		100-year 10-day snowmelt (7.2 inches runoff)	
	Peak flow discharge (cfs)	volume discharge (ac-ft)	peak flow discharge (cfs)	volume discharge (ac-ft)
1	0.1	0.8	2.7	32.3
2	0.0	0.0	0.0	0.0
3	24.6	14.5	45.5	66.4
4	9.9	45.7	15.7	284.5
5	10.3	52.2	17.5	303.0
6	11.8	47.6	16.9	302.4
7	19.8	56.4	18.8	325.4
8	19.3	50.0	20.4	284.9
9	0.0	0.0	0.0	0.0
10	0.0	0.0	4.9	12.5
11	25.2	9.3	12.5	30.6
12	28.4	11.5	13.0	34.5
13	20.3	51.4	20.5	287.5
14	2.0	10.8	24.7	31.8
15	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0
17	12.0	5.6	17.4	28.3
18	29.4	16.6	16.1	25.3
19	34.4	24.1	26.7	47.6
20	41.9	32.2	33.5	61.1
21	17.3	9.2	7.7	13.5
22	37.2	6.4	7.3	9.3
23	64.7	61.4	31.5	302.0
24	131.8	125.6	86.1	408.0
25	109.4	126.0	78.4	413.9
26 WQ Pond	89.1	123.3	54.2	409.7
26 Inf Basin	24.7	92.1	24.8	356.2
27	5.7	1.1	1.7	2.4
28	0.0	0.0	0.0	0.0
29	0.0	0.0	0.1	0.3
30	12.4	1.3	2.0	2.7
31	3.4	0.4	0.5	0.7

*Discharge to
Mississippi River

Table 17.4 shows a comparison of discharge from the site for the existing and proposed developed scenarios for the 100-year events. For existing conditions, a maximum peak flow of 28.3 cfs under the Highway 10 culvert occurs during the 100-year, 10-day snowmelt event. Peak flow discharge for proposed development conditions is slightly less (25.3 cfs) than existing conditions, excluding infiltration and assuming that no bio-retention facilities are incorporated into the individual blocks. The existing peak flow rate (12.4 cfs) is exceeded for the 100-year, 24-hour rainfall event under proposed developed conditions (25.1 cfs), but has been significantly reduced from the peak rate of 132.6 cfs at the culvert crossing the RR tracks. Since infiltration is excluded, the numbers presented under proposed conditions are conservative. Slight reductions in peak flow rate discharge at the outlet and significant reductions in volume discharge could be achieved with the incorporation of properly designed and maintained infiltration basins. Volume discharge reductions of 30 to 40 percent could be achieved assuming a moderate rate of infiltration during the 100-year, 24-hour rainfall event and some infiltration during the last 15 days of the 30-day runoff simulation of the 100-year snowmelt event.

Table 17.4. Comparison of peak flows and volumes discharged from site for 100-year events

Model	100-year 24-hour rainfall (5.9 inches precipitation)		100-year 10-day snowmelt (7.2 inches runoff)	
	Peak flow discharge (cfs)	Volume discharge (ac-ft)	Peak flow discharge (cfs)	Volume discharge (ac-ft)
Existing conditions	12.4	54.9	28.3	334.7
Proposed	25.1	150.3	25.3	520.5
Proposed w/ some infiltration occurring	24.7	92.1	24.8	356.2

The primary benefit of incorporating infiltration BMPs into the site is achieved during small storm events. Table 17.5 compares site discharge for the 1-year and 10-year, 24-hour rainfall events considering site design that first excludes infiltration in the basins and then considers infiltration in the basins.

For existing conditions, a peak flow of 2.3 cfs discharge at the Highway 10 culvert for the 1-year, 24-hour event is due to local drainage south of the railroad tracks only, as there is no flow leaving the site at the railroad tracks. As discussed earlier, the flow discharging from Highway 10 is small and does not reach the Mississippi River. For proposed development conditions excluding infiltration in the basins, peak discharge into the Mississippi River would be 14.4 cfs. By incorporating infiltration basins into the site, peak flow is reduced by 50 percent (7.8 cfs) and volume discharge is also significantly reduced. The 10-year, 24-hour rainfall event results in a slight reduction in peak flow, but significant reduction in volume (50 percent) by incorporating the infiltration BMPs.

Table 17.5. Comparison of peak flows and volumes discharged from site for 1-year and 10-year events

Model	1-year 24-hour rainfall (2.3 inches precipitation)		10-year 24-hour rainfall (4.1 inches precipitation)	
	Peak flow (cfs)	Volume (ac-ft)	Peak flow (cfs)	Volume (ac-ft)
Existing conditions	2.3	0.3	7.1	0.7
Proposed	14.4	14.4	23.1	65.0
Proposed w/ infiltration occurring	7.8	4.0	22.6	35.4

Smaller, more frequent rainfall events are critical for water quality. Achievement of long-term year-round water quality benefits requires the ability to retain and treat smaller storm events. To meet LRRWMO water quality requirements based on NURP design criteria, the final design should provide for a dead storage volume of at least 38 ac-ft, which is the volume required to accommodate the runoff volume from a 2.5-inch rainfall event (excluding infiltration in basins).

Water Quality Modeling

Water Quality Under Developed Conditions. As shown in a previous section, the amount of water leaving the site under current conditions is minimal. Consequently, the amount of pollution associated with the runoff is equally minimal. However, this all changes once development occurs. An increase in nonpoint pollution from this site will occur from many new sources, including some or all of the following:

- Automobile, truck and bus traffic (oil, exhaust, vehicle decomposition);
- Lawn and landscaping chemicals (fertilizer and pesticide);
- Litter;
- Vegetative debris;
- Pet waste;
- Fueling spillage from the convenience stations;
- Increased sanding and salting; and
- New construction (erosion, debris).

The pollutant removal efficiencies of the proposed stormwater management practices were assessed using the P8 Urban Catchment Model (*Program for Predicting Polluting Particle Passage through Pits, Puddles and Ponds*, developed by William Walker). This approach allowed for the evaluation of different runoff scenarios, as well as the prediction of pollutant loads passing through the proposed development and eventually into the Mississippi River. Model results presented are for a complete year with a long term average precipitation depth (23.85 inches). This scenario is different than those

presented in the water quantity modeling results, where specific storm events were considered.

Water quality was modeled for several pollutants for two runoff scenarios. Both scenarios consider the likely treatment that runoff would receive in stormwater BMPs located along the route that the water would follow. For example, the runoff routed into a properly designed detention pond would lose about 75% of the total suspended solids it carries. This water can then be routed downstream, where it might encounter another detention pond or infiltration system where another increment is removed.

In the first scenario, runoff is stored only in the detention ponds and infiltration basins within the central drainage corridor. In the second scenario, extra storage that would exist elsewhere on the site in small ponds is considered. In this case, runoff is stored, but does not infiltrate into the groundwater.

The exact nature of the primary solids removal BMPs located at the storm sewer inflows to various drainageways has not yet been determined. These could be a mix of forebays created from earthen material, catch basin inlet filters, all the way to sub-grade treatment train systems.

Table 17.6 presents the results of water quality modeling for total phosphorus (TP). TP was chosen to present the quality results because it is one of the more difficult pollutants to remove. That is, if effective removal of TP occurs, the other pollutants will have equal or better removals. The table shows that with storage and treatment in the central drainage corridor facilities, the total phosphorus load leaving the RTC site (out of subwatersheds 26 and 31) is approximately 20 lbs/year. This figure is cut in half when additional site storage is considered. In terms of a per unit area loading rate, the first scenario yields 0.053 lbs TP/acre-year; that figure is approximately halved with the addition of extra storage. These areal loading rates are reflective of the numerous detention ponds and the natural infiltration occurring throughout the RTC site.

Table 17.6. Average Annual Total Phosphorus in runoff leaving RTC site

	With storage in the central corridor	With additional on-site storage
lbs TP/yr	19.6	10.3
lbs TP/ac-yr	0.053	0.028

The modeled phosphorus removals are contained in Table 17.7. These results are presented to show the reductions that the water quality treatment system used on the RTC site can achieve.

Table 17.7. Total phosphorus load (lbs/yr) entering and exiting several of the major proposed detention basins and infiltration basins.

BMP and Sub-watershed (see Figure 12.1)		lbs TP/yr	
		With central corridor facilities only	With additional on-site storage
Detention basin in sub-watershed 7	In	27.3	15.6
	Out	10.2	4.3
Infiltration basin in sub-watershed 8	In	31.5	16.0
	Out	0	0
Detention basin in sub-watershed 18	In	35.2	20.4
	Out	9.5	3.7
Infiltration basin in sub-watershed 19	In	32.1	16.9
	Out	0	0
Detention basin in sub-watershed 25	In	64.6	34.6
	Out	38.4	20.2
Detention basin in sub-watershed 26 (south of TH10)	In	38.4	20.2
	Out	24.0	12.6
Infiltration basin in sub-watershed 26 (south of TH10)	In	24.0	12.6
	Out	18.9	9.5

Summary of Environmental Impact. The incorporation of a stormwater management system into the RTC site as it develops raises the need for proper collection, routing and storage of runoff. The standard routing of the 100-year frequency event without consideration of any infiltration, in accordance with LRRWMO regulations, yields a volume of 113 ac-ft that must be accounted for in on-site or near-site storage. When infiltration is considered, the volume can be reduced to 105 ac-ft. For events with a return frequency less than 100-years, infiltration can be designed to reduce volume substantially and provide continued recharge to a certain degree.

Mitigation element. The conversion of agricultural land to urban land ultimately increases the amount and rate of runoff leaving the land. Minimizing the impact of that increased runoff is the objective of this mitigation plan.

It must be stressed that this portion of Ramsey does not have a natural outlet to the Mississippi River. The preliminary drainage system described within this AUAR assumes an outlet that takes advantage of publicly-owned, County land that extends from Highway 10 to the Mississippi River south of the RTC site. Preliminary discussions with the County on the use of this land have occurred, but resolution has not been agreed upon. Advantages of using this land extend beyond the RTC site, to the entire sub-watershed, including the eventual upgrade of Highway 10, which will also need a River outlet. If permission cannot be obtained from the County to use its land, an outlet option will need to be pursued to the southeast, along Highway 10. The small amount of water that now leaves the site, runs southeast along the highway, but infiltrates within a short distance.

Mitigation Approach

The quantity and quality approach laid-out earlier in this section describes an approach driven by the need to comply with runoff control rules of the LRRWMO and water quality requirements that are described in the next section. The runoff management system proposed in Figure 17.2 is done in a preliminary sense to allow the City and the developer to proceed with some knowledge of what design specifics will be needed. The City will assure that the developer(s) will design and build the final drainage and runoff management system within this overall framework, in compliance with the mandates of the LRRWMO.

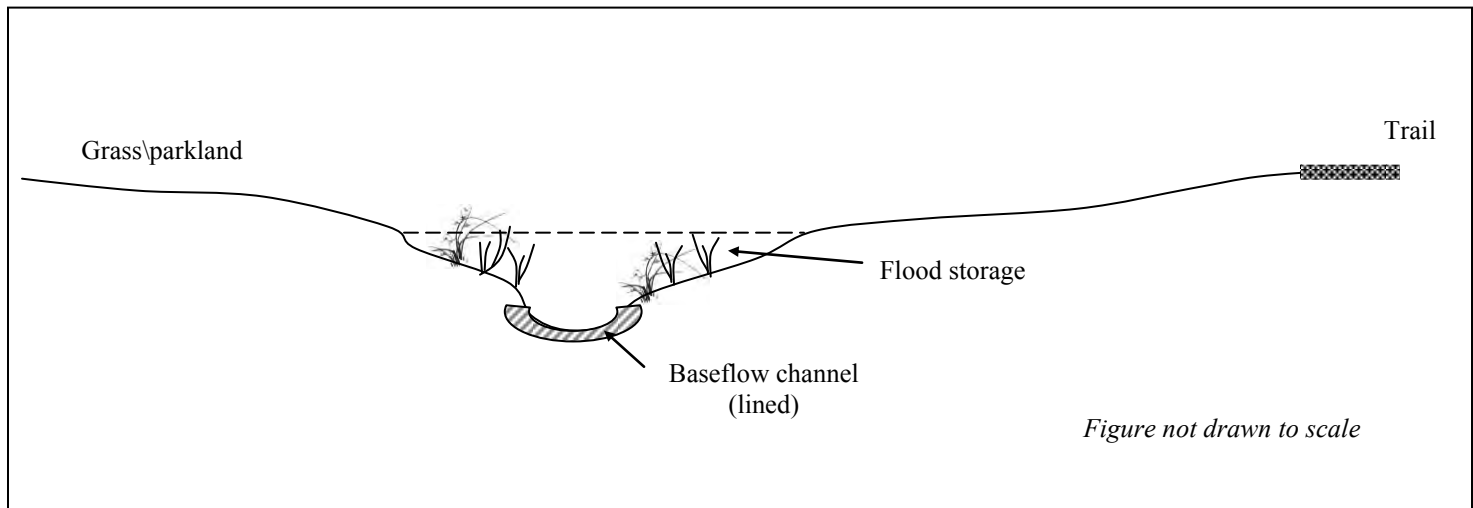
Implementation of BMPs in Preliminary Design

A system of BMPs can be initially proposed to meet the needs identified in the Item 12 and 17 discussions. The first aspect of this design is the handling of the large-scale (100-year) event. Figures 17.2 (a-c) illustrate the major management practice features that are proposed to store and treat runoff in the central drainage corridor. This system is designed to provide volume/peak reduction storage for the runoff, as well as water quality treatment. This approach starts with large detention storage in ponds located on-site in sub-watersheds 7 and 8, followed by similarly sized detention in ponds located in subwatersheds 25 and 26 south of the active development site. This storage is supplemented with additional smaller-scale storage in sub-watersheds 5, 11, 13, 21 and 22. Tables 17.1-17.5 describe the water quantity reductions in these ponds, and Tables 17.6 and 17.7 describe the water quality improvements for TP.

The ponding system provides both permanent pool storage for water quality treatment and temporary flood storage above the permanent pool. The ponds in the central drainage corridor are supplemented by two areas for additional storage of pre-treated runoff. These two areas in sub-watersheds 8 and 19 will allow for water levels to raise and take advantage of storage available. This water will be slowly drained by a controlled outlet, but infiltration will also occur. Figure 17.3 is a schematic cross-section of this approach. Keeping these areas dry except during high flows allows for their use as open space, recreation areas for essentially all of the year, with the exception of that time when they are needed to absorb flow. They then serve to dampen peaks, reduce

volume and enhance recharge. A similar feature is also proposed for sub-watershed 26. This would be the last BMP in the chain of BMPs installed throughout the site and south of it before flows reaches the Mississippi River. Table 17.7 showed the dramatic water quality improvement that this system could provide. Such an approach is mandated by the Phase II discharge requirements (next section) and the MNRRA/Critical Area guidelines (Item 27).

Figure 17.3 Schematic of Flood Storage/Infiltration Portion of Central Corridor.



The runoff calculations in this section included determination of the 100-year event runoff and a condition supplemented by additional on-site storage. Figures 17.2 (a-c) showed the preliminary concept for the central drainage corridor. These figures illustrate the ponding system concept for storage during the large-scale event. Reference to Figure 6.6, however, shows that many additional smaller ponds exist on the site. Use of these ponds and consideration of the infiltration that naturally occurs through the sandy soils inherent to the site, yield a net reduction in flow leaving the site. Even further reduction can be made during the design and construction phases with the incorporation of additional BMPs. These features can also be used to filter inflow to the shallow groundwater system and replace some of the recharge lost to increased urbanization. The City can expect that volumes will be reduced if these features are incorporated in block design runoff routing. The largest benefit would likely accrue from installation associated with large parking lot surfaces. Further reductions can be explored during the detailed design phase.

The final BMP element proposed for runoff control is the use of solids removal pre-treatment at storm sewer outfalls. These installations can be any of a wide variety of forebays or installed sumps/filters that remove particulates from stormwater prior to discharge into any of the drainageways throughout the site. These will also reduce overall pollutant removal and will be a major part of the city's Phase II list of available BMPs.

As part of the design process for BMPs, replacement of non-native vegetation with native vegetation will occur whenever practicable and desirable.

Phase II National Pollutant Discharge Elimination System (NPDES) permit

The City of Ramsey has submitted its draft application for a Phase II National Pollutant Discharge Elimination System (NPDES) permit. The unsigned permit was submitted on March 10, 2003 under the MPCA requirements for the program of the U.S.

Environmental Protection Agency (EPA). MPCA extended the timeline for receipt of an officially signed permit so that the City could authorize signature through a City Council action. The new deadline for receipt of a signed application is May 9, 2003. After that, the City will need to adopt a Storm Water Pollution Prevention Program (SWPPP). Since the City owns and operates a municipal drainage system, it is subject to the provisions of the Municipal Separate Storm Sewer System (MS4) provisions of the law. Construction activities within the City, and specifically on the Ramsey Town Center site, are also subject to the Phase II General Storm Water Permit for Construction Activity.

The MS4 program requires the City to develop and implement a Storm Water Pollution Prevention Program (SWPPP) that includes six minimum control measures:

- Public education and outreach;
- Public participation and involvement;
- Illicit discharge, detection and elimination;
- Construction site runoff control;
- Post-construction site runoff control; and
- Pollution prevention/good housekeeping.

The City must identify best management practices (BMPs) and measurable goals associated with each minimum control measure noted above. The City will be given five-years to develop an effective program after the permit is issued. This period of time coincides with the phased development of the Ramsey Town Center site, which must then include the provisions of the City SWPPP. The City will assure that the provisions of its Program are properly implemented within the Center as development proceeds.

Construction within the City of Ramsey is also subject to the provisions of the NPDES Phase II General Storm Water Permit for Construction Activity. This provision is in addition to the construction control measure required under the MS4 permit. Revisions to the current permit will be implemented by the State in September 2003. Under the proposed State Construction permit, any construction meeting the following criteria will be expected to obtain a permit from the MPCA:

- Any construction activity that results in the disturbance of one acre or more;
- Any construction activity less than one acre, but part of a "larger common plan for development or sale" that is larger than one acre (This would apply to any sub-area construction on the Ramsey Town Center site that is less than one acre because the overall site meets the above criteria.); and

- Any construction activities that MPCA determines will potentially contribute to a violation of a water quality standard or for significant contribution of pollutants to a water resource.

Clearly, any construction on the Ramsey Town Center of any size will be subject to the provision of the Phase II construction permit, especially since the City's MS4 permit requires it to implement control measures addressing construction site runoff control. The SWPPP required for the general construction activity Permit must address the potential for discharge of sediment and/or other potential pollutants from the site, and must include the following elements:

- Temporary erosion prevention and sediment control BMPs;
- Permanent erosion prevention and sediment control BMPs;
- A permanent storm water management system; and
- Pollution prevention management measures.

These elements must be incorporated into the final plans and specifications before applying for permit coverage. Special provisions are made within the General Permit language for discharges to Outstanding Resource Value Waters (ORVW), which includes the Mississippi River through the City of Ramsey, discharges to wetlands and discharges to scenic or recreational river segments, which include the Ramsey reach of the Mississippi River. Within these areas, additional protective BMPs are required. Since the ultimate discharge from Ramsey Town Center is the Mississippi River, these provisions will apply to the construction permits issued for the site. The Item 17 assessment of discharge found that discharge of any storm water from the Town Center downstream to the River will occur under wet conditions. The only feasible and economic alternative for surface water discharge from the site is to the River. Every effort will be made to retain and, if possible, infiltrate normal events on the Town Center site. Excess volumes of surface water runoff will be pre-treated before allowed to drain from the Center or its nearby/adjacent runoff treatment system.

Because the Ramsey Town Center will not have any heavy industrial uses, it is not expected that the provisions of the Phase II NPDES program dealing with Industrial Activity will apply. However, if development conditions change before the site is finally built-out, and heavier industry is allowed on the site, these provisions could apply. Although there is no intent for heavy industry to occur in the Center, the City will monitor the permit requirements relative to land uses under which the permit conditions apply, and implement a control program if ever needed.

Relationship to Mississippi River TMDL

One water quality element of note in the mitigation plan is the need to reduce the negative impact of a discharge to an "impaired water" under the Total Maximum Daily Load (TMDL) program. The Mississippi River through the City of Ramsey has been listed on the MPCA recommended "303d" list as impaired relative to fecal coliform, PCB and mercury. The PCB and mercury programs are regional in scale and are the subject of regional MPCA and USEPA remediation programs. The discharge of storm water high

in fecal coliform, however, is something that the City will need to address. The implementation of nonpoint source pollution control BMPs does not necessarily assure the reduction of fecal coliform. The process for setting a TMDL includes the initiation of a formal study that results in recommendations for control of the pollutant causing the impairment. MPCA has not yet begun this study for the impaired Mississippi River reach; however, once this study begins (currently scheduled for 2004-2006), the City will cooperate to the best of its ability with the MPCA to reduce the input of fecal coliform to the River.

DRAFT

18. Water Quality-Wastewater

18a. Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.

18b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies, and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.

18c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.

18d. Does not apply.

Observe the following points of guidance in an AUAR:

- *only domestic wastewater would be coming from industrial uses that are excluded from review through an AUAR process;*
- *wastewater flows should be estimated by land use sub-areas of the AUAR area; the basis of flow estimates should be explained;*
- *the major sewer system features should be shown on a map and the expected flows should be identified;*
- *if not explained under Item 6, the expected staging of the sewer system construction should be described; and*
- *the relationship of the sewer system extension to the RGU's comprehensive sewer plan and (for metro area AUARs) to Metropolitan Council regional systems plans, including MUSA expansions, should be discussed.*

18a. General - Source, composition and quantity

In Minnesota communities, the management of wastewater is a health-related necessity. Providing adequate wastewater management services to residents and businesses in a community results in several additional benefits, including protection of the environment, enhanced economic development, and beneficial reuse of bio-solids and nutrients.

Policies within the City's *2001 Comprehensive Plan*, as amended in 2002 (*Comp Plan*), indicate that the City will:

- Extend municipal sewer services to areas within the existing and future Metropolitan Urban Services Area (MUSA) as shown on Figure 5.4 and consistent with the provisions and process outlined by the City.

- Extend municipal sewer services to rural areas only if:
 - A pollution problem exists due to failing or leaking septic systems;
 - The only cost effective solution to the problem is connection to municipal sewer or a central sewer system;
 - Capacity exists in the metropolitan treatment system to provide service to the rural area in question; and
 - A fair and equitable financing tool is in place to recover the costs of building the sewer expansion facilities, so that existing rural residents who remain on functioning private septic systems are not required to pay assessments.
- Develop an equitable and fair financial framework for building and maintaining the existing and future municipal sewer system.
- Provide for the efficient and timely extension of municipal sewer services in accordance with the development staging plan as depicted in the future land use plan.
- Oversize sewer pipes so that in the event private septic systems fail the municipal sewer system is properly sized to handle additional capacity.
- Annually monitor sewer flowage into the two metropolitan interceptors in order to identify infiltration and inflow (I&I) problems, which can cost-effectively be repaired.
- Work with the Metropolitan Council Environmental Services division to identify any points of major I&I into the system and devise a plan to minimize future I&I.
- Emphasize prevention and education to protect against ground water pollution related to on-site sewage disposal systems.
- Ensure existing on-site sewage disposal systems in the City are consistently maintained and monitored as required under Minnesota Rules Section 7080.

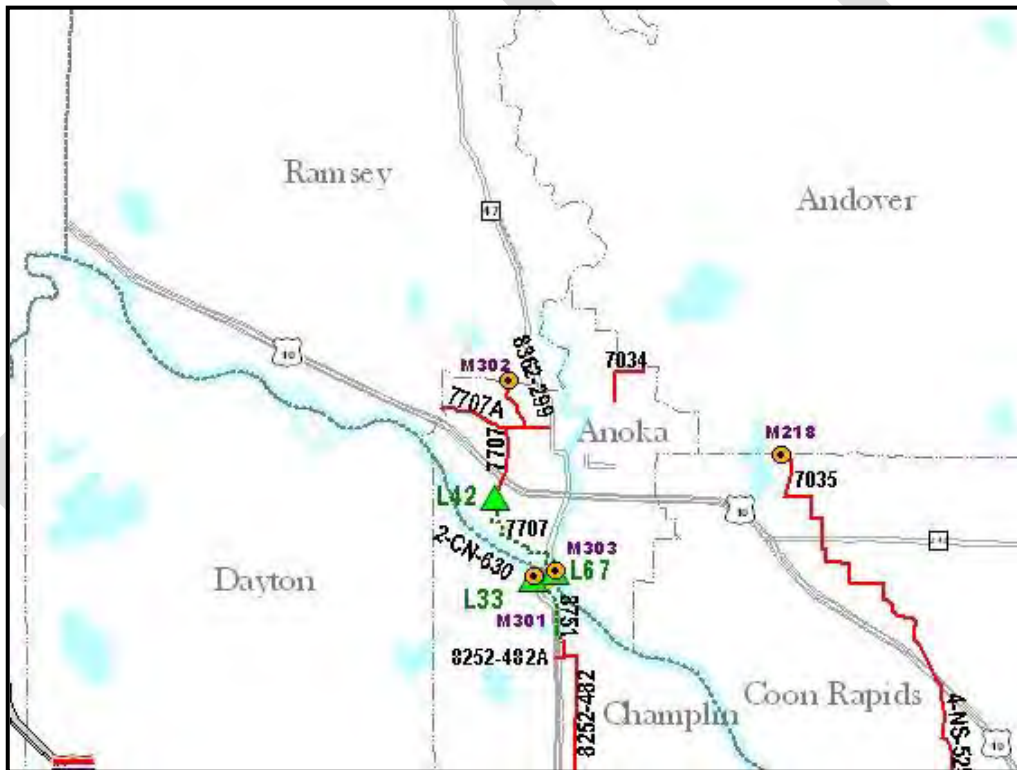
Based on the *Comp Plan*, the availability of wastewater management services within the City can be divided into three distinct service categories as follows:

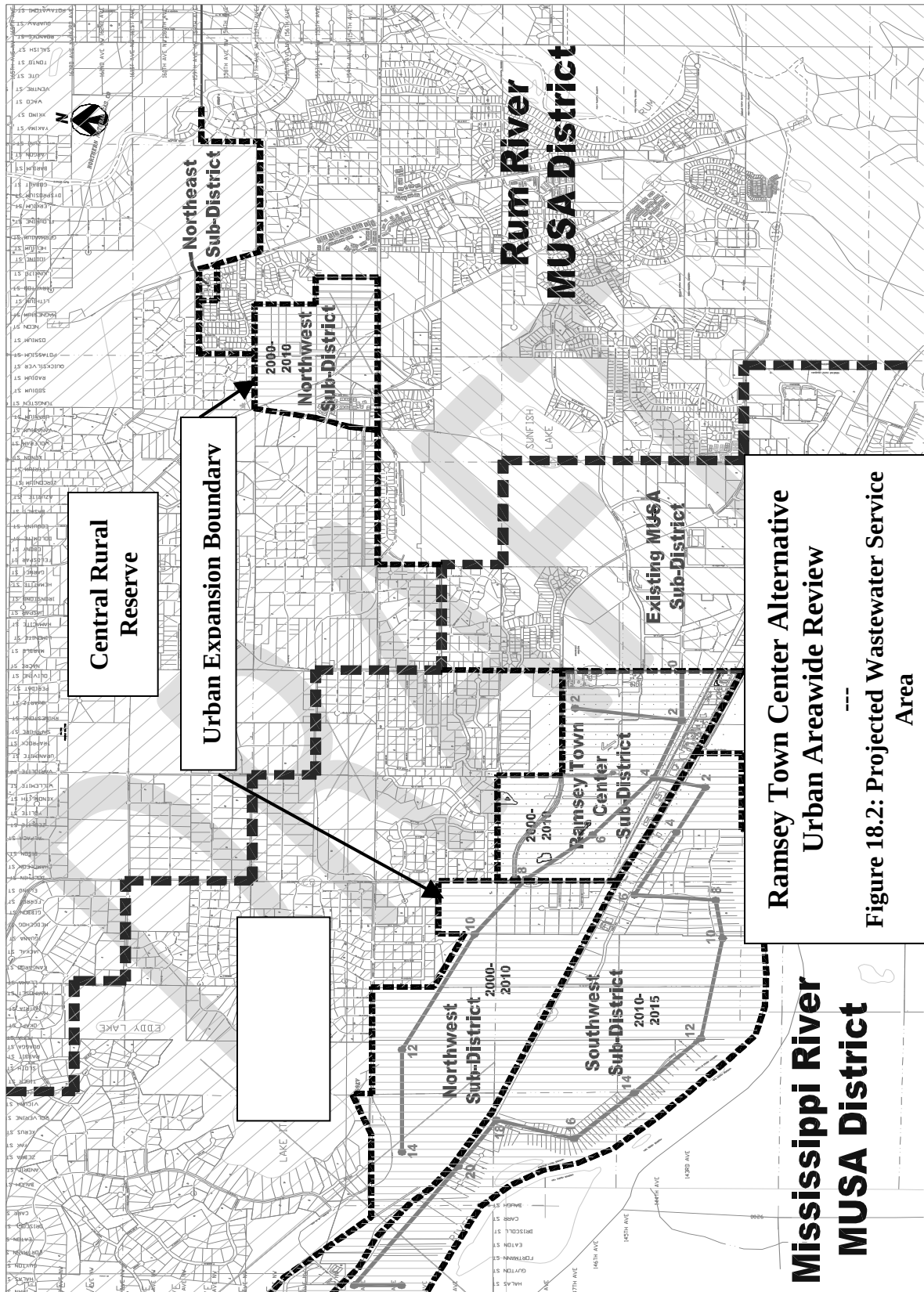
- Existing Urban (MUSA) Area: Residents and businesses within this area are currently served by the MCES's regional interceptor. Wastewater is transported via this interceptor to the MCES Metro Wastewater Treatment Plant in St. Paul (Figure 18.1 and 18.2).
- Urban Growth Area: These are areas designated by the City of Ramsey in its *Comp Plan*, as being within the Urban Growth Boundary. Wastewater services for future development in this area will be provided by an extension

of the City's wastewater collection system for transport to the MCES regional interceptor (Figure 18.1 and 18.2). Existing residences and businesses currently within this area are serviced by individual septic systems.

- Central Rural Reserve and Rural Developing: Residents and businesses in these areas use primarily individual septic systems for wastewater management and individual wells for potable water (Figure 18.2). Although extension of MUSA service to these areas is not currently planned, design of the existing and future sewer mains must take into account any potential future need. Therefore, for purposes of the AUAR, projected flows are calculated for those areas within the Sewer Service Boundary shown in the *1991 Comprehensive Sanitary Sewer Plan* (Sewer Plan). Generally, these areas are designated Rural Developing in the *Comp Plan* and are located north of the Urban Growth Boundary and south of Trott Brook.

Figure 18.1: MCES Wastewater Facilities Serving Ramsey





**Ramsey Town Center Alternative
Urban Area-wide Review**

**Figure 18.2: Projected Wastewater Service
Area**

Table 18.1: Projected Wastewater Composition and Loadings

Contaminant	Concentration (mg/l)	Total Annual Mass Loading ⁽¹⁾ (tons)
Total Dissolved Solids	500	4,871
Total Suspended Solids	220	2,143
Biochemical Oxygen Demand - 5-Day (BOD ₅)	250	2,435
Chemical Oxygen Demand (COD)	500	4,870
Nitrogen (Total as N)	50	487
Phosphorous (Total as P)	10 ⁽²⁾	97

(1) Based on a projected annual flow of 2,336 MGY.

(2) Phosphorous levels are somewhat elevated to compensate for disposal and restaurant wastes.

Wastewater from the RTC development is considered domestic as no industrial waste is proposed. Table 18.1 lists the projected composition of the wastewater and the projected concentration of common contaminants. The above projected loadings fall within the range of “average” wastewater strengths. Because of this, it appears that the MCES Metro Wastewater Treatment Plant will be able to handle the projected waste composition and loadings from the RTC Development.

18b. Description of Existing Wastewater Management Systems

Local Collection System Capacity – Within each of the Districts, wastewater is collected and transported to the main interceptors primarily by gravity sewer. When necessary, pumping stations and force-mains are used to overcome elevation changes. Inflow and infiltration into the sanitary sewer is expected to be minimal due to the relatively new age of the system.

The City’s *Comp Plan* documented MCES Projected Wastewater flows for the City of Ramsey to be between 542 and 668 MGY or a maximum of 1.8 MGD. The *Sewer Plan* indicated that at full build out, 2.8 MGD of flow would be generated by a sewered population of 27,200 persons and a sewered employment of 7,000 employees. It appears that the existing sewer collection system has been designed to accommodate the larger flow of 2.8 MGD.

Regional Interceptor Capacity – Availability of capacity in the regional interceptor system depends on several factors but is generally based on Met Council design and growth projections for developing communities. The *Comp Plan* indicates that Met Council projections of wastewater flows for the City of Ramsey in 2020 were between 1.5 and 1.8 MGD. The *Sewer Plan* states that the two regional interceptors serving Ramsey were design to handle a combined average daily flow of 7.87 MGD. However, the regional facilities downstream of the interceptors are not. The *Sewer Plan* also states that approximately 30% (2.8 MGD) of the capacity at the Anoka lift station is reserved for Ramsey. In either case, the *Comp Plan* states that “If and when growth or sewer demand exceeds the current regional facility sizing, those facilities will require

upgrading”.

For purposes of this AUAR, it is assumed that the available capacity in the MCES Regional System is at a minimum 2.8 MGD and could be as high as 3.8 MGD without requiring significant upgrades. This 3.8 MGD figure is based on a telephone conversation held in February of 2003 in which MCES Officials indicated that additional capacity may be available due to slower than anticipated growth and development in other cities. Therefore, it is recommended that the City contact MCES to formalize a new agreement on existing and future available capacity. Future decisions on growth, and the need for infrastructure improvements, can then be planned and executed as necessary.

Existing Urban Flows – Within the existing Urban Wastewater Service Area (Table 18.2), approximately 1,500 residential households and 250 acres of commercial, industrial and institutional development are served by the MCES regional interceptor. The entire Urban Service Area is divided into two service districts that connect to separate regional interceptors: the Mississippi River District and the Rum River District (Figure 18.2). These Districts are divided somewhat along the watershed divide for the two rivers.

Table 18.2: Existing MUSA (Category 1) Flows by District

Description	Average Daily Flow (MGD)	Peak Hourly Flow (MGD)	Average Annual Flow (MGY)	Average Daily Flow Capacity (MGD)	Peak Hourly Flow Capacity (MGD)
Mississippi River MUSA District	0.161 ⁽¹⁾	0.475	59	-	10
Rum River MUSA District	0.390 ⁽²⁾	1.120	143	-	8
TOTAL	0.551	1.595	202	2.8 to 3.8	18

(1) Based on 2002 monthly flow records provided by MCES. (2001 Comp Plan estimated at 0.199 MGD)

(2) Based on 2002 average quarterly flow monitoring records provided by MCES. (2001 Comp Plan estimated at 0.406 MGD)

(3) Peak hourly flows were calculated using average design value formulas.

The two regional interceptors serving the City have a combined peak capacity of 18.0 MGD. The Rum River MUSA District, which is served by a 30-inch diameter interceptor, has a maximum design capacity of about 8 million gallons per day (MGD). The Mississippi River MUSA District, which is served by a 30-inch diameter interceptor, has a maximum peak design capacity of about 8 MGD. As stated earlier, it is assumed that 2.8 to 3.8 MGD of average daily flow capacity is available in the regional system. Therefore, it appears that approximately 1.2 to 2.2 MGD of average daily capacity is currently available, without upgrades to regional facilities, for future development in Ramsey.

The capacity of the MCES interceptors appears to be adequate for the existing average daily and peak hourly wastewater flows from each District. In addition, the combined average daily flow of 0.551 MGD does not exceed the MCES limit of 2.8 to 3.8 MGD.

The reserve capacity for future growth with the Ramsey MUSA, therefore, appears to be about 2.2 to 3.2 MGD.

Rural Wastewater Management – In areas outside of the existing MUSA, a total of 3,750 households are served by private on-site septic systems and drain fields. Of these, 3,260 are systems that are outside of the current Urban Growth Boundary. The remaining 490, which are located within the Urban Growth Boundary, are earmarked in the *Comp Plan* to be connected to the MUSA system during phased expansion through about 2015. Approximately half of the 3,750 onsite systems were constructed before 1974 and have not been replaced or upgraded since. The remaining systems are new or have been upgraded since 1974 due to failures or real estate sales. There has been no known or reported groundwater quality issues related to failing septic systems. The City has passed an ISTS ordinance.

Future Wastewater Management. As stated earlier, the City's wastewater collection system is divided into two Districts that generally follow a watershed boundary: the Rum River MUSA District and the Mississippi River MUSA District. The City's 2001 Comprehensive Plan identified areas within the City limits that would receive MUSA wastewater service under future planned expansions through 2015. These areas are all within the Urban Growth Boundary.

In the Rum River MUSA District Urban Growth Area, future expansion is planned to serve two small areas to the north of 163rd Ave. (Figure 18.2). In the Mississippi River MUSA District Urban Growth Area, future expansions are planned for a fairly large area to the west of Ramsey Blvd., and to the north and south of U.S. Hwy. 10, also shown in Figure 18.2.

The RTC Site is located within the Mississippi River MUSA District. It was identified in the City's 2001 *Comprehensive Plan*, as amended in 2002, for expansion of the centralized wastewater system between 2000 and 2010. In addition to the RTC Site, the plan identified other Urban Growth Areas to the west of the RTC Site with sewer extension occurring between 2000 and 2015.

(Note: The selection of sub-districts is solely for convenience in determining current and future design flows and was not intended to correlate with any development timelines..)

Methodology: Existing and projected future flows for each District need to be determined in order to consider potential future impacts from the RTC Development. In general, the methodology follows that used in the City's 2001 *Comprehensive Plan*, as amended in 2002, and estimates future flows for all areas within the Sewer Service Boundary developed in the *Sewer Plan* (Generally all areas south of Trott Brook).

Flows for the areas currently served by the MUSA will be based on the 2001 MCES reported flows as shown in Table 18.2. Flows for the future Urban Growth Areas are based on projected land use and generally follow the procedures developed in the City's 2001 *Comprehensive Sewer Plan*, as amended in 2002 (A summary of the projected

flows is included as Appendix G). For the RTC Site, future flows were estimated based on projected occupancy and development types presented in the latest RTC preferred design shown in Figure 6.1.

Mississippi River MUSA District – To determine future wastewater flows, the Mississippi River MUSA District Urban Growth Area was divided into five sub-districts: the existing MUSA Sub-district, the Rural Sub-district, the RTC Sub-district, the Northwest Sub-district and the Southwest Sub-district (Figure 18.2).

Table 18.3: Projected Wastewater Flows for RTC Sub-district Residential Development

Development Type	Quantity	Occupants per Unit	Total Occupants	Flow per Occupant (gpd)	Total Flow (gpd)
Mixed Use Residential	1012	5	5,060	75	379,500
Apartment	172	3	516	75	38,700
Duplex	62	4	186	75	13,950
Townhouse	1154	4	4,616	75	346,200
Total Residential	2,400		10,378	75	778,350

Table 18.4: Projected Wastewater Flows For RTC Commercial/Service Development

Development Type	Acres Used (ac)	Flow per Acre (gpd)	Total Flow (gpd)
Commercial (Existing Hwy. 10)	32.2	1,500	48,300
Commercial (Service/Convenience)	11.6	1,500	17,400
Commercial (Shopping)	24.4	1,200	29,280
Mixed Use (Retail/Office)	30.6	1,700	52,020
Civic Center	3.6	10,000	36,000
Business Enterprise	35.9	1,000	35,900
Transit	4.5	1,000	4,500
Public/Open Space	58.2	100	5,820
Total Developed Area	201		229,220

Table 18.5: Mississippi River District Projected Future Wastewater Flows by Sub-district

Sub-district	Existing Average Daily Flow (MGD)	Existing Peak Hourly Flow (MGD)	Future Average Daily Flow (MGD)	Future Peak Hourly Flow (MGD)
RTC Sub-district	0	0	1.010	3.100
Northwest Sub-district	0	0	0.472	1.342
Southwest Sub-district	0	0	0.599	1.677
Rural Developing ⁽¹⁾	0	0	1.427	3.602
Sub-total	-	-	3.508	6.422
Existing MUSA	0.161	0.475	0.161	0.475
TOTAL	0.161	0.475	3.669	6.520

(1) From 1991 Comprehensive Sanitary Sewer Plan.

The combined future wastewater average and peak daily flows for the Mississippi River MUSA District are 3.669 MGD and 6.520 MGD, respectively (Table 18.5). These flows are well within the range for the design of the local regional interceptor which has a peak daily capacity of 10 MGD. However, it does appear that improvements to downstream MUSA infrastructure, such as the Anoka lift station, may be required at some future date.

In addition, there is a 27-inch sewer main that terminates at a manhole on the eastern edge of the RTC development at the corner of Ramsey Boulevard and 143rd Avenue. Assuming the minimum allowable design slope of 0.07%, the maximum instantaneous flow that can be handled by this line is 8.216 MGD. Therefore, it appears that the existing 27-inch main is sized to handle wastewater flows from the RTC development and future growth from the Urban Growth and Rural Developing Areas.

Note: The 27-inch main mentioned above runs for two blocks before tying into a 30-inch main. Because of this, and the uncertainty of future flows and pipe slopes, it is recommended that a 30-inch sewer main be installed throughout the entire RTC development and, if required, only two blocks of 27-inch main will need replacing in the future.

Rum River MUSA District – To determine the future wastewater flows, the Rum River MUSA Sub-District has been divided into four sub-districts: the Existing MUSA Sub-district, the Rural Sub-district, the Northwest MUSA Sub-districts and the Northeast MUSA Sub-district (Figure 18.2). Table 18.6 shows the current and future flows for the Rum River District.

Table 18.6: Rum River District Projected Future Wastewater Flows by Sub-district

Sub-district	Existing Average Daily Flow (gpd)	Existing Peak Hourly Flow (gpd)	Future Average Daily Flow (MGD)	Future Peak Hourly Flow (MGD)
Northwest MUSA Sub-district	0	0	0.097	0.287
Northeast MUSA Sub-district	0	0	0.021	0.063
Rural Sub-district	0	0	2.221	5.775
Sub-total	-	-	2.339	6.081
Existing MUSA	0.390	1.119	0.390	1.119
TOTAL	0.390	1.119	2.729	5.704

The combined projected average daily flow for the Rum River District is 2.729 MGD with peak flows reaching 5.704 MGD. Therefore, there appears to be sufficient capacity in the MUSA regional interceptor which is designed for a peak flow of 8 MGD. Again, it is recommended that the City reevaluates their MCES allocation of the interceptor capacity prior to performing an update of their Comprehensive Sewer Plan.

Combined City of Ramsey Flows. Table 18.7 below shows the total future average daily wastewater flow for the entire City to be 6.4 MGD with a peak hourly flow of 12.2 MGD. It should be noted that these flows assume the maximum possible density at final build-out and, therefore, represent the most conservative scenario. As a result, it appears that the existing interceptors are large enough to carry the projected future average daily flows, as well as the projected future peak hourly flows. However, it appears that the future average daily wastewater flow is above the MCES allocated flow of 2.8 MGD as well as the higher allocation of 3.8 MGD. Discussions with MCES on allocated capacity should begin.

Table 18.7: Projected Wastewater Flows for 2020

Sub-district	Future Average Daily Flow (MGD)	Future Peak Hourly Flow (MGD)	Average Annual Flow
Mississippi River MUSA District	3.7	6.5	1,350
Rum River MUSA District	2.7	5.7	985.5
TOTAL	6.4	12.2	2,336

Summary of Environmental Impact. The provision of sanitary sewage collection and transport to a treatment facility is a normal urban service provided by a community as its urban area develops. There is no adverse environmental impact expected as long as the plan for provision of this service is followed according to the City's 2001 *Comprehensive Plan*, as amended in 2002 and coordinated with MCES.

Mitigation element - Both the wastewater flows and the projected loadings from the RTC development can be effectively transported and treated by the MCES system. In addition, future development and resulting flows are within the range of those estimated in the City's *2001 Comprehensive Plan*, as amended in 2002. Therefore, it does not appear that there is any cause for specific remediation actions. A 30-inch sewer main is recommended to serve the RTC.

As noted earlier, it will be necessary for the City to update its *Comprehensive Sewer Plan*, following discussion with MCES on increased allocated capacity. In addition, it will be important to measure and test the wastewater flows from the new development on a periodic basis. This will allow the City and MCES officials to monitor the characteristics of the wastewater generated by the development over time and to address any future unforeseen changes.

19. Geologic Hazards and Soil Conditions

*19a. Approximate depth (in feet) to ground water: **4 minimum, 10 average**
Approximate depth (in feet) to bedrock: **120 minimum, 160 average***

Describe any of the following geologic site hazards to groundwater and also identify them on the site map: sinkholes, shallow limestone formations or karst conditions. Describe measure to avoid or minimize environmental problems due to any of these hazards

19b. Describe the soils on the site, giving NRCS (SCS) classifications, if known. Discuss soil granularity and potential for groundwater contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.

For an AUAR, a map should also be included to show any groundwater hazards identified. A standard soils map for the area should be included.

19a. The regional water table is four feet from the surface in low areas of the site, but average depth to groundwater is ten feet (Figure 19.1). The easily accessible water table provides a readily available source of groundwater. Bedrock units below surficial materials provide additional groundwater sources. The City of Ramsey drinking water is currently supplied by five wells. Three of these well are in, and adjacent to, the Town Center and pump water from the Franconia-Ironton-Galesville (FIG) aquifer. Details of this system are provided in Item 13. Groundwater flows at low gradients to the south-southeast towards the Mississippi River in the FIG aquifer.

Surficial sediments consist of Quaternary glacial outwash composed primarily of sand and gravel (Figure 19.2). The majority of the site lies within the Langdon Terrace. The northeast edge of the site consists of the Richfield Terrace. Both Terraces are deposits of the historic Mississippi River and consist of sand layers of varying thickness overlaying till or bedrock. Boulder lags and scarps are typically found at the contact between the two Terraces. Clay layers of varying thickness are found at typical depths of 50 feet. Thickness varies and the layers do not appear to be continuous. These clay layers inhibit the downward flow of groundwater to lower bedrock units. The clay is typically mixed with sand or gravel, or has pockets of sand and gravel. Silt, clay, and hydric soils can be found at or near the surface in some areas. These materials are hydraulic barriers retaining surface water where surface water features are not reflections of groundwater.

Beneath the Town Center, minimum depth to bedrock is 120 feet and average depth is approximately 160 feet (Figure 19.3). The uppermost bedrock unit below the Town Center is the Franconia Formation (Figure 19.3). The Upper Franconia is fine- to coarse-grained dolomite cemented sandstone with thin beds of shale. The Lower Franconia units are glauconitic and feldspathic well-cemented sandstone inter-bedded with thin shale layers. The two are separated by a thicker shale bed, which is far less able to transmit water, further slowing the downward flow of water to deeper aquifers. Below the

Franconia is the Iron-ton-Galesville Formation. The Iron-ton and Galesville formations are medium to very coarse-grained sandstones interlaid with thin beds of shale. The formations are separated from the water at the surface by clay layers in glacial material and by the thick shale bed in the Franconia Formation. These units of shale and clay act as —quitards”, meaning they have low permeability and slowly transmit water, or retard the flow of water to lower bedrock units.

The Minnesota Geological Survey (MGS) is currently reviewing the bedrock geology of this region. A final map from this study will be available in fall 2003. The study identifies the possibility of shallow bedrock valleys where the St. Lawrence formation is absent throughout Anoka County. These shallow valleys can be difficult to identify, as the St. Lawrence is often misinterpreted as Upper Franconia. It is typically present as a cap on high bedrock areas. Well logs from the project site (Figure 19.3) indicate that the St. Lawrence does not exist below the Town Center, but because of common misinterpretations, a thin layer may be present.

Through the course of the MGS study, a bedrock valley was identified two miles north of the Town Center site (Figure 19.4). The valley cuts down through all upper bedrock units into the Iron-ton-Galesville Formation. Bedrock valleys bring quaternary sediments in direct contact with deep bedrock formations. This interaction may result in the quaternary aquifer recharging bedrock aquifers without the typical aquitards that protect these aquifers from surface pollutants.

19b. Soils within the Town Center are highly permeable sand and gravel in the upper 50 feet. These are the soils through which RTC stormwater infiltrates (Figure 12.2). Soil borings on-site indicate the first foot of soil is silt and sand, followed by poorly graded fine to medium-grained sand with traces of gravel. The Natural Resources Conservation Service (NRCS) classifies the soils on site as Hubbard series, Duelm, and Isanti. The Hubbard soils classified on site are coarse sand with slopes that range from 0-12 percent. The Duelm is a loamy coarse sand and the Isanti is a sandy loam. The Isanti is a hydric soil.

All soils on site have a permeability that ranges from six-to-twenty inches per hour. The high permeability of the soils increases the potential for shallow groundwater contamination. To reduce this risk, pretreatment of stormwater runoff prior to infiltration and community education programs on household chemical and fertilizer use can be implemented.

City wells were tested for tritium as part of the wellhead protection area (WHPA) and drinking water supply management area (DWSMA) delineation for the City of Ramsey. Tritium is a form of hydrogen and can act as an indicator of groundwater age, but does not pose a health risk. Atmospheric tritium levels increased during the 1950’s due to testing of atomic bombs. Therefore, tritium levels are used to indicate whether groundwater entered the ground before or after 1950. Public water supply wells with high levels of tritium are classified as —vulnerable” to surface processes because of the relatively recent (post-1950) interaction with the surface. Tritium levels in the three city

wells around the Town Center are high. The high levels may be caused by the rapid rate of infiltration through the highly permeable sand and gravel materials of the Anoka Sand Plain, or by the interaction of the quaternary and bedrock aquifers in the bedrock valley to the north of the site.

Water quality tests of Ramsey public water supply wells including tests for nitrates, pesticides, volatile organic compounds, and arsenic were found to meet all of the Safe Drinking Water Act drinking water limits. Manganese and iron are present and may produce staining and metallic tasting water, but do not pose a health risk. Clay layers in the glacial material and shale layers in the Franconia Formation slow or impede the course of potential surface pollutants towards the lower bedrock formations and therefore help to maintain the quality of the Ramsey water supply.

Summary of Environmental Impact. There were no geologic hazards within the Town Center site. A bedrock valley was identified by the MGS approximately a mile and a half north of the Town Center. Due to the high permeability of the Anoka Sand Plain, the surficial aquifer is susceptible to contamination from surface activities. This contamination could potentially reach the water supply. The following mitigation plan details means to minimize the risk of contamination.

Mitigation element. The high permeability of the soils at the Town Center are ideal for the implementation of infiltration practices that will manage stormwater runoff, provide flood control and recharge the water table aquifer. However, the high permeability also increases the risk for potential contamination of groundwater resources. In order to mitigate this risk, best management practices (BMPs) and community education programs will be implemented.

Extensive use of herbicides, pesticides, and fertilizers on residential and public lawns, and agricultural fields is discouraged in the City of Ramsey, as stated in the City's *2001 Comprehensive Plan*. Implementing community education and awareness programs to discourage the above stated activities, as well as to inform on household and business chemical usage and hazardous waste storage and disposal will help reduce the potential for groundwater contamination by these types of substances. The appropriate use of native vegetation will also reduce the need for herbicides, pesticides and fertilizer throughout the Town Center.

Infiltration of stormwater under carefully managed conditions is essential for recharging groundwater. Infiltration through soil also removes nutrients and other potential pollutants from surface water, pretreating and maintaining the quality of the water. Potential groundwater contaminants from stormwater runoff associated with land uses similar to the proposed Town Center land uses include nitrates, pesticides, organic compounds, and heavy metals. The potential for contamination from these substances is greatly reduced when stormwater runoff is pre-treated prior to infiltration and BMPs are implemented. Pretreatment methods vary, but include the use of permeable materials to promote infiltration and pollutant removal by soil, vegetation to filter surface water, settling to remove solids and pollutants associated with them, and preventative measures

such as limiting the storage of chemicals and homeowner education on chemical use. Several manuals for design, installation and maintenance of BMPs are available to guide the City. Citizen and staff education will also help implement protective practices.

The use of these types of practices increases wildlife habitat and public green space while reducing the risk of groundwater contamination. Several manuals are available to guide actual installation, use and operation/maintenance of chosen BMPs.

DRAFT

20. Solid Wastes; Hazardous Wastes; Storage Tanks

20a. Describe types, amounts and compositions of solid or hazardous wastes, including solid animal manure, sludge and ash, produced during construction and operation. Identify method and location or disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. The total quantity of municipal solid waste generated and information about any recycling or source separation programs of the RGU need to be included. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.

20b. Not applicable to an AUAR.

20c. Indicate the number, location, size and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans. Potential locations of storage tanks associated with commercial uses in the AUAR should be identified (for example, gasoline tanks at service stations).

20a. Information on solid waste generation expected from the RTC site was obtained from Ace Solid Waste Inc. (Rick Nelson, 763-427-3110). The analysis used the preferred design shown in Figure 6.1 and the extensive local experience of Ace Solid Waste Inc. to calculate the most likely amount of solid waste that will be generated by the Town Center. The completed analysis is shown in Table 20.1.

Table 20.1 Solid Waste Analysis

Use Type	Solid Waste (tons/month)
Business/Medical Office	21.33
Commercial	12.11
Mixed-Use	86.93
Residential	123.65
Retail	26.99

20b. Not applicable to an AUAR.

20c. There are no underground storage tanks at the Town Center Site at this time, nor were there any identified to have been present historically. A Phase I investigation conducted by Delta Environmental Consultants, Inc. in 2002 identified two sites within one-half mile of the project area that were of regulatory environmental concern (Figure

19.4). Both sites were part of the Minnesota Pollution Control Agency's (MPCA) Leaking Underground Storage Tank (LUST) Cleanup Program. Brook's Food Store (LUST #7470) at 14550 Armstrong Boulevard Northwest was added to the LUST database in 1994 due to a release of unleaded gasoline. Custom Coaches (LUST #1042) at 6845 Highway 10 North was added to the LUST database in 1989 after a release of gasoline. Both sites were closed as of 1997.

Within the project area, there is an active site in the MPCA's Voluntary Investigation and Cleanup (VIC) program (Figure 19.4). The site is located on the corner of Ramsey Boulevard and Highway 10, and is identified as VP8480. In July 1963, a railcar accident resulted in the release of powdered lead arsenate. There was also a report of several barrels, possibly containing lead arsenate, being buried at this same location at a later, unspecified, date and then removed. An electromagnetic induction survey indicated three disturbed areas in the subsurface that could be burial locations. Burlington Northern Santa Fe (BNSF) has no record of the burial of any items. From soil boring investigations, the extent of arsenic contamination is 350 feet long and 40 feet wide (Figure 19.4).

The Minnesota Department of Health (MDH) and the United States Environmental Protection Agency (USEPA) determined the maximum contaminant level (MCL) for arsenic in drinking water to be 50 parts per billion (ppb). In the 1990's the limit was reviewed and changed to 10 ppb. The new regulation does not go into affect until 2006. Groundwater samples were collected from monitoring wells at the spill site and from several residential wells near the spill. Soil samples were taken at varying depths from soil borings at the spill site. Of forty-two soil samples taken from 1998-2000, eight were over current MCL for arsenic. Groundwater samples were taken from six monitoring wells in 2000, and all six were over the current limit. In 2001, only one of these wells was over the MCL. Sample collection methods in 2001 differed from those used in 2000. The only arsenic level that exceeded the present MCL in a sampled residential well was to the north of this site. Because groundwater flow is to the south, the BNSF site is not thought to be the source of arsenic in that well.

A supplementary Phase II investigation has been completed for this site and is under review by the MPCA.

BNSF indicated its intent to remove the contaminated soils prior to the construction of the Burger King restaurant, parking lot, and stormwater detention pond. BNSF currently has plans to remove the contaminated soils in the summer of 2003. BNSF and the MPCA should be notified prior to any earth moving activities. The project representative for the MPCA is Karen Kromar, who can be contacted at (651) 297-3080. The BNSF representative is Mike Woolridge, who can be contacted at (763) 782-3483. Thomas Dahl, of Retec, performs environmental testing for BNSF at this site and can be contacted at (651) 222-0841.

BNSF hauls hazardous materials along the tracks that adjoin RTC. There has been only one known derailment of hazardous materials on the site over the past 40 years, as

discussed above. The transportation of hazardous materials is regulated at the federal, state and local level. Hazardous materials hauled through this area are reported to the Anoka County Emergency Management Department and are required to be properly placarded, stored and transported according to all applicable regulations. The City of Ramsey Police and Fire Departments are fully trained and prepared for potential derailments. Further information on City preparedness plans can be obtained from Fire Chief Dean Kapler at (763) 427-3764.

The Phase I Environmental Assessment performed in June 2002 by Delta Environmental Consultants Inc., concluded, based on site inspection, that hazardous substances and petroleum products were used and stored on an abandoned farmstead along Ramsey Boulevard Northwest within the Town Center site (Figure 19.4). Due to the unsecured nature of these substances, the potential for release or improper disposal exists. Materials identified at the farmstead included cement cans, motor oil containers, an open bucket of motor oil, rust retardant, bonding adhesive, car batteries, antifreeze, air conditioners, refrigerators, and several abandoned vehicles. Tests of ceiling tiles, floor tiles, insulation, and siding from the abandoned farmstead buildings were negative for asbestos. If this site is found to have contaminated soils or groundwater, appropriate remediation will be needed.

In order to safeguard and sustain the public water supply, “wellhead protection areas” (WHPAs) and “drinking water supply management areas” (DWSMAs) are delineated around public water supply wells (Figure 20.1). The Ramsey *Wellhead Protection Plan* was developed in cooperation with Anoka County Environmental Services as part of a ten-city program to delineate WHPAs and identify potential contaminant sources by parcel number. The WHPA is the recharge area for the public water supply. Parameters used to determine recharge area include a ten-year travel time, aquifer transmissivity, pumping volume, flow direction, flow boundaries, and geologic setting. The DWSMA is the geographic area including and adjacent to the WHPA extended to public roads and/or property lines.

WHPA and DWSMA designations restrict or specially manage land uses that could degrade the quantity and quality of the public water supply. The most controlled land use in the WHPA is the use of underground storage tanks to store petroleum and any other potentially harmful substance. Underground tanks are allowed in the WHPA if the tanks are double-walled and groundwater around the tank is monitored for contamination from a possible leak in the tank. However, the use of underground tanks in these areas is strongly discouraged. In the case that a leak occurred, alternative water sources, such as the emergency connection with the city of Anoka, would potentially have to be used. Ramsey city wells would be particularly susceptible to an up gradient leak. In the event of a water supply emergency, the City would respond using its normal police and fire emergency response plan until a specific emergency response plan can be developed as part of an updated water supply plan.

Summary of Environmental Impact. There is an active MPCA VIC site in the southeast corner of the site as result a release of lead arsenate. The soils and groundwater in that

area were contaminated with arsenic. BNSF is working with current landowners and the MPCA to remove the contaminated soils during the summer of 2003. Additionally, improperly handled and stored hazardous materials on an abandoned farmstead may pose an environmental impact. Finally, the Town Center site includes the WHPAs and DWSMAs for the city of Ramsey west well field. The following mitigation plan discusses how to minimize the impact to the drinking water supply within the regulated areas, as well as how to minimize further impact by the farmstead and VIC sites.

Mitigation element. To decrease the amount of solid waste generated within the City, Ramsey maintains the following policies as stated in its *2001 Comprehensive Plan* -

- Work with the Anoka County Integrated Waste Management Department to develop and implement programs that contribute to waste reduction, resource recovery, recycling and limited landfilling;
- Continue to support curbside recycling of reusable waste materials through educational events, promotional events, and volunteer efforts;
- Research grants and funding programs through federal, state, and local organizations that support the —Three R's— (reduce, reuse, and recycle); and
- Continue to pursue and support research efforts in innovative techniques that enhance the environment, provide alternative means of energy, and reduce the waste stream.

The implementation of these policies will help to reduce the quantities of solid waste produced at the Town Center.

The contaminated soils at the BNSF VIC site must be removed as soon as possible under the plan for the summer of 2003. Removal could potentially occur during construction of the multi-modal facility, Highway 10 improvements, or Town Center construction. BNSF and the MPCA should be contacted in regards to any earth moving activity in the vicinity of the spill site. The project representative for the MPCA is Karen Kromar, who can be contacted at (651) 297-3080. The BNSF representative is Mike Woolridge, who can be contacted at (763) 782-3483. The contamination of groundwater may restrict the installation of additional water supply wells near Ramsey Boulevard and Highway 10.

Further investigation may be needed in order to determine the extent, if any, of contamination at the abandoned farmstead. If there is soil or groundwater contamination due to the improper handling and storage of chemicals and hazardous substances at this site, appropriate removal and remediation of the contaminated areas may be required. State and county fiscal aid programs exist for the cleanup and investigation of these types of sites. The MPCA Site Assessment Unit has fiscal aid available for Phase I and Phase II investigations; contact Tom Whear at 651-296-7349 for additional information. The United States Environmental Protection Agency also currently has funding for cleanup and investigation. For additional information regarding cleanup and investigation programs, the Minnesota Brownfields Resource Guide is available at <http://www.pca.state.mn.us/publications/reports/brg-0901.pdf>.

Within the WHPA, underground storage tanks and infiltration are not recommended. Should contamination occur due to these or any other practice, alternative water supply sources may be required. Currently the city water towers store an extra amount of water equivalent to meet the supply need for one day. There is also an emergency connection with the City of Anoka for additional water needs. A contingency plan should be developed as part of the next water supply plan update to deal with contamination. According to the EPA, a contingency plan should include the following:

- Basic water supply information
- List of potential contamination sources and location
- Mapped WHPA
- Firefighting plan for toxic chemical storage locations
- Surface spill emergency response plan
- Alternative short term water supply
- Alternative long term water supply

These could be coordinated with existing city plans, data, and management procedures, many of which are detailed in the city's Water Supply Plan, WHP Plan, *2001 Comprehensive Plan*, and this document. A contingency plan is also required by the State as part of the city's water supply plan (M.S., Section 103G.291, subd.3). Guidelines provided by the DNR and Metropolitan Council for the content of this water supply plan element indicate the need for the following components:

- emergency telephone contact list
- current water sources and service area description
- procedure for augmenting supplies
- demand reduction procedures
- procedures for water allocation
- establishment of triggers for implementing plan components
- enforcement
- water supply protection

As part of its next revision, the City of Ramsey will amend its *1999 Water Supply Plan* to include an emergency response element. The amendment will include all of the above components. This will occur prior to applying for a DNR appropriation permit amendment, which would likely trigger the DNR request for emergency plan completion, as well.

Use of underground storage tanks within the WHPA should be discouraged. If underground storage tanks are used to store anything other than water within the WHPA, the tanks must be double-walled and the groundwater around the tank must be appropriately monitored for contamination. The development of a contingency plan as discussed previously should address the management and procedures that would be implemented in the case of a leaky tank.

Infiltration practices within the WHPAs will be carefully controlled to prevent any water that has not been pre-treated from entering. Rain barrels, grading, and other on-lot best management practices should be utilized in these areas as long as the infiltration of street,

parking lot, or industrial runoff does not occur within the WHPA. Implementation of community education programs for residential and business contaminant sources, such as fertilizers and hazardous household products, will reduce the risk of groundwater contamination from these sources.

The installation of monitoring wells throughout the WHPA would be appropriate to protect the water quality of the upper aquifer. Should contamination occur, a network of monitoring wells would help to quickly identify the contaminant source and aid in the quick remediation and possibly reduce the extent of contamination. A monitoring well network would also help to understand the relationship between the pumping in the Franconia-Ironton-Galesville aquifer and the upper aquifer. The extent of any further monitoring will be determined during wellhead protection plan development and State water appropriation permitting.

21. Traffic

For most AUAR reviews, a relatively detailed traffic analysis will be needed, especially if there is to be much commercial development in the AUAR area or if there are major congested roadways in the vicinity. The results of the traffic analysis must be used in the response to Item 22 and to the noise aspect of Item 24. Instead of responding to the information called for in the EAW Guidelines for Item 21, the following information should be provided:

- *Description and map of existing and proposed roadway system (including state, regional and local roads to be affected by the development of the AUAR area. This information will include existing and proposed roadway capacities and existing and projected background traffic volumes.*
- *Trip generation data for each major development scenario broken down by land use zones and/or other relevant subdivisions in the area. The projected distributions onto the roadway system must be included.*
- *Analysis of impacts of the traffic generated by the AUAR area on the roadway system, including: a comparison of peak period total flows to capacities and analysis of Levels of Service and delay times at critical points (if any).*
- *A discussion of structural and non-structural improvements and traffic management measures that are proposed to mitigate problems.*

NOTE: in the above analyses, the geographical scope must extend outward as far as the traffic to be generated would have a significant effect on the roadway system and traffic measurements, and projections should include peak days and peak hours, or other appropriate measures related to identifying congestion problems, as well as ADTs.

Appendix B contains a complete traffic analysis compiled by Meyer, Mohaddes Associates, Inc. for this AUAR. The report entitled *Ramsey Town Center Traffic Analysis* was completed in March 2003 and is contained in its entirety in the Appendix.

Classification Summary

The project site is served by a network of principal and minor arterial roadways and local streets as shown in Figure 21.1. Highway 10/169 near the study area is a four-lane divided US Highway that is classified as a Principal Arterial. Ramsey Boulevard (CR 56) and Industry Avenue (CR 116) near the study site are two-lane County Roads that are classified as B-Minor Arterials. Armstrong Boulevard (CSAH 83) and Sunfish Lake Boulevard (CSAH 57) near the study area are two-lane County State Aid Highways that are functionally classified as Collectors. Sunwood Drive, a two-lane local street that extends in an east-west direction and connects Ramsey Boulevard to Industry Avenue and Sunfish Lake Boulevard, is identified in the City of Ramsey 2001 *Comprehensive Plan* as a future Collector. Anoka County is in the process of requesting a functional class change for Industry Avenue and Armstrong Boulevard to upgrade their designations to A-Minor Arterial.

Traffic Volumes

Average daily traffic volumes on streets and highways in the study area vary widely with TH 10 carrying about 42,000 vehicles per day (vpd) east of Ramsey Boulevard and 31,000 west of Armstrong Boulevard. By contrast, volumes on the other roadways in the study area range from about 5,000 to 8,000 vpd, with the exception of Industry Avenue between Ramsey and Armstrong Boulevards, which carries about 2,400 vpd.

Planned Improvements

The intersection of TH 10 and Ramsey Boulevard is currently a T-intersection. The city has approved the construction of the south leg at this intersection by a private developer. However, after discussions with the Anoka County staff, the proposal to construct this leg is on hold as a result of budget considerations and other factors. Signal operations improvements at the intersection of Sunfish Lake Boulevard and TH 10 to address existing congestion have been identified, but are deferred because of current state budget considerations.

No other roadway projects are currently programmed for the study area, but several regional studies are in process or recently completed that affect the study area. The TH 10 IRC Study/Corridor Management Plan² is a regional roadway planning analysis for Mn/DOT that evaluated future needs on TH 10 through Anoka County. While the study findings have been adopted, the improvements suggested in the study have not yet been incorporated into the State Transportation Improvement Plan, nor are they yet in the Metro Division *Transportation Systems Plan*. Updates of these planning documents are expected to address the recommendations from the TH 10 study. The TH 10 study estimates that traffic volumes on TH 10 will grow between 40 and 50 percent by the year 2025 to over 50,000 vpd in the study area. The report notes that to accommodate this level of volume, even if the Northstar Commuter Rail service and a new Mississippi River crossing are implemented, will require TH 10 to become a six-lane freeway through Ramsey by 2025 with interchanges at Sunfish Lake and Ramsey Boulevards.

In the interim by 2010, the report suggests that TH 10 in the study area be expanded to a six-lane expressway with improved intersections. In the near terms by 2005, the study suggests that signal timing optimization and improvements to Ramsey, Armstrong, and Sunfish Lake Boulevards are necessary. The report notes that one concern with constructing a 6-lane expressway as an interim strategy to constructing a freeway is the roadway alignment. As an expressway, it is preferable to have TH 10 as far away as possible from the parallel railroad in order to allow for vehicle stacking at the intersections. As a freeway, it would be preferable to have the roadway alignment as close to the railroad as possible so that interchanges can provide grade separation over both the highway and the railroad.³ The study also notes that environmental documentation for the proposed improvements has not started and that an EIS will likely be required for the expansion of the roadway.

² H. R. Green Co., *TH 10 IRC Study Corridor Management Plan*, Mn/DOT, January 2002

³ *ibid.* Page 6-24.

The draft Scoping Document for the Northwest Metro Corridor and River Crossing Study⁴ has been completed by Mn/DOT and the final is expected to be published in May 2003. This document explored a reasonable range of alternatives for a new Mississippi River crossing and for the highway and network elements needed to connect the crossing to the existing regional roadway system. The new crossing would be located west of the TH 169 crossing in Anoka and east of the TH 101 crossing in Elk River. The Scoping Document has established the purpose and need for the study and the Draft Scoping Decision has identified a corridor for the crossing.

It is anticipated that the northern terminus of the crossing will likely be west of Armstrong Boulevard and will likely connect to an extension of Industry Avenue. The next step for the crossing would be to start preparation of an EIS, but this work has not been initiated because of the current state budget status and issues with the City of Dayton about alignments south of the river. It is unlikely that interchanges with TH 10 would be allowed at both Armstrong and the river crossing, but might be possible and would depend on the distance separating the interchanges and the function of each in the roadway system. Detailed planning for the section of TH 10 adjacent to the project site would be part of an EIS for the river crossing, if/when it is initiated.

Traffic volumes on Armstrong Boulevard and Industry Avenue would be directly affected by the proposed river crossing if the new roadway terminates in an extension of Industry Avenue. The portion of Armstrong Boulevard south of Industry Avenue, currently a direct connection to and across TH 10 would become a local-serving street, while north of Industry Avenue, its regional role serving traffic north and west would be expanded since it would directly connect to the new river crossing. Similarly Industry Avenue would be expected to see an increase in regional traffic. Anoka County's proposal to change the functional class on these roadways to Principal Arterial is in anticipation of this increased regional role.

The project site is located west of the portion of Anoka County served by fixed route transit service and is currently served only by Anoka County Traveler demand responsive service. The North Star commuter coach operated by Mn/DOT, which currently provides peak period, peak direction, express service between Elk River, Coon Rapids and Minneapolis, is expected to serve a park and ride at the project site in the future. The Northstar service is a demonstration project that is operating motor coaches along the proposed route for the Northstar commuter rail service and is currently carrying between 500 and 600 passenger trips per day⁵.

A Final Environmental Impact Statement⁶ has been completed for the Northstar Corridor. The preferred alternative for the corridor is a commuter rail service that would operate on the freight railroad tracks that are adjacent to the site. In the FEIS, the Ramsey station location was dropped in favor of the Anoka station location for the preferred alternative. However, the Ramsey station location is listed in the EIS as a candidate for expansion once service has commenced.

⁴ *Northwest Metro Corridor and River Crossing Study*, Mn/DOT, Draft, April 2002

⁵ *Rider Report, Northstar Commuter Coach*, Mn/DOT, October 2002

⁶ BRW, Inc., *Northstar Corridor FEIS*, Mn/DOT, March 2002

Accordingly, this traffic analysis assumes that a rail station is active on the site in the future and that 450 riders per day would use the Ramsey stop⁷.

Traffic Analysis Report Summary

A detailed Traffic Analysis has been prepared to fully investigate the effects of the proposed project on the local and regional roadway systems. This report has been included in its entirety in Appendix B.

Two sets of future conditions, Future Base and Future with Project, were analyzed. The Future Base represents growth in traffic from non-project sources at the year of project buildout, which was assumed to be the year 2007. A growth factor was used to account for the regional growth in traffic in the area irrespective of the proposed development. This growth factor was calculated to be two percent per year on the basis of forecasts for 2025 from the Metropolitan Council. This level of growth is consistent with the volume projections in the TH 10 IRC Study.⁸

The Future Base also includes the effects of other approved development projects in the vicinity of the project site that anticipate being constructed and occupied within the 2007 time line. The following two projects were identified as having a qualifying development time line:

- The Rivenwick 3rd Subdivision residential development, which is located south of TH 10 at Ramsey Boulevard, would have 112 townhouses and would add a fourth leg to the intersection of Ramsey Boulevard and TH 10.
- The Bright Keys residential development, located across Industry Boulevard from the project site near Ramsey Boulevard, would have 284 townhouse units.

Traffic for the Rivenwick 3rd Subdivision, as reported in that project's traffic study⁹, was added into the Future Base. Traffic for the Bright Keys development was generated using standard trip generation rates and assigned to the study area street system using the data developed for the project traffic forecasts (see below).

The Future with Project conditions were developed by adding the project trip generation to the Future Base volumes. Trip generation for the proposed development was estimated using the rates from the 6th edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. Some trips generated by a mixed-use development of the project type will move between uses within the development site and not reach intersections external to the site and should be excluded from traffic assignment at those locations. This internal trip making is attributed to the interaction between various land uses in a development. Additionally, some trips will take alternate forms of transport, which can be bicycling, walking, and use of transit. The presence of sidewalks, street network density and proximity to transit facilities affect the amount

⁷ Ridership estimate is from the supplemental analysis commissioned by the City of Ramsey and presented to the Northstar Corridor Development Authority in support of a Ramsey station (HKGI/SRF, April 4, 2000).

⁸ Table 3.4-5 of the TH 10 study reports growth rates of 1.66 and 1.96 percent per year for TH 10 with and without the Northstar Commuter Rail respectively.

⁹ SRF, Inc., *Traffic Study for Rivenwick 3rd Subdivision Residential Development in the City of Ramsey*, October 2002.

of trip making by non-auto modes. Because of the limited nature of transit service to the site, no reductions have been made for alternate mode use.

Rather, a single factor was used to calculate the percentage of trips that would remain internal to the proposed redevelopment. This factor considers the diversity of uses within the project and their potential to create linked trips among the project land uses. This factor is based on ITE data for mixed-use developments and is a function of the size and mix of land uses. For the proposed project, the diversity factor indicates that approximately nine percent of AM peak trips and about 16 percent of PM peak trips would be internal.

No adjustments for pass-by or diverted traffic¹⁰ within the site were made, although some of the uses would warrant incorporation of such reductions. Accordingly, the amount of linked trips is conservatively low in relation to the scale and mix of land uses.

Table 21.1 shows the trip generation rates for the proposed redevelopment scenario estimated using the ITE rates for both the AM and PM peak hours. Northstar riders who would park and ride from the site (assumed to be 150 peak hour trips) were included in the analysis, but were added directly to the intersection traffic assignment and are not shown in the trip generation numbers in Table 21.1. Since the existing site is largely vacant and not generating any traffic, no adjustments were made to subtract existing trips from the project site.

Table 21.1: Project Trip Generation

	Daily	AM PEAK HOUR			PM PEAK HOUR		
		Total	In	Out	Total	In	Out
Total New Trips	51,200	2,920	1,700	1,220	5,210	2,480	2,730

Future direction of approach trip distribution for the site-generated trips was estimated using forecast data for zones in the project area from the Metropolitan Council's regional travel demand forecasting model and used to assign trips to turning movements at the study area intersections. The regional forecasts used for this analysis did not include the new Mississippi River crossing. Accordingly, traffic distribution is highly biased with about 43 percent of the trips being made to and from the south and east along TH 10 (this also includes traffic destined south on TH 169). It should be noted that with the new Mississippi River crossing, approximately one-third to one-half of the project trips on TH 10 to the south and east would redistribute to the new crossing.¹¹

AM and PM peak hour capacity analyses were conducted for all the study area intersections using Synchro software that estimates delay at intersections on the basis of *Highway Capacity Manual*¹² procedures. Since many of the intersections included in the analysis are currently stop controlled, it is important to distinguish that while signalized and all-way stop controlled

¹⁰ Pass-by and diverted trips are opportunity trips that are already on the street system and divert to a new land use. As such, these trips are included in the counted traffic volumes (other than at site access points) and are double-counted in the trip generation rates for some retail uses.

¹¹ See *Ramsey Smart Growth Twin Cities Opportunity Site* (Calthorpe Associates, 2003)

¹² Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C.

intersections are analyzed for total intersection delay, two-way stop controlled intersections are analyzed only for minor approach delay. Level of Service D is a generally acceptable standard for planning and design of urban transportation facilities. At Level of Service E, poor intersection operations occur as traffic volume approach capacity and LOS F represents extremely congested conditions.

Table 21.2 shows the results of the capacity analyses at the study area intersections for existing conditions and for both Future scenarios.

Table 21.2: Level of Service Comparison

Intersection	Traffic Control at Intersection	Existing ^(a)		Future Base ^(a)		Future w Project ^(a)		Mitigated ^(a,b)	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Armstrong Blvd at TH 10	Signalized	B	A	B	B	F	F	C	C
Ramsey Blvd at TH 10	Signalized	B	A	C	B	F	F	C	D
Sunfish Lake Blvd at TH 10	Signalized	C	F	D	F	F	F	C	E
Armstrong Blvd at Industry Ave	One way Stop	(B)	(B)	(B)	(B)	(C)	(E)	A ^(c)	A ^(c)
Ramsey Blvd at Industry Ave	All-way Stop	B	B	C	B	F	F	C ^(c)	C ^(c)
Industry Ave at Sunfish Lake Blvd	All-way Stop	B	C	C	C	D	F	A ^(c)	B ^(c)
Ramsey Blvd at Sunwood Drive	One way Stop	(B)	(B)	(B)	(B)	(F)	(F)	C ^(c)	C ^(c)
Sunwood Drive at Industry Ave	One way Stop	(B)	(B)	(B)	(B)	(C)	(F)	B ^(c)	B ^(c)
Sunwood Drive at Armstrong Blvd	One way Stop					(F)	(F)	A ^(c)	B ^(c)
NS2 Street at Industry Ave	One way Stop					(B)	(C)	(B)	(C)
NS3 Street at Industry Ave	One way Stop					(C)	(F)	A ^(c)	A ^(c)
NS5 Street at Industry Ave	One way Stop					(B)	(C)	(B)	(B)
EW1 Parkway at Ramsey Blvd	One way Stop					(F)	(F)	(B)	(B)
EW1 Parkway at Armstrong Blvd	One way Stop					(B)	(F)	(A)	(B)

Notes:

(a) Values in parentheses indicate Minor Approach LOS only

(b) Mitigated conditions include lane adjustments and lane additions at intersections as noted in the text.

(c) Intersection is signalized in the mitigated condition

Under existing conditions, the intersection of TH 10 and Sunfish Lake Boulevard is operating in substandard conditions (worse than LOS D) in the PM peak hour. The other intersections are operating in good conditions in both peak hours. However, the analysis of conditions at TH 10 and Ramsey and Armstrong Boulevards indicates that conditions are unstable, particularly in the PM peak hour when the Ramsey and Armstrong approaches are at LOS F and E respectively. Left turns from TH 10 are also at LOS F and E respectively at these intersections. Under these conditions, moderate increases in volumes on either Ramsey or Armstrong Boulevard or left turning from TH 10 would cause conditions to deteriorate similar to what is currently experienced at Sunfish Lake Boulevard and the intersections could quickly move into LOS E and F.

The Future Base conditions show that addition of the background growth in traffic will cause the intersection of TH 10 and Sunfish Lake Boulevard to deteriorate to LOS D during the AM peak period. The other intersections in the study area remain in acceptable conditions. Unstable

conditions continue to be present at the intersections of TH 10 and Ramsey and Armstrong Boulevards.

Project traffic would cause the intersections on TH 10 to deteriorate to LOS F and would cause the stop-controlled intersection on Industry Avenue, Ramsey Boulevard, and Armstrong Boulevard to move into LOS E and F conditions during one or both peak periods.

New intersections created by the project with Industry Avenue (see Figure 21.2) would operate in acceptable conditions with the exception of the central north-south street (NS3) at Industry Avenue during the PM peak period. The two new intersections of the east-west parkway (EW1) with Ramsey and Armstrong Boulevards would operate in unacceptable conditions during at least one peak period.

Within the project site, the extension of Sunwood Drive would be the primary east-west connector street in the project site and is estimated to carry 10,000 to 13,000 vehicles per day (vpd) west of NS6 Street. Volumes on Sunwood west of Ramsey would be about 18,000 vpd as shown in Figure 21.2. West of NS6 Street, the volume on Sunwood Drive would be adequately handled by a two-lane cross section (one lane in each direction). However, left-turn lanes would be needed at cross streets. Between NS6 Street and Ramsey Boulevard, four lanes would be needed to accommodate the projected volumes. Two-way or all-way stop control at the intersections of Sunwood Drive internal to the site would provide LOS C or better conditions for the level of traffic projected at those locations, although the intersections with NS+6 and/or NS25 Streets may require signalization for acceptable PM peak hour operations.

The EW1 parkway would carry about 3,600 vpd on the western end of the project and between 5,000 and 9,000 vpd on the eastern end. The proposed one-lane parkway cross section would be adequate for the segments of the EW1 parkway.

The other east-west streets internal to the project, because of their discontinuous nature would carry less volume than either Sunwood Drive or the EW1 Parkway and would generally be under 4,000 vehicles per day (and some would be in the under 1,000 range). Two-lane cross sections and stop (or yield control on the lower volume ones) would be appropriate.

The north-south streets internal to the project would carry slightly higher volumes, particularly the three streets that would have full access intersections with Industry Avenue. Those streets would have between 2,100 and 5,700 vehicles per day. The other north-south streets inside the project would be expected to have less than 2,000 vehicles per day, with the exception of the NS+6 Street that serves the employment cluster in the southeast corner of the site, which would have upwards of 4,000 vpd. Two-lane cross sections and stop (or yield control on the lower volume ones) would be appropriate although signals may be required at the NS6 and/or NS5Streets intersections with Sunwood Drive.

Summary of Environmental Impact. Direct environmental impacts due to the traffic analysis are addressed in Items 22 and 24, which address vehicle related air emissions, and dust, odors, and noise, respectively.

Mitigation element. Analysis of the intersection operations indicates that lane additions and installation of intersection channelization and traffic signals would be adequate to mitigate the project impacts at the intersections in the study area. The following roadway widenings are suggested:

- Ramsey Boulevard—widen to five lane cross section south of Industry Avenue to provide two through lanes in each direction and a left turn lane/center median
- Industry Avenue—widen to five lane cross section west of Ramsey Boulevard to provide two through lanes in each direction and a left turn lane/center median

The existing cross sections on Armstrong Boulevard north of the railroad, Sunwood Drive and Industry Avenue east of Ramsey, and Sunfish Lake Boulevard north of the railroad would be adequate to meet the future demand.

Turn lanes and lane adjustments would be needed at the following intersections:

- TH 10 at Armstrong Boulevard—add an eastbound and a westbound through lane on the intersection approaches; add an eastbound and a southbound left turn lane and a southbound right turn lane.
- TH 10 at Ramsey Boulevard—add an eastbound and a westbound through lane on the intersection approaches; add an eastbound and a southbound left turn lane and a westbound right turn lane. A southbound through lane and a northbound left turn lane and northbound through/right lane would need to be added to serve the Rivenwick 3rd Subdivision traffic independent of the project traffic.
- TH 10 at Sunfish Lake Boulevard—add an eastbound and a westbound through lane on the intersection approaches; convert the southbound approach from a through/left turn lane and a right turn lane to through/right turn lane and two left turn lanes (this adds one lane to the approach).
- Industry Avenue at Ramsey Boulevard—add a southbound right turn lane; eastbound and northbound approaches would be widened by the above recommendations.
- Sunwood Drive at Industry Avenue—modify the shared lanes on the northbound, eastbound and westbound approaches to provide left turn lanes and shared through/right turn lanes

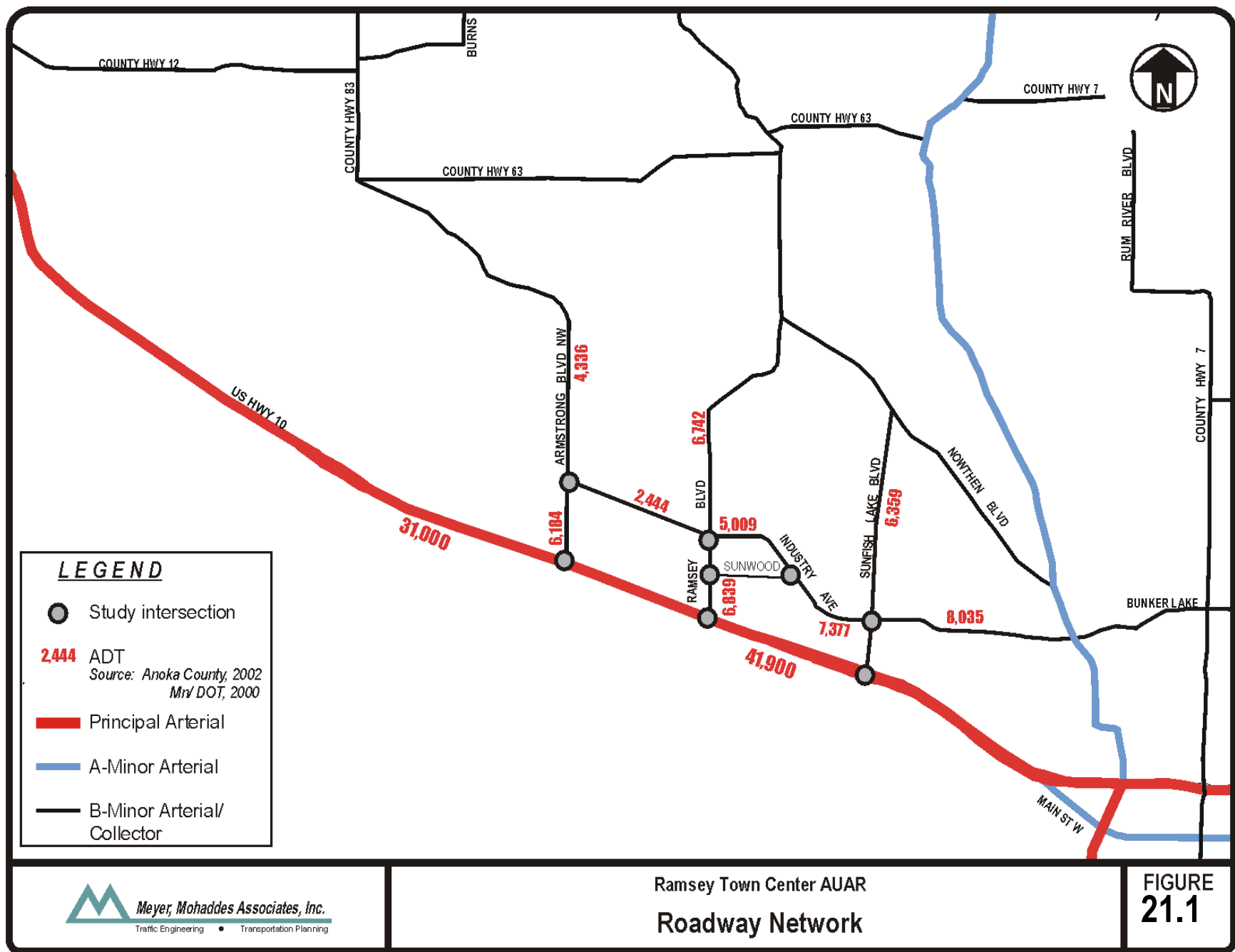
The following stop-controlled intersections would need to be signalized:

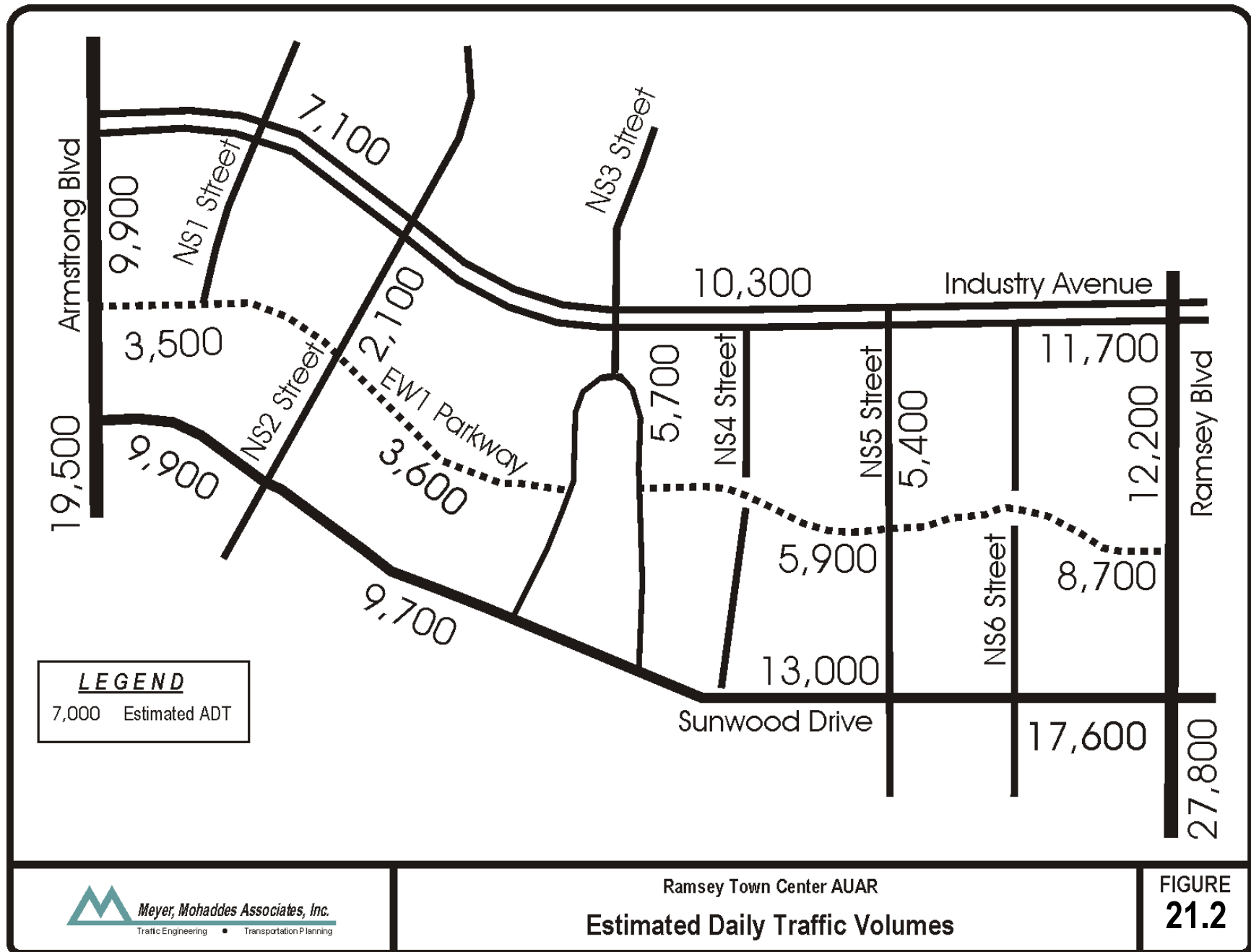
- Ramsey Boulevard at Industry Avenue
- Armstrong Boulevard at Industry Avenue
- Industry Avenue at Sunfish Lake Boulevard
- Ramsey Boulevard at Sunwood Drive
- Sunwood Drive at Industry Avenue
- Sunwood Drive at Armstrong Boulevard
- NS3 Street at Industry Avenue

The left turn volumes from the EW1 parkway onto both Armstrong and Ramsey Boulevard cannot be accommodated at an acceptable LOS under stop control and require signalization to achieve acceptable operations. However, the close spacing between the intersections of the EW1

parkway and the intersections of Armstrong and Ramsey Boulevard with Industry Avenue limits the potential for the two parkway intersections to be signalized. Accordingly the parkway intersections should be channelized to provide right-in/right-out and left-in access ($\frac{3}{4}$ access). Left out from the parkway would be prohibited and would redistribute to the north-south streets and to Industry Avenue (these volumes have been included in the mitigated calculations for the other intersections).

DRAFT





22. Vehicle Related Air Emissions

Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult EAW Guidelines about whether a detailed air quality analysis is needed.

Mitigation proposed to eliminate any potential problems may be presented under Item 21 and merely reference here. The MPCA staff should be consulted regarding possible ISP requirements for certain proposed developments; although the RGU may not want to assume responsibility for applying for an ISP for specific developments, it may be desirable to coordinate the AUAR and ISP analyses closely.

Motorized vehicles emit airborne pollutants that affect air quality. Changes in traffic volumes, travel patterns and roadway locations affect the level and dispersion of vehicle emissions. The proposed Ramsey Town Center Development will impact the traffic flow along the Highway 10 corridor and within the development site as discussed in Item 21. The purpose of this air quality analysis is to estimate the future air quality conditions along the Highway 10 corridor with the implementation of the Ramsey Town Center Development. Based on the future air conditions, the AUAR will identify potential effects on regional and local air quality, address conformity with national and state air quality standards, and determine if any mitigation measures are necessary.

Regulatory Requirements

National and state ambient air quality standards identify pollutant concentrations that are not to be exceeded over specified periods of time. Table 22.1 shows the National and State Ambient Air Quality Standards (NAAQs) for carbon monoxide (CO), the major airborne pollutant of interest. Primary ambient air quality standards are defined for the protection and preservation of public health. Secondary standards are intended to protect the environment and properties from damage. Compliance is required for both primary and secondary standards.

Under federal regulations, areas that violate primary ambient air quality standards are designated as ~~non-attainment areas~~. The Twin Cities Metropolitan Area was previously designated as a CO non-attainment area as a result of violations of the NAAQs. In 1999 the Environmental Protection Agency (EPA) reclassified Minneapolis/St. Paul as an attainment area for CO. The attainment status is contingent upon the implementation of measures to assure that CO concentrations remain below standards. Therefore, carbon monoxide is the traffic-related pollutant of most concern in the Twin Cities Metropolitan Area. The State of Minnesota has established the standards listed in Table 22.1. It should be noted that the state one-hour carbon monoxide standard of 30 ppm is more stringent than the national standard of 35 ppm.

Table 22.1: National and State Ambient Air Quality Standards

Pollutant	Averaging Period	National Standards		MN State Standards	
		Primary	Secondary	Primary	Secondary
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)
	1-hour	35 ppm (40 mg/m ³)	35 ppm (40 mg/m ³)	30 ppm (35 mg/m ³)	30 ppm (35 mg/m ³)

Carbon Monoxide Modeling Methodology

The methodology for identifying potential local air quality impacts follows the EPA-recommended procedure for carbon monoxide micro-scale impact analysis. The general evaluation procedure, outlined in the Guideline for Modeling Carbon Monoxide for Roadway Intersections (EPA 1992), includes a multiple intersection screening process followed by micro-scale CO analysis with the CAL3QHC line-source dispersion model.

Screening Process. The intersection screening process includes the following steps:

1. Identify the signalized intersections in the project vicinity that will be impacted by the project alternatives.
2. Determine the average delay and Level of Service (LOS) for those intersections.
3. Determine total intersection delay as the product of average delay and total intersection approach volume.
4. Rank the intersections according to total delay and select the intersections with the highest total vehicle delay for analysis.

Carbon monoxide concentrations are generally highest at intersections with poor levels of service and consequently, more idling vehicles. Typically intersections with levels of service of D, E, and F (worst levels) are analyzed. As described in Item 21, all of the major intersections within the project area were analyzed to determine both present and forecasted levels of service. Peak hour traffic volumes used for this analysis assumed that the Ramsey Town Center would reach full built-out potential by 2007.

Based on consultation with the Minnesota Pollution Control Agency (MPCA), it was agreed that carbon monoxide analysis would be performed at intersections that were projected to operate at level of service D or worse for year 2008 (one year after the anticipated Ramsey Town Center completion). The traffic study identified that the three intersections of prime concern are all located along the Highway 10 corridor. The locations of these intersections in relationship to the project site are shown on Figure 22.1 and include the following:

- Highway 10 and Armstrong Boulevard
- Highway 10 and Ramsey Boulevard

- Highway 10 and Sunfish Lake Boulevard.

CAL3QHC Model. In accordance with the EPA procedure for carbon monoxide analysis, the CAL3QHC dispersion model was used to forecast the air quality along the Highway 10 corridor. Required input for this model includes meteorological characteristics, traffic characteristics, intersection geometries, and emission rates.

Meteorological Characteristics. The meteorological characteristics used in the model are summarized in Table 22.2. The inputs listed are consistent with EPA and MPCA recommendations.

Table 22.2 CAL3QHC Meteorological Characteristics

Characteristic	Model Input
Analysis Year	2002 (existing) 2008 (future)
Wind Speed	1 m/s
Wind Direction	Tested 360 degrees at 10° increments
Atmospheric Stability Class	D
Mixing Height	1000 cm
Surface Roughness	321 cm
Averaging Time	60 min
Settling Velocity	0 cm/s
Deposition Velocity	0 cm/s
8-Hour Persistence Factor	0.7

Traffic Characteristics. Traffic characteristics were based on the existing traffic conditions in 2002 and the modeled levels of 2007 (including traffic generated by the proposed project). Traffic volumes, saturation levels, lane configurations, signal type, signal cycle length, red time length and clearance lost time were taken from the traffic analysis conducted for the project. The heaviest traffic volumes were projected to occur during the evening; therefore the CO concentrations using p.m. peak traffic data were modeled as a worst-case scenario.

Intersection Geometries. Intersection geometries were based on existing roadway dimensions from maps and aerial photographs. The proposed roadway improvements discussed in Item 21 were not incorporated into the intersection geometries in order to model a worst-case (most idling traffic) scenario.

Emission Rates. EPA model Mobile 5b was used to calculate carbon monoxide emission rates. There are two types of emission rates needed for the CAL3QHC CO dispersion model, and include a running emission rate and an idling emission rate. The running emission rate was generated directly by the Mobile 5b model assuming an average free flow speed of 35-mph on all roadways and links. The idling emission rate was calculated by converting a 2.5-mph Mobile 5b running emission rate from grams per

mile to grams per hour. The parameters and assumptions used in the Mobile 5b analysis are summarized in Table 22.3.

Table 22.3 Mobile 5b Model Inputs

Parameter	<i>Model Inputs</i>
Analysis Year	2002 (existing) 2008 (future)
Free Flow Speed	35-mph for all roadways
Idling Factor Speed	2.5-mph for all roadways
Cold Start Percentages	20.6 % for all traffic
Hot Start Percentage	27.3 % for all traffic
Traffic Mix	MN Car Registration Distribution
Temperature	January, 20°F
Inspection/Maintenance Program	No
Oxygenated Fuel	Yes
Average Fuel Volatility	9.0 psi

Background Carbon Monoxide Concentrations

Background carbon monoxide concentrations are needed as a baseline to accurately predict future CO concentrations that incorporate modeled vehicle related emissions. These background concentrations are added to the model generated vehicle CO emissions to determine compliance with national and state air quality standards.

The background (2002) carbon monoxide concentrations for the three intersections analyzed were derived from the MPCA-monitored CO site at 6000 West Moore Lake Road in Fridley, MN. Figure 22.2 shows the location of this site. In discussions with the MPCA it was agreed that this site had background characteristics similar to the intersections being modeled and would be a conservative representation of background CO concentrations.

Carbon monoxide emissions are monitored daily at the Fridley site by the MPCA. In 2002, the maximum one-hour and eight-hour CO concentrations were 2.1 ppm and 1.4 ppm respectively. In order to obtain the background concentration for 2008 (modeled year), these 2002 concentrations were adjusted for increases in regional traffic volume and reductions in vehicle emission rates.

Average CO emission rates in the region are expected to decrease due to improved emission controls, turnover in vehicle fleet and cleaner burning fuel sources. Because over 50 percent of the overall carbon monoxide concentrations in the metropolitan area are due to vehicle related emissions, the reduction in vehicle emission rates will tend to decrease the overall background CO concentrations. The Mobile 5b model takes these

factors into account when generating emission rates. Average CO emission rates for 2002 and 2008 were generated using Mobile 5b. The ratio of the 2008 rate to the 2002 rate was used to decrease background CO concentrations by a factor of 0.91.

Background traffic volume will increase from 2002 to 2008. This increase will in turn increase vehicle CO emission, which increases overall background CO concentrations. The ratio of the future regional traffic volume (2008) to the existing regional traffic volume (2002) was used to increase the background CO concentration by a factor of 1.34. These emission and traffic volume adjustment factors are summarized in Table 22.4.

Table 22.4: Calculation of CO Background Concentrations

<i>Factor</i>	2008	
	1-Hour	8-Hour
Maximum 2002 Monitored Concentration (ppm)	2.1	1.4
Background Traffic Volume Adjustment Factor	1.34	1.34
Emission Adjustment Factor	0.91	0.91
Worst Case Background Concentration (ppm)	2.56	1.71
State Standard (ppm)	30	9
Federal Standard (ppm)	35	9

Modeling Results

The carbon monoxide modeling analysis was based on forecasted traffic volumes and signal timing under predicted 2008 P.M. peak traffic conditions. Locations of likely outdoor human activity next to the analyzed intersections were selected for air quality receptors. Receptor locations were sited within a 1,000-foot radius of the analyzed intersections and are depicted in Figure 22.3.

The siting of carbon monoxide receptors was based on the likelihood of human outdoor activity occurring in excess of one hour. This is consistent with the MPCA's method of quantifying adverse air quality impacts based on hours of exposure. Locations chosen include gas station parking lots, entrances to offices and buildings, parks, and open space. Existing commercial buildings and retail stores along Highway 10 are located in close proximity to the road. Therefore, receptors were placed on all four corners of the intersections as depicted in Figure 22.3. These receptors represent the locations of the greatest potential exposure to vehicle CO emissions. A total of twenty receptor locations were selected.

The results of the air quality analysis are presented in Tables 22.5 and 22.6. Table 22.5 lists the 2008 P.M. peak one-hour CO concentrations which were derived directly from the CAL3QHC dispersion model. The 2008 background concentrations were added to the model results to yield a total one-hour CO concentration in ppm for each receptor. The wind angle for the highest CO concentration is also included in the table. The highest one-hour CO concentration modeled was 11.4 ppm at Receptor 15 at the

intersection of Highway 10 and Sunfish Lake Boulevard. This is below the state and national air quality standards of 30 ppm and 35 ppm respectively.

Table 22.6 lists the 2008P.M. peak eight-hour CO concentrations. These concentrations were derived from the one-hour CO concentration results listed in Table 22.5. The CAL3QHC dispersion model predicts one-hour CO concentrations only. These one-hour concentrations are adjusted using a persistence factor. EPA recommends an eight-hour persistence factor for urban areas of 0.7. The factor takes into account the fluctuations of wind directions, temperatures, and traffic volumes that are likely to occur over eight hours. The highest eight-hour CO concentration calculated was 7.9 ppm at Receptor 15 at the intersection of Highway 10 and Sunfish Lake Boulevard. This is below both the state and national air quality standards of 9 ppm.

Table 22.5: 2008 P.M. Peak Carbon Monoxide Modeling Results – 1 Hour

	1-Hour Average (ppm)			
	Modeled	Background	Total Concentration	Wind Angle
Highway 10 & Armstrong Blvd.				
Receptor 1	6.8	2.6	9.4	100
Receptor 2	6.1	2.6	8.7	120
Receptor 3	7.6	2.6	10.2	10
Receptor 4	6.6	2.6	9.2	350
Receptor 5	2.6	2.6	5.2	260
Receptor 6	2.6	2.6	5.2	210
Receptor 7	2.1	2.6	4.7	230
Receptor 8	3.9	2.6	6.5	160
Highway 10 & Ramsey Blvd.				
Receptor 9	6.5	2.6	9.1	100
Receptor 10	5.8	2.6	8.4	260
Receptor 11	8.0	2.6	10.6	10
Receptor 12	6.3	2.6	8.9	350
Receptor 13	2.4	2.6	5.0	150
Receptor 14	3.2	2.6	5.8	250
Highway 10 & Sunfish Lake Blvd				
Receptor 15	8.8	2.6	11.4	100
Receptor 16	7.6	2.6	10.2	110
Receptor 17	7.2	2.6	9.8	10
Receptor 18	6.1	2.6	8.7	350
Receptor 19	3.3	2.6	5.8	120
Receptor 20	3.5	2.6	6.1	240
State Standard	30.0			
Federal Standard	35.0			

Table 22.6: 2008 P.M. Peak Carbon Monoxide Modeling Results – 8 Hour

	8-Hour Average (ppm)			
	Modeled	Background	Total Concentration	Wind Angle
Highway 10 & Armstrong Blvd.				
Receptor 1	4.8	1.7	6.5	100
Receptor 2	4.3	1.7	6.0	120
Receptor 3	5.3	1.7	7.0	10
Receptor 4	4.6	1.7	6.3	350
Receptor 5	1.8	1.7	3.5	260
Receptor 6	1.8	1.7	3.5	210
Receptor 7	1.5	1.7	3.2	230
Receptor 8	2.7	1.7	4.4	160
Highway 10 & Ramsey Blvd.				
Receptor 9	4.6	1.7	6.3	100
Receptor 10	4.1	1.7	5.8	260
Receptor 11	5.6	1.7	7.3	10
Receptor 12	4.4	1.7	6.1	350
Receptor 13	1.7	1.7	3.4	150
Receptor 14	2.2	1.7	3.9	250
Highway 10 & Sunfish Lake Blvd				
Receptor 15	6.2	1.7	7.9	100
Receptor 16	5.3	1.7	7.0	110
Receptor 17	5.0	1.7	6.7	10
Receptor 18	4.3	1.7	6.0	350
Receptor 19	2.3	1.7	4.0	120
Receptor 20	2.5	1.7	4.1	240
State Standard	9.0			
Federal Standard	9.0			

Summary of Environmental Impact. The implementation of the proposed Ramsey Town Center project will increase the amount of vehicle-related carbon monoxide emissions. This increase is due to the increase in traffic volume along the Highway 10 corridor. Peak CO emissions were modeled along Highway 10 for the year 2008 (one year after anticipated build-out) under a worst-case (p.m. traffic, no road improvement) scenario. The CO concentrations modeled were less than the state air quality standards of 30 ppm for one-hour and 9 ppm for eight-hours. The modeled CO concentrations are summarized in Tables 22.5 and 22.6.

Mitigation Element. There are no specific air quality mitigation measures proposed for the Ramsey Town Center Development, because implementation of the project does not

result in violation of State or National Air Quality Standards. Carbon monoxide concentrations were modeled along the Highway 10 corridor assuming no road improvements in the project vicinity. The road improvements discussed in Section 21 would help to reduce carbon monoxide emissions, although they are not required as a result of the air quality analysis.

DRAFT

This item is not applicable to an AUAR.

EAW: will the project generate odors, noise or dust during construction and/or operation? no x yes

Dust, odors, and construction noise need not be addressed in an AUAR unless there is some unusual reason to do so. The RGU might want to discuss as part of the mitigation plan, however, any dust control or construction noise ordinances in effect. If the area will include or adjoin major noise sources, a noise analysis is needed to determine if any noise levels in excess of standards would occur and if so, to identify appropriate mitigation measures. With respect to traffic-generated noise, the noise analysis should be based on the traffic analysis of Item 21.

The proposed project will not generate any odors during construction. Dust normal to construction will occur as a result of this project and will be minimized through standard control measures such as watering. These dust minimization efforts will be identified in the grading plan submitted to the City prior to construction. After construction is complete, anticipated dust levels will be minimal, as all soil surfaces will have permanent cover (i.e. pavement or lawn).

Traffic-related Noise

After construction is complete, potential sources of noise from the proposed development will include transit noise and traffic noise. The analysis and impacts related to transit noise adhere to the Federal Transit Administration's *Transit Noise and Vibration Impact Assessment, April 1995* guidelines and are fully addressed in the *Northstar Corridor Project Final Environmental Impact Statement, March 2002*.

Noise is defined as any unwanted sound. Sounds are described as noise if they disturb the person hearing them. Noise levels are measured in a logarithmic unit called a decibel (dB). Humans are more receptive to middle- and high-frequency sounds than they are to low-frequency sounds, so a weighted unit is used to reflect human perception more closely. For the purpose of this study, sounds are measured using this adjusted scale, called dBA. All references to decibels in the discussion of traffic noise impacts refer to this scale. According to the MPCA publication “An Introduction to Sound Basics”, a sound increase of 3 dBA in an outdoor setting results in a barely perceptible increase in noise, whereas a 5 dBA increase is clearly audible. An increase of 10 dBA is perceived twice as loud as the original sound.

Under Minnesota Statute 116.07, Subdivisions 2 and 4, the Minnesota Pollution Control Agency has developed Noise Pollution Control Rules (Minnesota Rules Chapter 7010.0001 – 7010.008). The noise criteria used in a noise analysis depends on whether the land use is designated as Noise Area Category (NAC) 1, 2, or 3. NAC Category 1 land use includes parks, single-family and multi-family residences, libraries, hospitals, and other areas where nighttime sensitivity to noise is high. NAC Category 2 standards are applied to commercial areas, hotels, and residences which have adequate acoustic insulation, year-round climate control, and no accommodations that are intended for outdoor use. NAC Category 3 includes industrial areas. Table 24.1 details the MPCA noise level standards for each category.

Table 24.1: Minnesota Pollution Control Agency Noise Level Standards

MPCA Noise Level Standards					
Classification	Land Use	Daytime Noise Level [dBA] (7 a.m. – 10 p.m.)		Nighttime Noise Level [dBA] (10 p.m. – 7 a.m.)	
NAC-1	Residential	L ₁₀ of 65	L ₅₀ of 60	L ₁₀ of 55	L ₅₀ of 50
NAC-2	Commercial	L ₁₀ of 70	L ₅₀ of 65	L ₁₀ of 70	L ₅₀ of 65
NAC-3	Industrial	L ₁₀ of 80	L ₅₀ of 75	L ₁₀ of 80	L ₅₀ of 75

Traffic-generated noise can vary considerably over a relatively short period of time. There are two analytical approaches which may be used for reporting traffic-related noise levels, the first of which uses L₁₀ and L₅₀. For these values, the subscript value refers to the percent of time during a one hour period that the noise level exceeds the specified value. For example, an L₁₀ value of 65 dBA during the peak hour indicates that the noise level exceeded 65 dBA 10% of the time, or for 6 minutes during that hour. The second approach, used in this report, uses L_{eq}. This value represents the equivalent of a constant sound level which, over a period of time, contains the same average amount of sound energy as the varying level of traffic noise. According to the Federal Highway Administration noise abatement procedures detailed in the Code of Federal Regulations (23 CFR 722), L_{eq} for typical traffic conditions is usually about 3 dBA less than the L₁₀ for the same conditions. This rule has been used to create an equivalent table of L_{eq} values based on the MPCA Noise Level Standards and is presented in Table 24.2.

Table 24.2: Equivalent L_{eq} values for MPCA Noise Level Standards

<i>Equivalent MPCA Noise Level Standards</i>			
Classification	Land Use	Daytime Noise Level [dBA] (7a.m. – 10 p.m.)	Nighttime Noise Level [dBA] (10 p.m. – 7 a.m.)
NAC-1	Residential	L_{eq} of 62	L_{eq} of 52
NAC-2	Commercial	L_{eq} of 67	L_{eq} of 67
NAC-3	Industrial	L_{eq} of 77	L_{eq} of 77

Noise Level Monitoring

Background noise level monitoring is performed during a noise study to measure existing noise levels. These levels are often used as a baseline against which modeling scenarios can be compared. They are also used to validate computer-generated results. Monitoring at receptor –M3” was performed as part of the *Northstar Corridor Project Final Environmental Impact Statement, March 2002*. Receptor –M3” is located on the northwest corner of the intersection of Highway 10 and Ramsey Boulevard (shown in Figure 24.1) and was used in this report as the background noise level monitoring location for the site.

Table 24.3: Monitored Existing Noise Levels for Receptor M3

Monitoring Site	L_{eq} [dBA]	Primary Noise Sources
M3	62	Airplanes/Cars

Source: Northstar Corridor Project Final Environmental Impact Statement, March 2002

Noise Modeling Methodology

A noise analysis was conducted to assess the extent to which the proposed project will affect future noise levels. The analysis was performed using Traffic Noise Model v. 2.1 (TNM). The noise model uses traffic volumes, vehicle type mix, vehicle speed, receptor locations, and road alignment to calculate noise levels. TNM is approved by the Federal Highway Administration for modeling traffic noise.

For the purpose of this study, 58 noise receptors were chosen to represent each of the 58 proposed blocks of land presented in Figure 24.2. Each block was assigned a land use according to the Ramsey Town Center Preferred Design Schematic shown in Figure 6.1 located in Item 6. Residential and public space areas (shown in brown and green) were classified as NAC-1 noise receivers. All other parcels fall under the NAC-2 commercial classification previously discussed. An additional noise receptor was placed at the northwest corner of the intersection of Highway 10 and Ramsey Boulevard to compare modeled results with the existing noise level at monitoring site –M3”.

Modeling for receptor –M3” was performed using the current traffic volumes for the AUAR project area. Speed limits and vehicle mix were taken from the traffic analysis of Item 21. The modeled results differ somewhat from the measured noise levels but are

within a reasonable margin of error, keeping in mind that an increase of 3 dBA is barely perceptible to the human ear. The remainder of this section discusses the future traffic noise impacts based on computer-generated modeling results.

Table 24.4: Existing and Modeled Noise Levels for Receptor M3

	Modeled Noise Level Receptor M3 [dBA]	Existing Noise Level Receptor M3 [dBA]
Day	$L_{eq} = 65.9$	$L_{eq} = 62.0$
Night	$L_{eq} = 64.0$	

Noise Modeling Results

The noise analysis was conducted for the existing year 2002 and for one year after the AUAR development scenario, year 2008. Traffic conditions for both morning and afternoon peak traffic hours were analyzed. The year 2008 analysis includes the impact of the AUAR development traffic as well as the increased background traffic on local and regional roadways over the six-year period. Existing speed limits were assumed, and the remaining data necessary for analysis was taken from the traffic analysis of Section 21.

Traffic noise modeling results for 2008 are presented in Tables 24.5 and 24.6. Both daytime and nighttime L_{eq} values are shown. The analysis shows that during daytime hours, for both existing and future traffic scenarios, there are no receptors that exceed state standards. Three receptors (Blocks 36, 37, and 38) currently exceed the state nighttime NAC-1 standard of 52 dBA. These receptors will continue to exceed the state nighttime NAC-1 standard in 2008, along with one additional receptor, Block 28. These four blocks are all located along the south side of Industry Avenue.

Table 24.5: Daytime and Nighttime Peak Hour Noise Assessment Results (Modeled)
For NAC-1 Noise Receivers

Receptor	Modeled 2002 Daytime L_{eq} [dBA]	Modeled 2008 Daytime L_{eq} [dBA]	Modeled 2002 Nighttime L_{eq} [dBA]	Modeled 2008 Nighttime L_{eq} [dBA]	Potential Noise Impact
Block 27	47.9	51.1	46.7	49.8	None
Block 28	52.0	57.1	51.4	55.7	Impact
Block 31	47.5	51.5	46.5	50.3	None
Block 32	47.0	51.0	45.8	49.8	None
Block 33	49.4	53.4	48.3	52.3	None
Block 36	55.8	61.1	55.2	59.7	Impact
Block 37	56.0	61.4	55.4	59.9	Impact
Block 38	56.2	61.7	55.7	60.3	Impact
Block 39	48.4	52.3	47.5	50.9	None
Block 40	46.5	50.1	45.5	48.7	None
Block 41	48.2	52.0	47.3	50.5	None
Block 43	47.6	49.3	46.4	48.2	None
Block 44	46.3	48.9	45.0	47.7	None
Block 45	45.5	48.0	44.2	46.9	None
Block 46	46.7	48.4	45.3	47.3	None
Block 48	48.9	52.1	47.8	50.5	None
Block 49	50.6	52.8	49.2	51.5	None
Block 50	50.9	53.1	49.4	51.7	None
Block 51	50.5	52.6	49.2	51.5	None
Block 53	50.9	56.1	49.4	54.2	None
Block 54	46.6	49.9	45.2	48.7	None
Block 55	46.9	50.6	45.8	49.4	None
Block 56	47.9	52.5	46.7	51.5	None
Block 57	47.2	51.9	45.9	50.8	None
State Standard	62.0	62.0	52.0	52.0	

Bold noise levels exceed State noise standards.

Table 24.6: Daytime and Nighttime Peak Hour Noise Assessment Results (Modeled)
For NAC-2 Noise Receivers

Receptor	Modeled 2002 Daytime L _{eq} [dBA]	Modeled 2008 Daytime L _{eq} [dBA]	Modeled 2002 Nighttime L _{eq} [dBA]	Modeled 2008 Nighttime L _{eq} [dBA]	Potential Noise Impact
Block 4	53.9	55.7	52.3	54.5	None
Block 5	50.5	53.3	49.0	52.2	None
Block 6	53.1	56.6	51.6	55.7	None
Block 7	52.0	57.8	50.9	57.0	None
Block 8	46.9	51.4	45.5	50.2	None
Block 9	47.2	50.7	45.7	49.3	None
Block 10	48.7	53.0	47.2	51.3	None
Block 11	49.2	51.7	47.6	50.4	None
Block 12	49.6	51.7	48.0	50.5	None
Block 13	51.0	55.9	49.5	54.0	None
Block 14	49.1	51.6	47.6	50.2	None
Block 15	48.1	50.8	46.9	49.7	None
Block 16	51.0	54.7	49.5	53.1	None
Block 17	51.9	53.5	50.4	52.4	None
Block 18	50.6	56.5	49.1	54.5	None
Block 19	50.9	53.0	49.4	51.7	None
Block 20	50.4	54.8	49.0	53.1	None
Block 21	52.9	57.7	51.7	56.1	None
Block 22	57.0	60.7	55.8	58.6	None
Block 23	57.3	60.0	56.2	57.5	None
Block 29	48.2	52.3	47.2	51.0	None
Block 30	47.6	51.8	46.5	50.5	None
Block 34	53.4	59.5	52.4	58.8	None
Block 35	57.1	62.9	56.4	61.8	None
Block 42	52.3	55.5	51.3	53.3	None
Block 47	59.0	61.6	57.8	59.0	None
Block 52	48.5	50.6	47.1	49.5	None
Block 58	59.4	65.7	58.4	65.0	None
State Standard	70.0	70.0	70.0	70.0	

Bold noise levels exceed State noise standards.

Summary of Environmental Impacts. There are no areas within the proposed Ramsey Town Center development that are projected to exceed the state daytime standards. However, there are four blocks along Industry Avenue (Blocks 28, 36, 37, and 38) that either already or will exceed the state nighttime NAC-1 standard of 52 dBA. The exceedances are less than 10 dBA. While these predicted noise levels are above the state nighttime standard, they are not uncommon in developed residential areas that are adjacent to busy roadways.

Mitigation Element. Noise wall mitigation would not be practical along Industry Avenue. Driveways and street intersections would create gaps in the wall, defeating its purpose. It is suggested that the proposed residential units in Blocks 28, 36, 37, and 38 be designed to minimize noise impacts. The noise around the homes and surrounding areas can be reduced by providing climate-controlled units, increasing wall insulation, and providing common areas on the side of the buildings furthest from Industry Avenue.

25. Sensitive Resources

Are any of the following resources on or in proximity to the site?

25a. Archeological, historic, and architectural resources. Yes X No
For an AUAR, contact with the State Historic Preservation Office is required to determine whether there are areas of potential impacts to these resources. If any exist, an appropriate site survey of high probability areas is needed to address the issue in more detail. The mitigation plan must include mitigation for any impacts identified

25b. Prime or unique farmlands. Yes X No
The extent of conversion of existing farmlands anticipated in the AUAR should be described. If any farmland will be preserved by special protection programs, this should be discussed.

25c. Designated Parks, recreation areas or trails. X Yes No
If development of the AUAR will interfere or change the use of any existing such resource, this should be described in the AUAR. The RGU may also want to discuss under this item any proposed parks, recreation areas or trails to be developed in conjunction with the development of the AUAR area.

25d. Scenic Views and Vistas. Yes X No
Any impacts of such resources present in the AUAR should be addressed. This would include both direct physical impacts and impacts on visual quality or integrity.

25a. A request was made to the Minnesota State Historic Preservation Office (SHPO) to provide a list of potential historical or archaeological resources in the project area. In a letter dated December 19, 2002 (Appendix E), SHPO stated that their research of the National and State Registers of Historic places as well as other sources showed that there were no known or suspected historic or archeological resources in the affected area.

25b. “Prime Farmland” is considered rural land with the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses. Prime farmland has the soil quality, growing season, and moisture supply needed to economically produce consistently high yields of crops when treated and managed with modern farming methods.

In general, the Natural Resources Conservation Service (NRCS) indicates that prime farmland soils must: have an adequate and dependable water supply from precipitation or irrigation; have a favorable temperature and growing season; have acceptable levels of acidity or alkalinity, content of salt or sodium, and few or no rocks; be permeable to water and air; are not excessively erodible; not be saturated with water for long periods of time; and, not flood frequently or are protected from flooding.

Agricultural land that is not considered Prime Farmland may be considered “State-wide Important Farmland”. This is land, in addition to prime farmlands, which is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. Generally, soils of statewide importance include those that are nearly prime and produce high yields of crops in an economic manner when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmland soils if conditions are favorable.

Table 25.1 lists the soil map units present on the proposed project site (also see Figure 12.2). Land within the project site was historically agricultural in nature. Commonly grown agricultural crops include corn and soybeans in the Hubbard coarse sand, Duelm loamy sand, Dickman sandy loam and portions of the Isan sandy loam. No agricultural activity occurred in soils designated as Marsh.

As seen in the table, no soils on the property are designated as prime farmland; however, the Dickman sandy loam is considered a State-wide important farmland. The soil unit however, only consists of 0.5% of the total area of the site located in the far southwest corner (Figure 25.1). Project related impacts to prime farmland and State-wide important farmland are therefore considered to be minimal.

Table 25.1 RTC Site Soil Units

Series No.	Series Name	Prime Farmland Status	Percent Coverage in Project Area
HuA/B/C	Hubbard coarse sand	None	77%
Dp	Duelm loamy coarse sand	None	18%
DnA	Dickman sandy loam	None*	0.5%
Is	Isanti sandy loam	None	4%
Mc	Marsh	None	0.5%

* - Identified as a State-wide Important Farmland, but not Prime Farmland.

The other area of farmland designation that exists is “Green Acres”, which is more of a tax-based program to keep productive farmland in business than an environmental program. The acreage is shown here for information purposes. Figure 25.2 shows all of the Green Acres program acreage on the RTC site.

Figure 25.1. Designation of State-wide Important Farmland

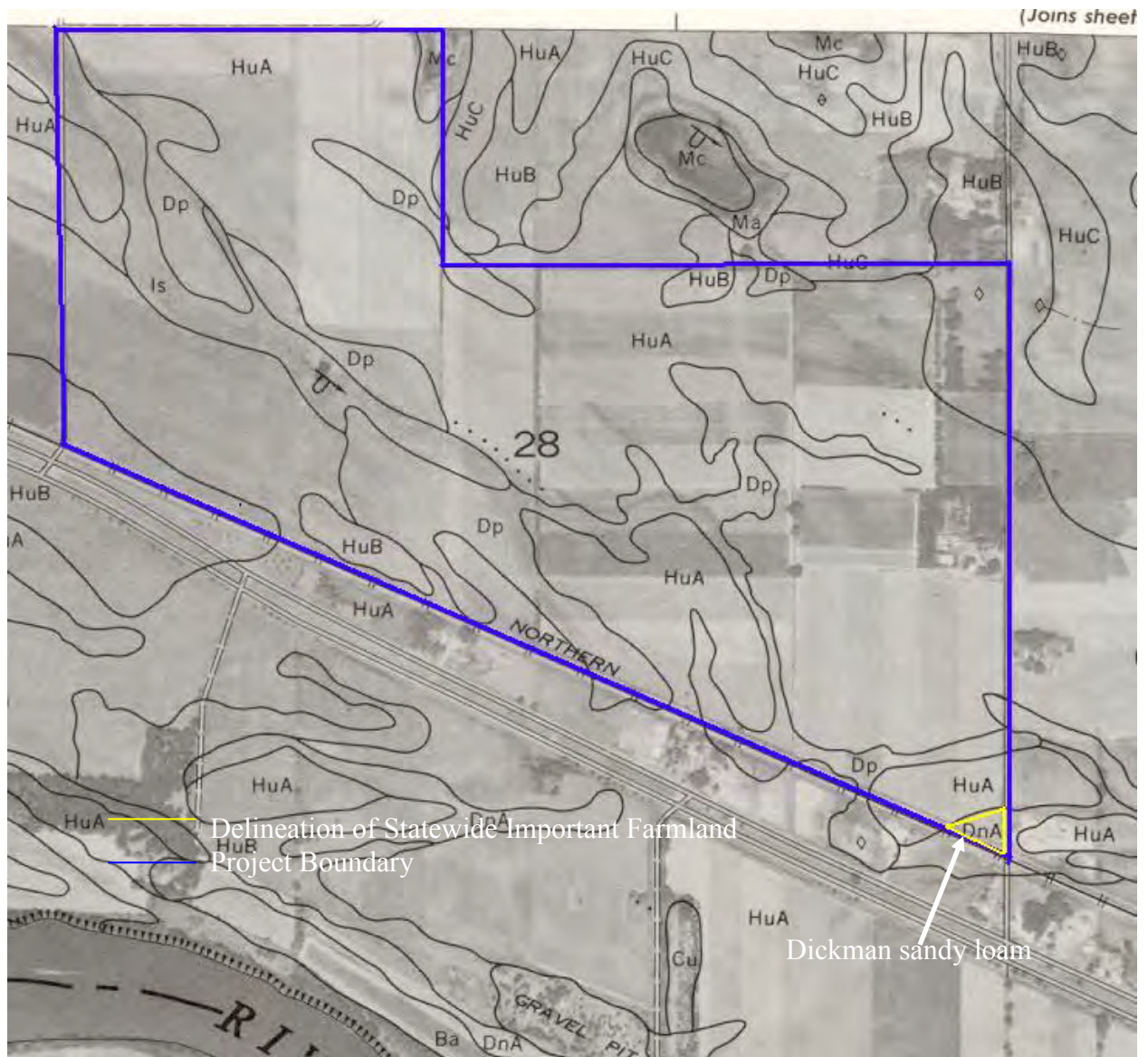
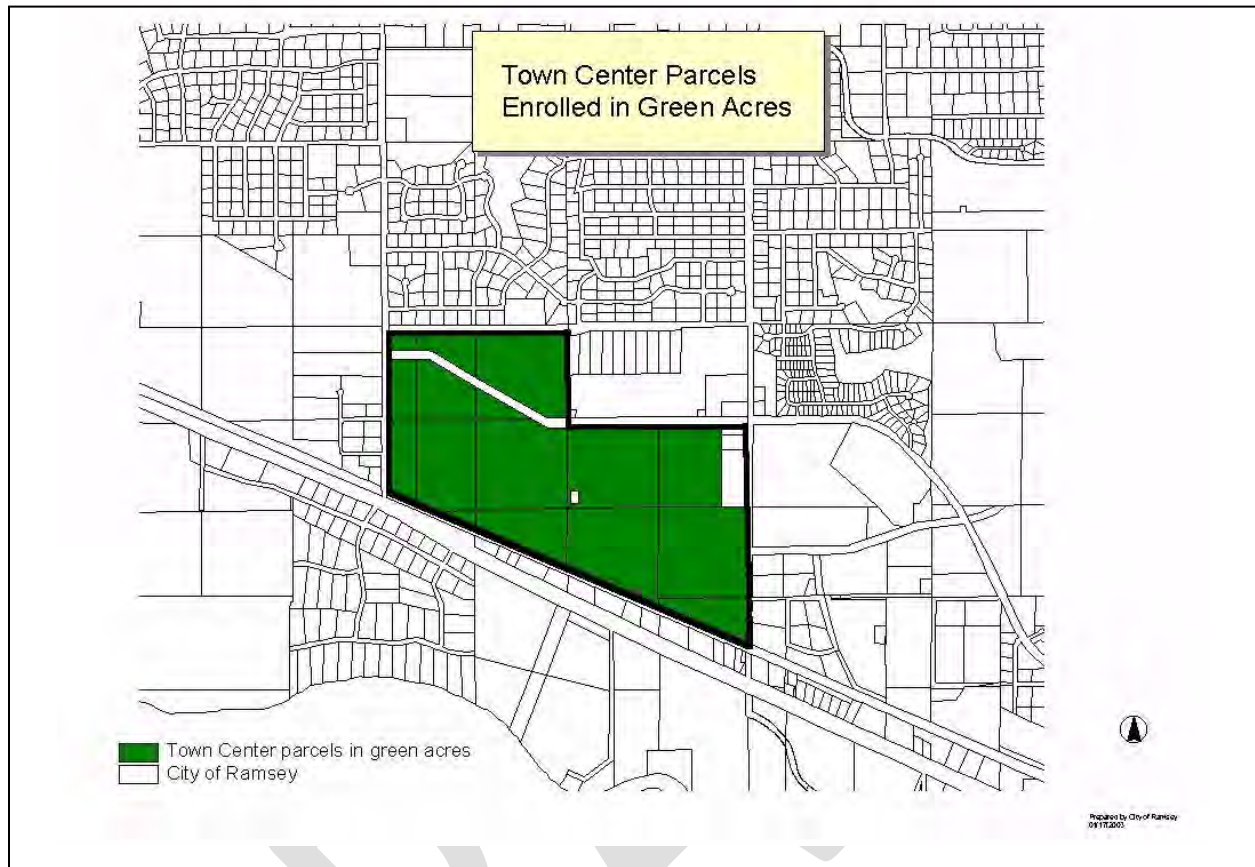


Figure 25.2 Green Acres land within the RTC site.



25c. The Ramsey Town Center site is fortunate to fall within an area surrounded by parks and trails. A unique opportunity exists within the site to incorporate new parks and open space, and to tie together several trail links. Figures 25.3 and 25.4 show the Anoka County and City of Ramsey parks and trail plans, respectively. The City of Ramsey plan reflected in the figure is the most recent version. Because of rapid growth within the City, the park and trails system has been changing often, such that revisions are constantly under way. The information in Figure 25.4 should be considered current through the Spring of 2003.

Reference to the preferred design in Figure 6.1 shows several parks and open space areas that will be included in the RTC development. The latest design contains approximately 40 acres of “green/open space” in a series of neighborhood parks, drainage corridors, preserved and restored wetlands, and general open space. Much of this area, especially in the drainageways, can serve a dual purpose of open space and temporary detention of water.

Among the many issues identified during the stakeholder issues interview was the key role that the RTC site could play in linking open space areas (parks, trails, green space)

throughout this portion of Anoka County. Staff from both Anoka County and City of Ramsey Parks Departments stressed the importance of incorporating green space into the site plan and providing for trail connections to the Mississippi Regional Park (MRP) Trail, which is part of the MNRRA regional River trail, and to trails north and northwest of the RTC site.

Figure 25.5 is a concept depiction of a greenway/trail connection that extends from the City trail at Lake Itasca to the Mississippi River. This corridor is also discussed in Item 17 (Figure 17.1) as a surface water flow route for water from the Lake and from the area to the northwest of RTC as it develops.

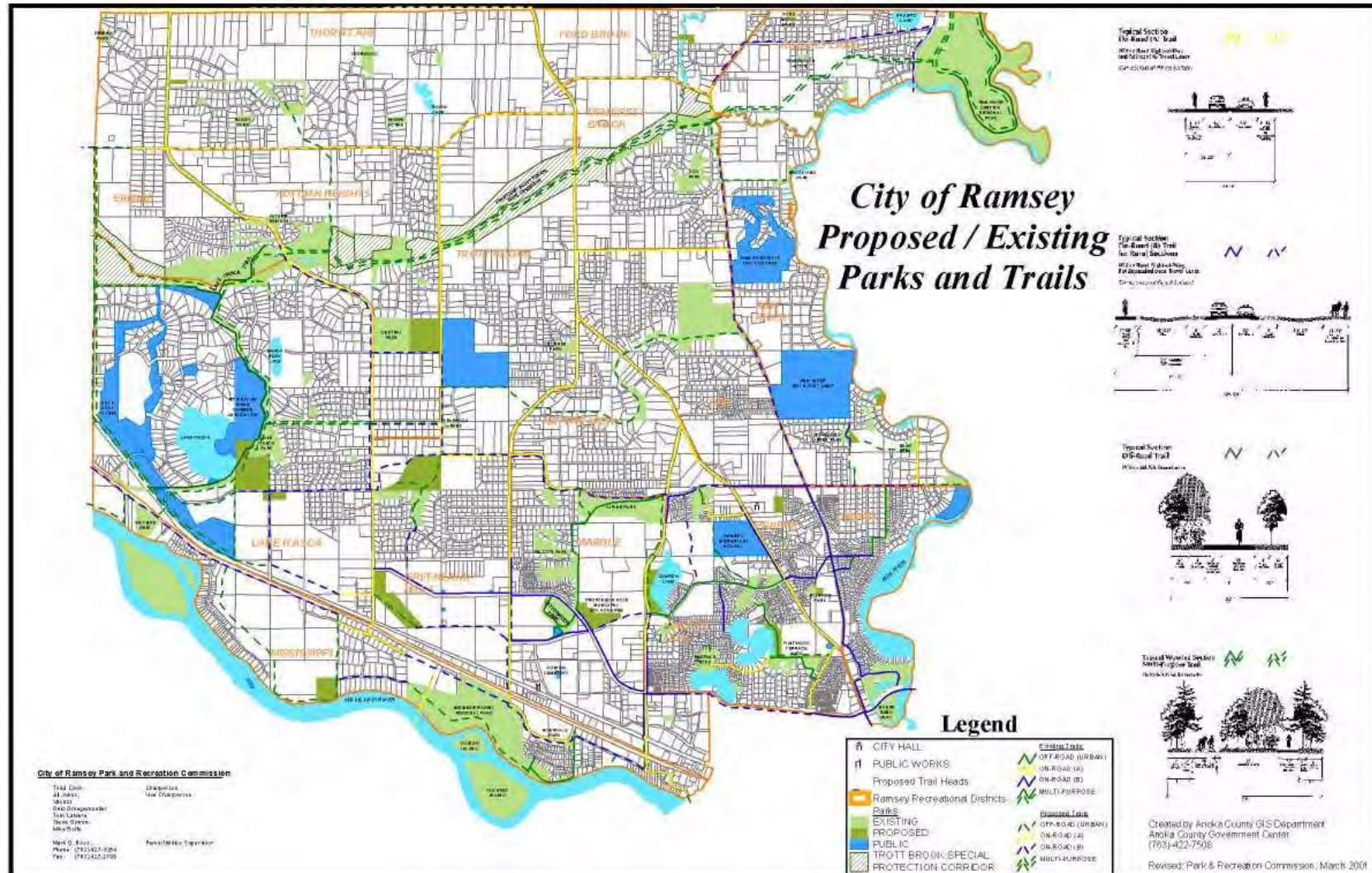
Within the RTC site, as reflected in Figure 6.1, are numerous opportunities to expand open space and trails. The prominent trail feature will be along the central drainage corridor portrayed as green space in the figure. Trails will be present on both sides of the corridor, providing the desired opportunity for linkage with MRP and Lake Itasca. The trail crossings of the BNSF railroad tracks and Highway 10 to the south, and Armstrong Boulevard to the northwest need to be carefully considered during the design phase. Options for crossing the railroad tracks and Highway 10 include numerous locations at-grade, above via elevated crossing or walkway (needed for transit station if Northstar becomes a reality), or sub-grade. The exact nature of this crossing will not be known until many of the design features of the site are coordinated with the agencies involved, including Mn/DOT and BNSF. Anoka Parks prefers a connection south of the site (similar to the Calthorpe location shown in Figure 6.2) rather than along Ramsey Boulevard, but the nature of the crossing could dictate the location, which will be determined during detailed site design. RTC LLC is committed, however, to making the trail connection to MRP an integral part of the RTC when completed.

With proximity to the MRP comes the need for attention to minimize any adverse impact that could result from a new urban center. The development should enhance the park by using the project site as a connection to existing and new open space, and as a source of new users interested in supporting the recreational system. Land use along the trail connection within the site should be compatible with the trail. High intensity commercial use would deter use of the trail leading from the site into the Regional Park.

Anoka Parks has expressed an interest in having the architectural style of the MRP buildings and RTC be compatible. Since the Park development will not proceed for years, the exact style to consider is unknown. RTC LLC will consider the need for visual coordination during the building design phase, and will make its design decisions known to Anoka Parks for its use in future park development.

In 1988, Congress passed Public Law 100-696 establishing the Mississippi National River and Recreation Area (MNRRA) as a unit of the National Park System to preserve, protect, and enhance the nationally significant historical, recreational, scenic, cultural, natural, economic, and scientific resources of the Mississippi River Corridor in the Twin Cities metro area. Item 14 previously addressed the reflection of MNRRA, Critical Area, and Wild and Scenic Rivers language into the City's *Comprehensive Plan*. In 1995, a

Figure 25.4. City of Ramsey Parks and Trails (under revision).



Comprehensive Management Plan (CMP) for the MNRRA was approved by the Secretary of the Interior. The CMP provides a management framework to assist the State of Minnesota and units of local government in the implementation of integrated resource management programs and to ensure orderly public and private development in the area. The CMP incorporates the state Critical Area program and other state land use management programs by reference as the foundation for compliance with the CMP, and encourages voluntary state and local compliance with additional policies to protect and enhance the river corridor. The Mississippi River Critical Area Corridor and MNRRA are geographically identical. In 1991, the Minnesota Legislature designated the federal MNRRA as a state Critical Area by the enactment of Minn. Stat. 116G.15.

25d. A complete analysis of visual impacts is contained in Item 26 that follows.

Summary of Environmental Impact. None are expected with regards to archeological, historical or cultural resources.

The RTC site will be converted from over 350 acres of largely agricultural land to urban uses. This change reflects growth by the City of Ramsey in a manner contained within its *2001 Comprehensive Plan*, as amended in 2002.

The addition of new open space, trail connections and park land in an area previously not publicly accessible will be a benefit to the community. The addition of these features will be carefully coordinated with the proper agencies to assure compatibility.

Mitigation element. *Unidentified Resources.* Various circumstances may lead to the discovery of unidentified historic or archeological resources within the project boundaries. When any such new discovery is brought to the attention of the developer or the City, an evaluation of the significance will be conducted and appropriate management measures will be devised in consultation with SHPO.

Discovery does not mean that all work must stop. However, depending on the nature of the cultural resource and the activity's apparent effects on it, the developer and City will make reasonable efforts to avoid or minimize harm to the resource until it has been processed. Following are the procedures that will be followed when a discovery of what appears to be a cultural resource (historic or archaeological artifacts) has been made:

- (a) Contact the supervisor in charge immediately. If human remains are discovered, also refer to the below section, *Unmarked Human Burial Sites*.
- (b) The supervisor will contact SHPO immediately (651-296-6126). The supervisor will arrange for the site or the relevant portion of the site to be secured against further disturbance until a professional assessment of the potential finding can be made.

- (c) The contractor, lessee or employees will consult with SHPO to safeguard the resource and note its location, depth, etc. for future report, and to determine what type of investigation (if any) or mitigation is appropriate for the circumstances.

Unmarked Human Burial Sites. The discovery of human remains is covered under Minnesota Statute, Section 307.08. Human remains deserve respect and should be treated appropriately. The discovery of human remains involves legal as well as archaeological issues. The odds of discovering human remains are low; however, complete records of all Native American, pioneer and settler burial sites are not available. Therefore, discovery of such unidentified sites is typically accidental and will occur at sites where the soil has not been previously excavated to an appropriate depth.

Immediately upon the discovery of buried human remains, the procedures listed below will to be followed:

- (a) Stop the excavation, and using appropriate safety precautions, and with a minimum of further disturbance to the remains, verify that it appears to be human remains. Make note of what was found, its location and depth, etc.
- (b) Contact the supervisor in charge immediately. The supervisor will contact the Ramsey Police Department immediately if it is suspected that the remains are recent.
- (c) If unable to contact a supervisor, or if instructed, call the Ramsey Police Department and report the discovery. If necessary, the developer will cooperate with law enforcement authorities in securing the site.
- (d) As soon as possible but within 48 hours, the supervisor shall contact the State Archaeologist and consult with them on how to proceed.

Disposition - Ownership/disposition of historic and prehistoric archaeological items, including Native American human remains or grave goods, will be determined by the State Archaeologist, the Native American Council or other appropriate authority.

Because there is no prime farmland on the site, there are no mitigation measures needed to address the change in land use. The very small amount of State-wide Important Farmland in the far southeast corner of the site will be lost from productive agricultural land, but will be replaced by green space uses that preserve the open character of the land.

Although the RTC site is not within the geographic area covered by MNRRA, every effort will be made by RTC LLC to work with Anoka County Parks, Ramsey Parks and the National Park Service to comply with the policies of these agencies and to minimize or avoid any adverse impacts from development of the RTC site.

26. Adverse Visual Impacts

Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks? X Yes No

If yes, explain. If any non-routine visual impacts would occur from the anticipated development, this should be discussed here along with appropriate mitigation.

The current visual aesthetic on the site is one of an actively farmed area surrounded by residences to the north, a busy state highway and commercial strip to the immediate south, and commercial strips to the east and west. Although views from the site will not be impacted, those used to viewing farmland on the site will have a change.

Views during construction will change from the agricultural view currently seen at the site. Although “adverse” is not a quantitative measure relative to visual impressions, it is anticipated that most would consider an active construction site as less than visually appealing.

Views from the Mississippi River northward are not likely to be directly impacted because of the elevation difference between the River and the site. The site elevation is between about 860’ and 865’, with a knoll on the north end of the site reaching about 880’. The Mississippi River through this reach is about 830’ and located below a forested bluff. Direct viewing of the Ramsey Town Center will not be possible from the River. However, lights emanating from the site would likely be seen once the site is developed.

Summary of Environmental Impact. Conversion of agricultural land to urbanized land will have a net change in views that many do not view positively. Changing this view of “open land” to one of a fully developed urban area, however, is part of the City’s plan for its growth. The impacts of the conversion, however, can be mitigated, as outlined in the next section.

Mitigation element. Light emissions from commercial and residential areas cannot be avoided because of safety issues and the need for residences and businesses to see clearly at night. City Ordinance 9.11.07 describes any lighting used to illuminate an off-street parking area, sign, or other structure, must be arranged so that the light is deflected away from residential districts and public streets. Bulbs emitting in excess of 3,000 lumens (150 watts) must be arranged so that the light is not visible outside of the property where the light is located. There are several methodologies of acceptable screening methods for these nuisances that can also be used for transitioning from high- to low-density residential or from residential to commercial areas. Screening methods typically include a vegetative barrier no less than five feet high or other natural materials. Applying shields to street and parking lot lamps directs the light to the ground surface where it’s wanted, not into the adjacent neighborhood. All of these practices should minimize the impact of the light at the River, but will not eliminate it.

The visual impacts of construction on a scale that will occur at RTC over several years will be difficult to mitigate, but several measures to minimize the impact will be followed. The most offensive visual characteristics of construction, and possible mitigating actions are:

- Soil erosion leading to sediment movement off-site - Item 16 spelled-out a mitigation element to control on-site erosion and off-site sedimentation.
- Access streets and roads covered with dirt and gravel/rocks - The erosion and sediment control program will include egress gravel wash pads and will contain a daily sweeping plan for roads affected by construction traffic.
- Swirling dust caused by earth-moving activity on dry soil - A water truck will be available on site to spray areas experiencing dust movement. This will be especially critical on the sandy soils prevalent on site.
- Construction equipment and temporary trailers - Every effort will be made to screen immobile equipment and to park mobile equipment in a visually sheltered location at the end of the working day.
- Exposed soil - One of the essential elements in the erosion and sediment control plan will be rapid stabilization, covering and re-vegetation of exposed soils. Although some exposed soil will be impossible to avoid, every attempt will be made to minimize exposure.

27. Compatibility with Plans

Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency? X Yes No.

If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved. If no, explain.

The AUAR must include a statement of certification from the RGU that its comprehensive plan complies with the requirements set out in (Minnesota Rules) 4410.3610, subpart 1. The AUAR document should address the proposed AUAR area development in the context of the comprehensive plan. If this has not been done as part of the responses to Items 6, 9, 18 21, and others, it must be addressed here; a brief synopsis should be presented here if the material has been presented in detail under other Items. Necessary amendments to comprehensive plan elements to allow for any of the development scenarios should be noted. If there are any management plans of other local, state, or federal agencies applicable to the AUAR area, the document must discuss the compatibility of the plan with the various development scenarios studies, with emphasis on any incompatible elements.

City of Ramsey Local Comprehensive Plan. The basis of implementing a large-scale development as covered by an AUAR is the compatibility of that development with the local unit of government's plan for the future of its community. In the Metropolitan Area, this outlook is described in a local comprehensive plan (LCP) prepared in accordance with Minnesota Statutes, Section 473. Among the requirements of this statute is the inclusion of a land use plan with staged development, housing and surface water management components, a public facilities section that addresses transportation, sanitary sewer, parks and open space, and water supply, and finally, an implementation program that describes the financial and institutional methods to be used to implement the LCP.

Minnesota Rules 4410.3610 references the need for a local unit of government within which an AUAR is being prepared to certify that the three elements referenced above are contained in its LCP. The City of Ramsey has an adopted *2001 Comprehensive Plan* that was most recently amended on February 26, 2002. The following list identifies the specific LCP chapter references meeting the content requirements for AUAR/LCP conformity:

- Chapter V - Land Use (existing land use, future land use, historic preservation, solar access protection)
- Chapter VI - Transportation Element (framework and goals, existing roadways, analysis of roadway system needs, roadway system plan, transit, aviation, railroad lines, bicycle and pedestrian trail system)

- Chapter VII - Housing Plan (existing conditions, senior housing, affordability, the plan for housing)
- Chapter VIII - Sewer Element (existing system, future sanitary sewer services)
- Chapter X - Park, Recreation and Open Space (existing park and creation facilities, the parks and creation plan)
- Chapter XV - Public Facilities (city administration, fire and rescue, police, public works, public schools, public facilities and services plan)
- Chapter XVI - Implementation Strategy (zoning ordinance, subdivision ordinance, septic system management program, capital improvement program, corridor studies, housing program, redevelopment planning, area master planning, part and trail comprehensive planning, GIS development, public services and facilities, central rural reserve area)
- Appendix C - Surface Water Management Policy
- Appendix E - Individual Sewage Treatment System (ISTS - septic tank) Program
- Appendix F - Water Supply Plan
- Appendix G - Capital Improvement Program

Based on the content contained with the February 26, 2002 Ramsey *Comprehensive Plan Update*, the City of Ramsey certifies that the requirements of Minnesota Rules 4410.3610 have been met.

Preferred site design conformity with Ramsey LCP. The preferred site design illustrated in Figure 6.1 is consistent with the City of Ramsey LCP, as referenced above and illustrated in Figure 5.4. The key element in establishing conformity is consistency with the future land use expectations of the City. The consistency set the stage for infrastructure support and financing needed to assure smooth development staging. Figure 5.4 illustrates that the Ramsey Town Center site is noted as predominantly ~~“Mixed Use”~~, with additional increments of ~~“Places to Work”~~, ~~“Medium Density Residential”~~ and ~~“Low Density Residential”~~. The corridor between Highway 10 and the BNSF railroad tracks is designated as ~~“Places to Shop”~~. The ~~“Mixed Use”~~ category represents a combination of residential, commercial, light industrial, open space and a transit hub. ~~“Places to Work”~~ is defined by the City as areas primarily reserved for office and industrial type development. The plan’s description of mixed use and the other less prominent uses fits perfectly with the preferred design. The existing highway commercial strip on the north side of Highway 10 (Figure 6.1) is subject to change as Mn/DOT’s plans for the highway take shape, but until that happens, there is no

anticipated change in its usage, other than possible use of City land for detention of stormwater.

Consistency on a map does not assure that project implementation will fully meet the City's intent with respect to the provision of service. It is for this reason that the various AUAR Items address infrastructure needs and phasing. The timing within which services will be provided to Ramsey Town Center is spelled-out in Items 12, 13, 17, 18, 21, 25 and 28. However, at this time, there has not been any financial commitment by the City to meet the timing schedule.

Although the entire LCP supports the approach proposed for Ramsey Town Center, some specific elements within the Plan pertain especially to the project. The Guiding Principles within the Vision and Guiding Principles section of the Plan (Chapter II) contain many statements that reflect the "town center" concept of development, with its emphasis on mixed land uses, pedestrian and environmental friendliness, and building a sense of community.

Chapter III of the LCP (Community Background) and Chapter XIV (Community Identity) address the City's intent to grow in a well thought-out manner and to build a sense of community. The Ramsey Town Center project will provide an opportunity to develop a central focal point for municipal civic activities, as well as working, shopping, establishing a home and finding local entertainment as the City's population grows from about 19,500 in the year 2000 to well over 30,000 by 2020.

Consistency relative to sense of community cannot be shown with maps and charts, but must be gained through repeated contact with public officials and members of the community. The preferred concept that eventually evolved into Figure 6.1 was derived after many such meetings. The list of forums for discussion included: Metropolitan Council Smart Growth community meetings; presentation and listening sessions with City officials and community leaders; a Town Center Task Force; the January 2003 retail design charette; and day-to-day interaction with City staff.

Consistency is also assured by matching the character of a new Ramsey Town Center with what the City expresses as its needs and desires in the LCP. Following are several such statements from the LCP for which the Town Center design fits:

"Landowners are encouraged to preserve and restore areas of significant natural resources such as open prairie or tree canopy as permanent open space by increasing density in areas more conducive to development." (page V-11)

It is an Urban Residential policy of the City to "Encourage environmentally conscious site design and construction methods to assure that development respects the natural environment", to "Ensure open space that is part of a residential development is preserved as permanent open space..." and to "Ensure projects are consistent with the goals and policies of the Mississippi River

Critical Area Plan (MNRRA) and are sensitive to the Rivers natural environment". (pages V-20 and 21)

It is a Places to Work policy of the City to "Require developments to adhere to environmentally sensitive design and construction standards", to "Facilitate the clean up and redevelopment of brownfields and underutilized sites..." and to "Require individual sites to be connected to a trail system that links employees with the Town Center, parks and neighborhoods." (page V-25)

"The purpose of the Town Center Mixed Use Area is to establish a community hub that integrates places to work, play and live and embraces transit oriented design in anticipation of the potential future commuter rail station." The site will be a "pedestrian friendly environment that supports mass transit" with mixed use development that would support the station with connections to MRP. (pages V-26 and 27)

It is a Park and Recreation Plan goal of the City "To preserve continuous open space corridors that protect natural vegetation and water quality, provide wildlife habitat, and preserve the natural identity of Ramsey." (page X-7)

"The Ramsey community has acknowledged and embraced the importance of the Mississippi River Corridor, its history, water quality, beauty and recreational opportunities. The future of the corridor through Ramsey consists of a sanctuary where wildlife and nature coexist with people and development." (page XI-3)

"All future development should minimize the negative environmental impacts on the region's ecological system ensuring that the built environment is in harmony with the natural environment." (page XIII-1)

Reference to Figure 5.4 shows the future land use reflected in the LCP. A comparison with the preferred concept plan for Ramsey Town Center (Figure 6.1) clearly illustrates the compatibility between the City's vision for the future and the proposed development. Chapter V of the LCP describes how the City's expectations on how it will develop by 2020. The Chapter is replete with references to the City's intentions. All of this guidance will be used as Ramsey Town Center moves through the various phases of development and comes to the City for the approvals that accompany the development steps. Specific reference is made in Chapter V to a sub-set of Mixed Use called "Town Center Mixed Use Area". This description addresses the area being proposed for development under this AUAR. The vision laid-out in the description parallels the site concept and sense of community focus proposed for Ramsey Town Center. The entire parcel being considered is within the MUSA (Figure 5.4) and will be served accordingly, as described in the various infrastructure elements of this AUAR, consistent with the 2000-2010 staging plan identified in the LCP (Figure V-3 in the Plan).

Chapter VI also identifies the City's desire to improve its trail system. The connection of trail linkages from Mississippi Regional Park (MRP) through Ramsey Town Center, connecting to Lake Itasca and other trails north of the Center is an integral part of this City vision. Completing this vision during development has always been part of the Town Center plan, as evidenced in Figure 6.1.

The water and sanitary sewer service elements of the LCP (Chapters IX and VIII) are discussed within the AUAR in Items 13 and 18, respectively. The storm sewer element is discussed in both Items 12 and 17. All of the infrastructure details are also discussed in Item 28.

Chapter X of the LCP addresses the parks and open space plans for the City. Figure 6.1 shows that a substantial portion of the proposed Ramsey Town Center will be devoted to open space that can become part of the City's system. Trail linkages have already been identified, but additionally, linkages within the site will occur among the various neighborhood parks and more regional-scale trails. The development of MRP will be a major benefit to the City's long-term goal of providing public access to the River. The connection of Ramsey Town Center trails to the River, as described in the site concept plan, will be a critical step in achieving this goal. Similarly, the opportunity exists to tie the Center to the Lake Itasca trail via a green corridor trail. Figure 25.5 illustrates one potential alignment for this trail. The City has not yet formalized the means by which this trail would be established, but identifying a possible path is part of the process. The City's Parks and Recreation Committee and City Council will ultimately decide upon the method of incorporating that this trail into development as it occurs northwest of Ramsey Town Center.

The connection and coordinated planning between the City and the state Mississippi River Critical Area and Wild and Scenic River (WSR), and the federal Mississippi National River and Recreation Area (MNRRA) was discussed in Task 14. The boundaries of these three specially designated areas overlap, as shown in Figure 14.1. Chapter XI of the City's LCP contains the required elements for implementing Executive Order 79-19 issued by the state for defined Critical Areas in 1979. This chapter addresses all of the required elements and also ties in the coordination aspects with MNRRA and WSR. Although none of these protected areas occurs within the boundaries of Ramsey Town Center, the AUAR must address potential impacts that site development could have on them. Task 14 addressed this impact and the mitigation plan associated with it. Reference is made in the LCP to the 1994 MNRRA Plan, *Comprehensive Management Plan for the Mississippi National River and Recreation Area* prepared by the Mississippi River Coordinating Commission and the USDI-NPS. This plan serves as general management plan for MNRRA and is reflected in the City's LCP, which exceeds Tier II requirements of MNRRA.

Chapter XIII of the LCP establishes the City's vision for environmental protection and resource management. A key feature of the Ramsey Town Center is its integration of natural resource attributes into the concept design. Chapter XIII identifies the natural features of the City and the manner in which they will be protected and enhanced.

Development of the Center site actually presents an opportunity to restore and incorporate environmental features that have not been a part of the landscape in recent memory. For example, the central green corridor is a remnant drainage feature that has not transmitted water in the memory of City or WMO officials. Connecting drainage from Lake Itasca to the Mississippi River to and through this feature will provide a chance to restore a natural function and the habitat, water quality and aesthetic benefits that accompany it. Similarly, installing runoff management practices that take full advantage of the infiltration character of porous Anoka Sandplain soils assures that surface water continues to recharge the essential drinking water aquifer supplying drinking water to City residents, whether on a municipal or private system.

Finally, the public facilities and implementation requirements of planning are addressed in Chapters XV and XVI of the LCP.

Management plans of any other government agencies.

As discussed previously in this AUAR, there are several other plans that potentially cover the Town Center site and its adjacent area.

Lower Rum River Watershed Management Organization (LRRWMO). The entire site falls within the jurisdiction of the Lower Rum River Watershed Management Organization (LRRWMO), which is a Joint Powers Agreement among the Cities of Ramsey, Anoka, Andover and Coon Rapids. Aspects of the LRRWMO relationship to this project were addressed in both Item 8 (permits) and Item 14 (related management districts).

The WMO's state approved (BWSR) second generation watershed plan was adopted by the LRRWMO in late 1998. The Ramsey Town Center site occurs within the WMO's West Mississippi District. The WMO plan, however, mapped the portion of the sub-watershed surrounding Lake Itasca as part of the Trott Brook drainage area, which meant that flow would be to the north from the Lake rather than to the south. Because flow emanating from Lake Itasca has not occurred within recent history, there was some uncertainty over the direction of flow, if it were ever to occur. To address this uncertainty, an EOR survey team established elevations around the lake and determined the drainage directions located in Figure 12.1. Determining this flow direction is essential for to the modeling effort to quantify the area contributing to flow that could cross the Ramsey Town Center site.

LRRWMO is also the designated "Local Governmental Unit" or LGU under the 1991 Wetland Conservation Act. This means that regulatory decisions on wetland impact within the City are made by the WMO. The WMO participated in all of the Technical Evaluation Panel (TEP) meetings related to this site, and is ultimately responsible for any subsequent permit decisions.

Critical Area, MNRRA, Wild and Scenic River. The management overlap between the Critical Area component of the City's LCP and the MNRRA plan were addressed in Item 14. This discussion also addressed the Wild and Scenic River coverage. Local

governments within the state Critical Area Corridor are required to incorporate the Standards and Guidelines of Executive Order 79-19 into local plans and ordinances for the Corridor. Local units of government shall permit development in the Corridor only in accordance with those adopted, approved plans and regulations. Specific policies within the Ramsey Critical Area Plan address those needs, as referenced earlier (Item 14). In addition to the Executive Order standards (previously listed) that were incorporated and approved in the City of Ramsey Critical Area plan, the following additional policies occur in the City's plan:

- ♦ Minimize direct overland runoff and maintain natural watercourses such as ditches, wetlands and floodplains to handle existing storm water runoff and slow the process of surface water infiltration.
- ♦ Ensure urban best management practices are strictly adhered to during and after construction projects including the replacement of all vegetative cover which is removed for construction purposes.
- ♦ Adopt development controls consistent with NURP standards and the MPCA's Urban Best Management Practices to reduce nonpoint source pollutant loading in storm water runoff.
- ♦ Minimize site alterations and protect natural watercourses, bottomland forests, prairies and woodlands as part of the development plan through such means as conservation easements or land preservation techniques.
- ♦ Prohibit alterations or disturbances of wetlands, tree canopy, significant habitat areas and natural vegetation areas.
- ♦ Ensuring that trail locations minimize any negative affects on the natural resource base.
- ♦ Ensure future development emphasizes continuous open space, minimizes utility and infrastructure needs and crossings....
- ♦ Ensure adequate views to and from the river are preserved while maintaining appropriate landscaping buffers and vegetative covers.
- ♦ Require future utility construction ... to be underground while minimizing disturbance of endangered habitat areas or undisturbed natural vegetation areas.
- ♦ Prohibit any unnecessary grading, filling, or any other significant alteration of areas within the Critical Area Corridor.
- ♦ Prohibit development on or alteration of slopes exceeding 12% including the riverfront bluff face.

Anoka County. Anoka County has a Comprehensive Master Plan for the County that covers all parts of the Critical Area under County jurisdiction in the Plan's Mississippi River Critical Area Management section. Planning and development of parks within this area by Anoka County Parks reflects the Critical Area goals under the Critical Area Act and Executive Order 79-19. The County's plan for Parks and Trail Corridors was shown in Figure 25.3. The City of Ramsey is working very closely with Anoka County Parks to develop trail connections paralleling the Mississippi River through MRP and connecting this regional trail to other City and County trails north of the River. The connections to Lake Itasca and Trott Trails would then traverse the Town Center site. Anoka County Parks has also expressed an interest to tie the architecture of the MRP buildings to the

architectural themes used in Ramsey Town Center. Finally, Anoka County Highway Department is working with the City and the site developer to assure that all of the road work potentially impacting County highways is acceptable and meets County standards.

Anoka Conservation District (ACD). ACD has a greenway corridor plan for wildlife corridors that crosses the Ramsey Town Center watershed and the site itself. Figure 27.1 illustrates the ACD greenway contained within the plan. Currently the plan indicates that an ideal wildlife corridor would go through the Town Center in essentially the same location as the central drainage swale. The location of the corridor is critical here because of the proximity of the Town Center to Mississippi West Regional Park, which is a local hub for wildlife. In a conversation with EOR, ACD staff (Rich Biske, Wildlife Habitat Management Technician) indicated that the drainage swale could be an appropriate wildlife corridor if native vegetation (specifically mentioned big blue stem and forbs) instead of turf grass was planted. He noted that if turf grass is planted in the central drainage swale, a wildlife corridor would need to be created in a less desirable location, possibly in the undeveloped area to the west of the site, as east of the site is already developed. ACD also expressed interest in connecting the trail system and possibly the wildlife corridor to the trails and open space associated with Sunfish Lake to the east.

Department of Natural Resources (DNR). DNR implements the State's Critical Area program and has approved the City's Critical Area Plan as part of its local comprehensive plan (see Item 27). DNR also administers the State Wild and Scenic Rivers program. Provisions to coordinate the Critical Area Plan with the Wild and Scenic River and the federal Mississippi National River and Recreation Area (MNRRA) are contained within the City's comprehensive plan.

Metropolitan Council. The Metropolitan Council is charged under Minnesota Statutes, Chapter 473 with assuring the orderly and economic development of the seven-county metropolitan area. To implement this responsibility, the Council reviews the local comprehensive plans (LCP) of communities within the region, and has approval authority over aspects of the plan that affect one of the four "regional systems" - wastewater, transportation, regional parks and airports. Other elements of the LCP that are not related directly to the four regional systems are reviewed for consistency with overall regional plans.

Of specific AUAR concern to the RTC site are the Ramsey LCP regional system elements addressing traffic and wastewater, and the non-system components addressing water supply and stormwater. The Ramsey LCP was adopted in 2001 by the City and approved by the Metropolitan Council. This AUAR reviewed the traffic and wastewater elements of the site development and drew some conclusions in Items 21 and 18, respectively, on system impact. Items 13 and 17 similarly addressed the water supply and stormwater aspects of the development.

Minnesota Department of Health (MDH). The MDH is the state agency responsible for assuring that municipal water suppliers meet the requirements of the state and federal

Wellhead Protection Program. The City of Ramsey has joined with several other communities in Anoka County, and the County itself, to develop its wellhead protection plan. This plan was addressed in Item 6.

Summary of Environmental Impact. The proposed RTC site development is consistent with all of the planning documents covering its area.

Mitigation element. At this time, the Ramsey *2001 Comprehensive Plan*, as amended in 2002, fully addresses the development of the RTC site and adequately relates this development to the various other agency plans with which it must comply. However, any change in the project that would lead to deviation in one or more of the plans must be corrected by a plan amendment.

28. Impact on Infrastructure and Public Services

Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project? ☒ Yes ☐ No.

If yes, describe the new or additional infrastructure or services needed. (Note: any infrastructure that is a connected action with respect to the project must be assessed in the EAW; see EAW Guidelines for details.)

For an AUAR, this item should first of all summarize information on physical infrastructure presented under Items such as 6, 17, 18, and 21. Other major infrastructure or public services not covered under other items should be discussed as well – this includes major social services such as schools, police, fire, etc. The RGU must be careful to include project-associated infrastructure as an explicit part of the AUAR review if it is to exempt from project-specific review in the future.

Social Services. The project area is served by the Ramsey Police Department. Based on the current standard ratio of 1.3-1.5 licensed officers per 1000 residents, the City of Ramsey should have 26 officers. There are typically 3 police officers on duty at a time from a total of 17 full time police offers, therefore the current ratio is 0.85 licensed officers per 1000 residents. The Police Department, when predicting future needs, considers crime rate, traffic increases, and overall growth. Future personnel, equipment and training needs are based on the general population growth of the City of Ramsey, which would include, but is not specific to the RTC. Future personnel needs are listed in Table 28.1. Through 2015, equipment and training needs are expected to increase proportionately with staffing changes. The Department is investigating the equipment and training required for preparing an officer for a potential terrorist attack anywhere within the city. The RTC is described by the department as the most likely location within the city for such an attack. Currently, the streets adjacent to the RTC are patrolled at least once a day. The RTC development may require more frequent patrols. The preferred design plan for the RTC includes the construction of a new police station, which would establish a permanent police presence on the site.

Table 28.1 Ramsey Police Department Future Personnel Needs

Year	No. of Police Officers Needed	Additional Personnel Needs
2004	2 Patrol Officers	1 Crime Prevention Specialist 1 Technician
2005	2 Patrol Officers	1 Community Service Officer
2006	2 Patrol Officers	
2007	2 Patrol Officers	1 Investigator 1 Technician
2008	2 Patrol Officers	1 Supervisor
2009	2 Patrol Officers	1 Lieutenant
2010-2015	1-2 Patrol Officers per year	1-2 Technicians

The Ramsey Fire Department serves the project area and has two full-time fire fighters, thirty one volunteers, two class A rated engines, a tanker engine, a tanker truck, two rescue vehicles, and two grass/brush fire trucks. The Fire Department has two stations with intentions to build a third. The recently built fire station on Armstrong Boulevard is less than a quarter of a mile from the RTC. The current equipment and staff should continue to be adequate after the development of the RTC. The Department does not foresee future needs until the completion of the third station.

The City of Ramsey feels that there is going to be a substantial level of commitment necessary for the Ramsey Towne Center as it relates to the Public Works Department. Due to the operational expectations of this area and impacts on the existing level of service, the City expects that there will be a need for 3 to 4 additional Public Works personnel to meet these increased demands such as: additional street maintenance, additional mowing and park clean-up, snow removal instead of snow plowing, sidewalk maintenance on a higher priority, additional street lighting with aesthetic banners, as well as traffic signals.

The City also expects an increased impact to its equipment needs to perform these additional and unique services such as banner hanging, replacement, and service, storm sewer cleaning at a increased increment and snow removal. This includes an additional sweeper due to the increased regularity of sweeping, sidewalk sweeper to keep the debris and therefore particulates and floatables out of the storm sewer, vacuum truck to keep up with the demands of catch basin cleaning and additional "snow removal" equipment with conveyor to help with removal activities. Since the amount of responsibility for maintenance is unclear at this stage, the above information is the City's estimate of the needs that will accompany this project.

The site should be adequately served by existing library and post office facilities. The preferred design includes a community center and new city hall to better serve the City of Ramsey and RTC residents.

The RTC and the surrounding area are within School District #11, served by nearby Ramsey Elementary School, Sandburg Middle School and Anoka High School, as well as several private schools. From the Anoka-Hennepin School District, new housing construction in the City of Ramsey impacts school enrollment as listed in Table 28.2. Using the data from the school district and the total residential units from the February 28, 2003 RTC concept design, the impact to school enrollment was calculated and is listed in Table 28.3. When residential type was specified as mixed use in the concept plan, the highest impact unit type, “Single Family Homes”, was assumed in order to determine the highest possible impact scenario. The unit type “Apartments” in Table 28.3 includes apartments and duplexes. All calculations were rounded up to the nearest whole number. Based on statistics and stated criteria, the impact of the RTC on school enrollment will be 830 school age enrollments and 399 preschool enrollments. Because the development will occur over time, not all enrollments will occur at the same time. Also, if the unspecified residential units are not single family homes, the enrollment impact will be significantly less than assumed here. Additionally, the RTC currently maintains that a school will be built on-site, which could absorb some of the additional enrollments. Finally, according to the Anoka-Hennepin School District, new housing is needed in order to replace the 100 graduating students every year. Therefore, as new housing units are constructed in the RTC over time, new students should be absorbed without significant impacts to school enrollment.

Table 28.2 City of Ramsey’s assumptions for new housing impacts on school enrollment

Unit Type	No. of School Age Children/ No. of Units	No. of Preschool Age Children/ No. of Units
Townhouses	1/8	1/25
Apartments	1/25	1/16
Single Family Homes	2/3	1/3

Table 28.3 Impact scenario of proposed RTC development

Unit Type	Ramsey Town Center New Units	New School Age Children	New Preschool Age Children
Townhouses	1154	145	47
Apartments	234	10	15
Mixed Use	1012	675	337
Total	2400	830	399

Summary of Environmental Impact. No adverse impacts to the social service infrastructure are anticipated. Road, sanitary sewer, water supply and stormwater infrastructure are addressed in Items 21, 18, 13 and 17, respectively.

Mitigation element. The major physical infrastructure elements of roads and streets, sanitary sewer, municipal water and storm sewer have all previously been addressed within this AUAR.

An evaluation of the social services needed for the RTC development indicates that the planning done for the City has accounted for the growth related to the RTC. Police, fire, public works, schools, and related City and postal services will all be impacted by the development. Additional equipment to perform City public works services will be needed. No additional mitigation is needed to meet the expected growth.

29. Cumulative Impacts

This item does not require a response from an AUAR since the entire AUAR process deal with cumulative impacts from related developments within the AUAR area.

30. Other Potential Environmental Impacts

If applicable, this item should be answered as requested by the EAW form (if the project may cause any adverse environmental impacts not addressed by items 1 to 28, identify and discuss them here, along with any proposed mitigation).

There are no additional major adverse environmental impacts beyond those addressed by Items 1-28. There are, however, two minor issues that need to be raised. First, the impacts of the Anoka-Ramsey Landfill on the RTC are presented to alleviate any potential concerns. The landfill is located within one mile of the RTC site in Township 32N, Range 25W, Section 22 (Figure 19.5). The RTC is located southwest of the landfill. Regional groundwater flow throughout this part of Ramsey is to the southeast, indicating that pollutants from the landfill are flowing away from the project area. Additionally, the continued mitigation at the landfill has contained the plume horizontally using twelve barrier wells and eight recovery wells. Finally, sampled residential wells screened in the Franconia aquifer have been negative for all monitored contaminants. This means that the potential for contamination of the water supply from the landfill is minimal because the City of Ramsey wells are screened in an aquifer that has not been contaminated and groundwater flow direction is away from the wells (Anoka/Ramsey Landfill SW-094 2000 Annual Report). Because of the location of the RTC, the minimal threat to the water supply and the successful remediation at the landfill, there should not be any adverse environmental impacts.

Secondly, the RTC will change land use from agricultural to urban. Although this marks an end to agricultural use of the site, Item 27 described the orderly planning process under which this transition occurred. The mitigation elements summarized in Appendix D address how the lost environmental features of the undeveloped agricultural site will be replaced, and in some cases, improved.

31. Summary of Issues

List any impacts and issues identified above that may require further investigation before the project is begun. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have been or may be ordered as permit conditions.

The RGU may answer this question as asked by the form or instead may choose to provide an Executive Summary to the document that basically covers the same information. Either way, the major emphasis should be on potentially significant impacts, the difference in impacts between major development scenarios, and the proposed mitigation.

Meetings were held with many agency staff to identify issues related to this project that would be of interest to them. The agencies contacted for input were:

- Anoka Conservation District
- Anoka County - Parks, Public Services, Environmental Health, and Highways
- City of Ramsey
- Lower Rum River Watershed Management Organization
- Metropolitan Council - Comprehensive Planning, Environmental Services
- Minnesota Department of Natural Resources - Waters (Metro Region, Critical Areas Program)
- Minnesota Department of Transportation
- Minnesota Pollution Control Agency- Planning, Permitting
- National Park Service - MNRRA
- U.S. Army Corps of Engineers

Based on the input received, the following issues statements emerged as those in need of attention in the AUAR:

Surface Water and Wetlands

- There is a need to maintain the small amount of wetlands on the site, mitigate any losses and focus on maintaining infiltration capability through a surface water management plan; the City would like to incorporate Lake Itasca and the two northern wetlands, and an outlet for the site into the surface water management plan for the site. Issue addressed in Items 8, 11 and 17.
- A Ramsey street and sewer maintenance staff member stated that he could deal with pipes, but things like storm rain gardens and native vegetation he is not used to handling; therefore, the O&M is “different” and would require new training and possibly new equipment. Issue addressed in Item 17.
- A green drainage corridor/trail extending from Lake Itasca through the site to the Mississippi River crosses large tracts of privately held land. Although many are in favor of this, until a development proposal is received by the City, this can only be referenced as a “recommended” corridor. Issue addressed in Item 17

- The impact of the new NPDES Phase II nonpoint source control permit program should be assessed relative to future requirements as the site develops. Water quality impact should be evaluated down to the ultimate receiving water - the Mississippi River - because of its status as a highly valued and protected water throughout this reach. Issue addressed in Items 8 and 17.
- Any wetland alteration must be mitigated according to the Wetland Conservation Act process. Issue addressed in Items 8, 11 and 17.
- The adequate handling and passage of the 100-year flood event must be assured, and all LRRWMO requirements associated with this design must be met in doing so. Issue addressed in Item 17.
- An outlet is needed from this drainage area, since currently the minimal amount of flow leaving the site soaks into the ground along Highway 10 shortly to the southeast of the site. Issue addressed in Item 17.

Parks and Trails

- Project needs to provide an opportunity to link a trail system through the site. Issue addressed in Item 25.
- Attention is needed to minimize adverse impact on the Mississippi Regional Park; instead, it should enhance the park by using the project site as a connection to Lake Itasca via greenway and trail. Issue addressed in Item 25.
- In its dealings with Anoka Parks, BNSF has not allowed any elevated pedestrian crossings and has strict rules on tunneling under tracks; the at-grade option presents safety problems. Issue addressed in Items 21.
- Traffic plans for the Ramsey Boulevard/Highway 10 intersection should incorporate Anoka Parks' plan for development of the Mississippi Regional Park because this will be the only vehicle access location (with parking) allowed for the park. Issue addressed in Items 21 and 25.
- Land use along the trail connection within the site should be compatible with the trail. High intensity commercial use would deter use of the trail leading from the site into the Regional Park. Anoka Parks prefers a connection south of the site (similar to the Calthorpe location) rather than along Ramsey Boulevard, but the nature of the crossing could dictate the location. Issue addressed in Items 21 and 25.

Traffic and Highways

- The project needs to assess traffic patterns and flow to move cars in and out, and take advantage of site as regional center for transit. The site needs to fit into the regional and state plans for the City. Issue addressed in Item 21.

- The project needs to assess parking needs and traffic impact on, and adjacent to, the site, including traffic along County Roads 22, 64 and 5 that are used to bypass Highway 10, and using Ramsey and Sunfish Boulevards to by-pass Highway 47 through Anoka. Issue addressed in Item 21.
- Anoka County is requesting changes in the functional classification of several route segments on the County Road system near the project. Changes are being requested from collector to arterial status to address changing regional traffic patterns. Issue addressed in Item 21.
- Anoka County has identified traffic issues along Highway 10 that need to be addressed in any highway modifications. Issue addressed in Item 21.
- Transit planning coordination needs to occur among the site developers, the City the County and Mn/DOT. Issue addressed in Item 21.
- Access spacing on Industry Avenue must be negotiated with the County and the AUAR should recognize the changing character of Industry Avenue when it becomes a feeder road for the new River crossing. Issue addressed in Item 21.
- Impacts on air quality related to new traffic levels should be assessed. Issue addressed in Item 22.
- Mn/DOT plans for the Northwest River Crossing will start to take shape with the publication of a scoping study in May 2003. RTC will likely be impacted by the location of the crossing and its relationship to Highway 10 at Armstrong. Meanwhile, short-term improvements will be underway on Ramsey and Sunfish intersections. Issue addressed in Item 21.
- Longer-term improvements for Highway 10 have been studied but not yet added to the Mn/DOT list of projects (STIP). Mn/DOT's area manager for Highway 10 should be included in discussions about the sliver of land between the railroad tracks and Highway 10. Issue addressed in Item 21, and Mn/DOT brought into discussions on land in question.
- The status of the park and ride location, and the grant from Mn/DOT is not yet resolved (late February 2003), but funding could face some difficulty because of the state budget crisis. Details on location are needed by the City to keep the grant process alive. Issue addressed as part of the site design process and should be resolved by the time of AUAR document issuance.

Drinking Water Protection

- The project site is within the City's Drinking Water Supply Management Area (DWSMA) under the MDH Wellhead Protection (WHP) Program, and needs to be protected as such. The area has been identified as "vulnerable" in the WHP plan

preparation process because of tritium levels in the bedrock aquifer. Maintaining clean water infiltration is essential. Issue addressed in Items 13,17 and 19.

- The clean-up of all possible contamination on the site must be assured, including the BNSF railroad and the derelict farm. Issue addressed in Items 19 and 20.
- Coordination between infiltration practices and wellhead/groundwater protection is essential and should be a key design factor; that is, pre-filter pollutants prior to infiltration through such means as use of native vegetation swales and small-scale detention near parking lots, minimized pavement, or possible clay sealing of ponds that drain pollutant sources that could degrade groundwater (if any such sources are even allowed in the RTC). Issue addressed in Items 17 and 19.
- An assessment of the potential for the increased demand from the municipal system to impact local wells should be done. Issue addressed in Items 13 and 19.

Planning

- The site should be consistent with the local comprehensive plan, including the Critical Area component, and also consistent with MNRRA and ~~Wild and Scenic River~~ status of the River across Highway 10. Issue addressed in Items 8, 11, 14 and 27.

Natural Resources

- The existing wetlands should be incorporated into the surface water system as an amenity that adds to the environmental benefits of the site. Any alteration of wetlands must be mitigated according to the WCA process. Issue addressed in Items 11, 12 and 17.
- The few mature trees there are on the site should be preserved. Issue addressed in Item 11.
- The project should relate the natural features of the site to the Regional Park, featuring native vegetation types typical of the Anoka Sandplain. Issue addressed in Item 11.

Hazardous Material Transport

- There are many trains per day on the BNSF tracks. Some surely contain hazardous material that could pose a risk if spilled. Issue addressed in Item 20.

32. Certification by the RGU

In an AUAR document, no certification by the RGU is required. However, the RGU is legally responsible for the accuracy and completeness of the document, for properly conducting the process associated with it, and for implementing the mitigation elements contained within the plan.

33. Mitigation Plan

The final AUAR document must include an explicit mitigation plan. At the RGU's option, a draft plan may be included in the draft AUAR document; of course, whether or not there is a separate item for a draft mitigation plan, proposed mitigation must be addressed through the document.

It must be understood that the mitigation plan in the final document takes on the nature of a commitment by the RGU to prevent potentially significant impacts from occurring from specific projects. It is more than just a list of ways to reduce impacts- it must include information about how the mitigation will be applied and assurance that it will. Otherwise the AUAR may not be adequate and/or specific projects may lose their exemption from the individual review. The RGU's final action on the AUAR must specifically adopt the mitigation plan; therefore, the plan has a political as well as a technical dimension.

Mitigation elements have been included with each of the Tasks contained within this AUAR. The various elements have been combined to present a single reviewable element in Appendix D.

The City of Ramsey, in adopting this AUAR document, commits itself to implementing the mitigation elements contained throughout the document. To accomplish this, the City will work with its own programs, as well as those of the State, the County, the developer(s) and any builders they use, and citizens of the City.

34. Response to Comments on the Draft AUAR Document

The final AUAR document must include a section specifically responding to each timely and substantive comment on the draft that indicates the way in which the comment has been addressed. Similar comments may be combined for the purposes of responding.

Comments will be addressed as they are received after City release of the AUAR draft document for public review.

DRAFT

RAMSEY TOWN CENTER TRAFFIC ANALYSIS

Ramsey, MN

Prepared for

Ramsey Town Center, LLC

Prepared by



March 24, 2003

17-J02-0073

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INTRODUCTION

This report presents the results of a traffic impact analysis of the proposed Ramsey Town Center in Ramsey, MN, which has been conducted in support of an Alternative Urban Areawide Review (AUAR) process for the development site. The proposed development has a varied mix of residential, retail, entertainment, institutional, office and civic uses. Currently, the site is vacant and is being used for agriculture. The site is adjacent to the BNSF Railroad tracks north of Trunk Highway (TH) 10/169 near Ramsey Boulevard. The proposed development site straddles Industry Avenue to the north and is bordered by Ramsey Boulevard to the east, TH 10 to the south, and Armstrong Boulevard to the west.

Scope

A detailed traffic study was conducted for the proposed development, as per the Environmental Quality Board (EQB) requirements for an AUAR. After discussions with the City of Ramsey (the Responsible Government Unit for the AUAR), the influence area for this traffic study was defined to include the following roadways:

- Industry Avenue, County Road (CR) 116, is the northern boundary for the analysis
- TH 10 is the southern boundary of the analysis area
- Sunfish Lake Boulevard, County State Aid Highway (CSAH) 57, is the eastern boundary
- Armstrong Boulevard (CSAH 83) is the western boundary of the analysis area.

Intersections within this study area were then identified for traffic analysis purposes. The intersections were chosen after careful review and understanding of the proposed development magnitude, and its potential to influence traffic conditions at various nearby intersections. Figure 1 shows the intersections that were analyzed for traffic impacts.

Approach

EQB requirements dictate that the traffic study conducted for an AUAR include an analysis of the proposed maximum development scenario. The proposed Ramsey Town Center has a development plan with a mix of residential, retail, civic, recreational, office and employment land uses. Appendix A contains a table of uses by block and a land use diagram for the site. This development plan was analyzed as the maximum development scenario.

The traffic study analyzed three scenarios for two peak hour conditions. Analyzed scenarios include the existing, future base, and future with proposed project. These three scenarios were analyzed for the AM and PM peak hours of a typical weekday. The future base scenario is an analysis of the year when full build out of the development is estimated to occur, which was assumed to be the year 2007.

A factor for regional growth was included in the future base scenario. Regional growth is the growth that will occur in the study area, irrespective of the proposed development. The future base scenario also included other approved development projects near the study area that are expected to occur within the same timeframe as the project. This future base scenario was used as a base to delineate the impacts of the proposed development.

The future with proposed project scenario includes the new trips generated by the proposed development. New trips generated by the proposed development were calculated using standard practices, assigned to study area intersections on the basis of the directional approach of trips in the study area, and analyzed for impacts. Mitigation of potential impacts was developed for the future with project conditions.

EXISTING CONDITIONS

An inventory of the existing conditions in the study area was conducted. Data collection for the traffic study included turning movement volumes at all the study intersections in the year 2002, existing lane geometry at the study intersections, type of intersection traffic control, existing daily volumes on various streets and highways in the study area, and transit facilities in the study area.

Land Use

Currently the proposed development site is undeveloped land that has been in use for agricultural production. No existing trip generation is associated with the site.

Street System

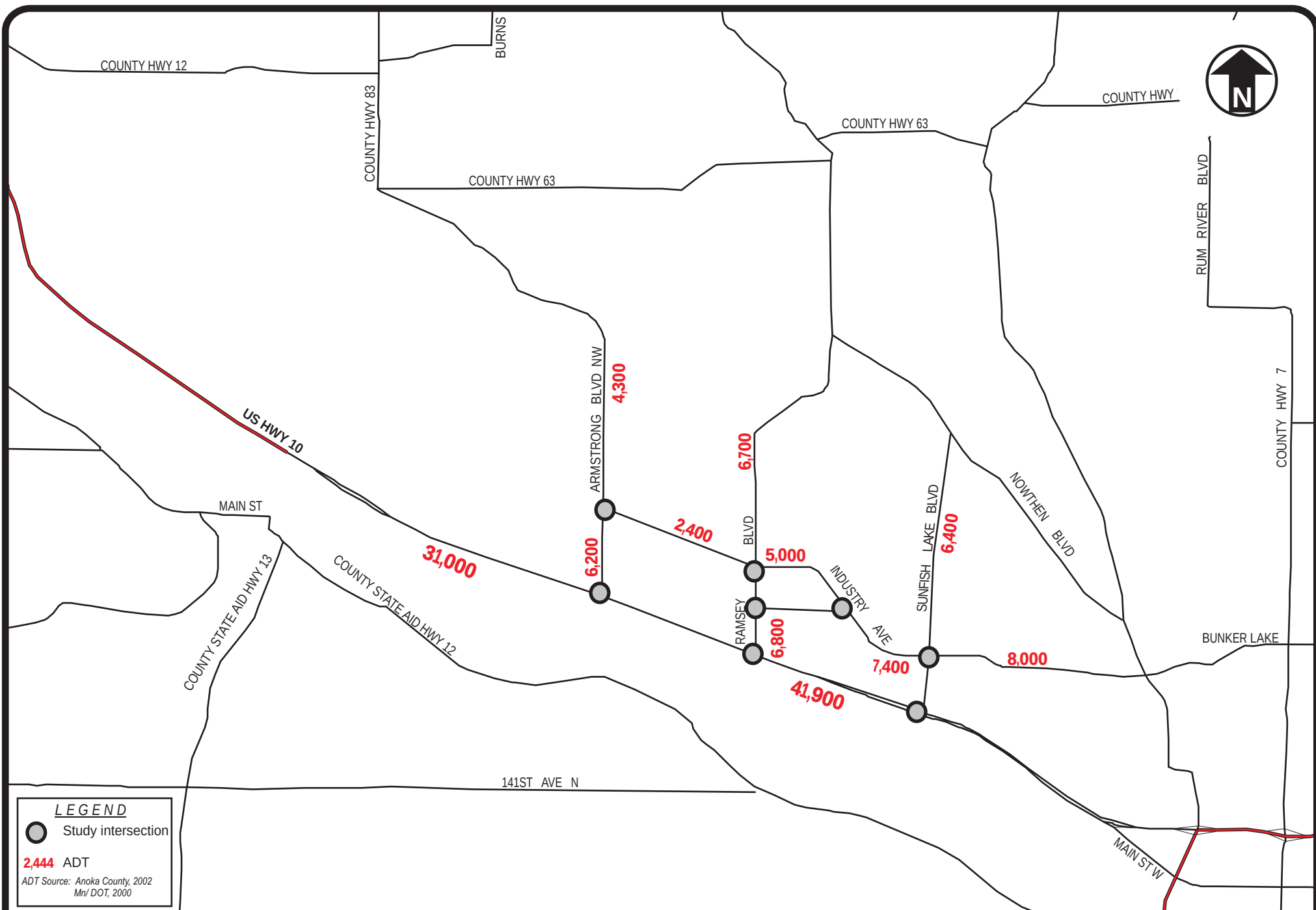
The existing street network and average daily traffic currently on that network is shown in Figure 1. Highway 10/169 near the study area is a US Highway that is classified as a Principal Arterial. Ramsey Boulevard (CR 56) and Industry Avenue (CR 116) near the study site are County Roads that are classified as B-Minor Arterials. Armstrong Boulevard (CSAH 83) and Sunfish Lake Boulevard (CSAH 57) near the study area are County State Aid Highways that are functionally classified as Collectors. Sunwood Drive, a local street that extends in an east-west direction and connects Ramsey Boulevard to Industry Avenue and Sunfish Lake Boulevard, is identified in the City of Ramsey *2001 Comprehensive Plan* as a future Collector. Anoka County is in the process of requesting a functional class change for Industry Avenue and Armstrong Boulevard to upgrade their designations to A-Minor Arterial.

Highway 10 at the intersection of Armstrong Boulevard has a four-lane approach in both the eastbound and westbound directions. Two through lanes with an exclusive right turn and left turn lanes exist on TH 10 at this intersection. Armstrong Boulevard at this intersection has two lanes on both the northbound and southbound approaches that consist of an exclusive left turn lane and a shared through and right turn lane.

The intersection of TH 10 and Ramsey Boulevard is a T-intersection with three approach legs as shown. Two through lanes and an exclusive left turn lane exist on the Highway 10 eastbound approach at this intersection. The westbound approach on TH 10 at this intersection has two through lanes, an exclusive left turn, and a right turn lane. Due to the absence of a south leg at this intersection, the westbound exclusive left turn lane on Highway 10 serves only U-turning traffic. The city has approved the construction of the south leg at this intersection by a private developer. However, after discussions with the Anoka County staff, the proposal to construct this leg is on hold due as a result of budget considerations and other factors. Southbound Ramsey Boulevard has an exclusive right turn lane and a left turn lane.

Highway 10 at Sunfish Lake Boulevard is a four-legged intersection with two through lanes and exclusive right turn and left turn lanes on TH 10 in both directions. Sunfish Lake Boulevard at this intersection has two lanes (one shared through and left lane, and an exclusive right turn lane) in both directions. Improvements at this intersection have been identified by Mn/DOT and Anoka County, but have been deferred pending acquisition of funding.

Currently, Industry Avenue near the study site is an east-west street that terminates at Armstrong Boulevard. The intersections of Industry Avenue with Ramsey Boulevard and with Sunfish Lake Boulevard are currently operating as all-way stop controlled (AWSC) intersections. The tee intersection of Industry with Armstrong is a stop-controlled intersection only on the Industry Avenue approach. Traffic on Armstrong Boulevard at this intersection is not controlled.



Sunwood Boulevard is currently a two-lane local street that terminates in a tee intersection with Ramsey Boulevard and has four-leg intersections with Industry Avenue and Sunfish Lake Boulevard. All three intersections are under minor approach stop control with stop signs on the Sunwood Drive approaches.

Volumes

Volumes at all but two of the study area intersections were counted during December 2002 for both AM and PM peak hours. Volumes at the intersections of TH 10 with Ramsey Boulevard and with Armstrong Boulevard were obtained from Mn/DOT and were counted during mid 2002. Figures 2 and 3 show the existing AM peak hour and PM peak hour volumes respectively at all the study intersections. The volumes shown in these figures were extracted for the single peak hour (AM or PM) from two-hour count data. Operational analysis was performed using these volumes to ascertain the existing operating conditions at the study intersections.

Average daily traffic volumes on streets and highways in the study area vary widely with TH 10 carrying about 42,000 vehicles per day (vpd) east of Ramsey Boulevard and 31,000 west of Armstrong Boulevard. By contrast, volumes on the other roadways in the study area range from about 5,000 to 8,000 vpd, with the exception of Industry Avenue between Ramsey and Armstrong Boulevards, which carries about 2,400 vpd.

Planned and Programmed Roadway Improvements

No roadway projects are currently programmed for the study area, but several regional studies are in process or recently completed that affect the study area.

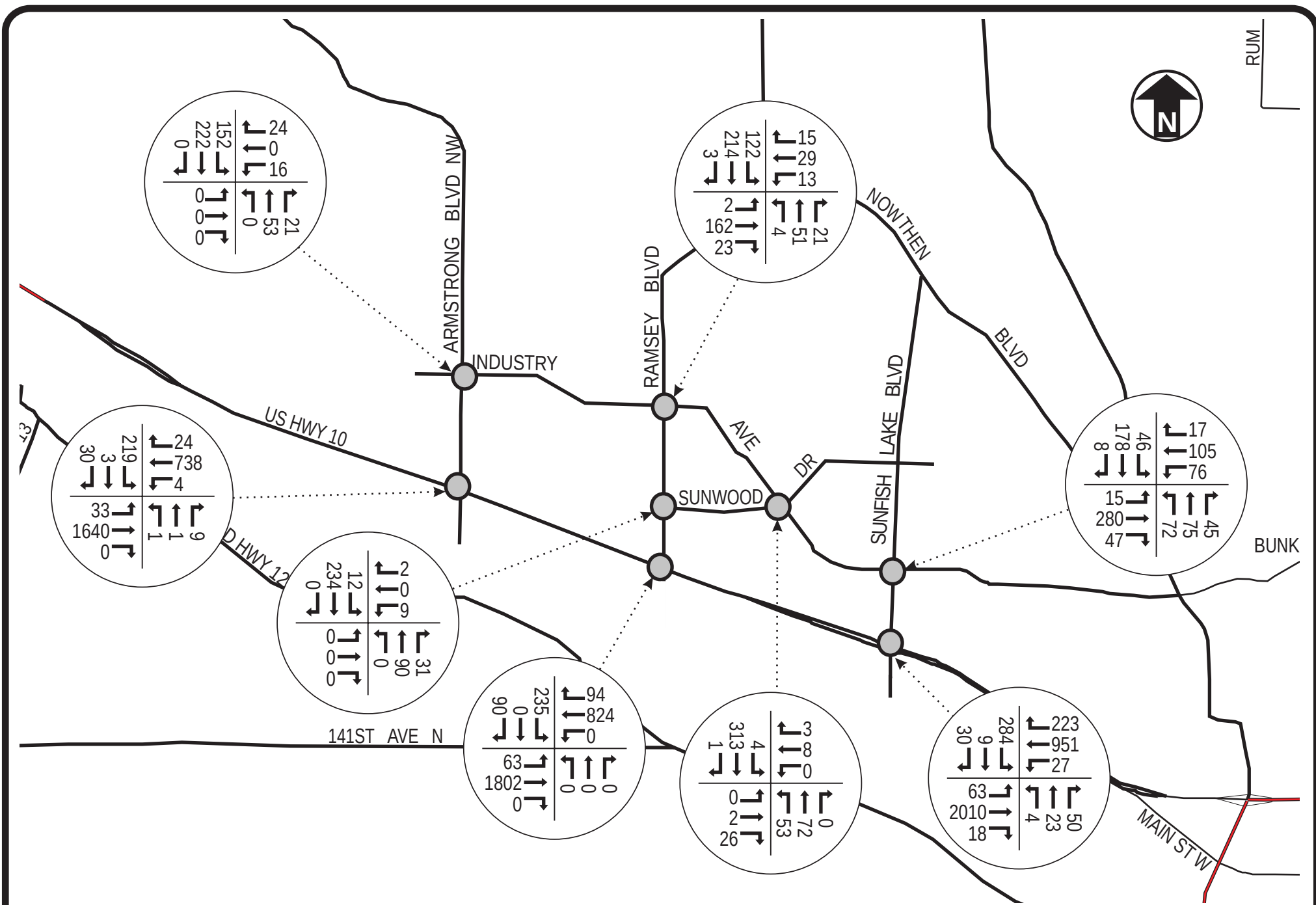
As noted above, improvements to the intersection of Sunfish Lake Boulevard and TH 10 to address existing congestion have been deferred because of current state budget considerations, as have improvements to the intersection at TH 10 and Ramsey Boulevard that would add a south approach to that intersection.

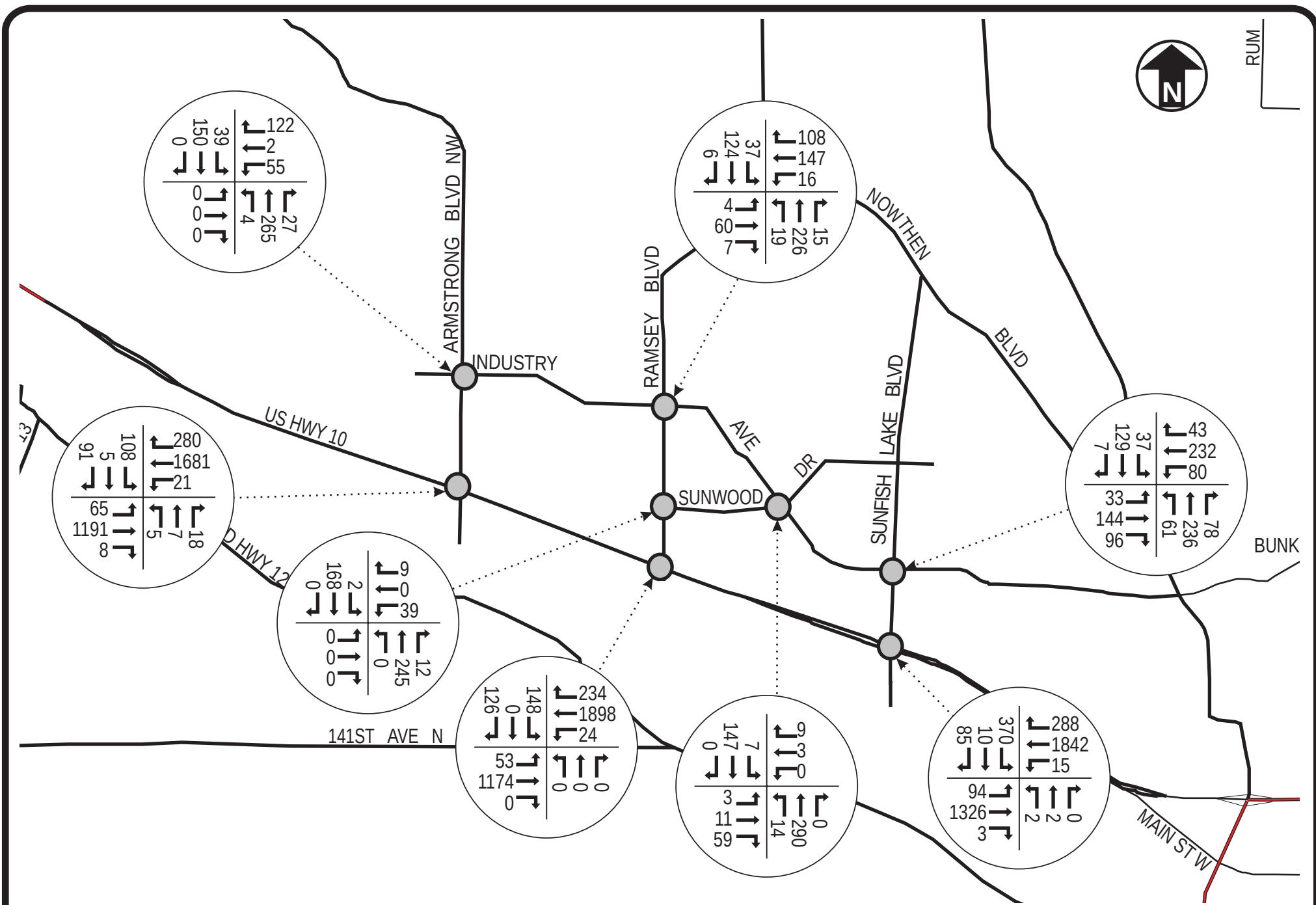
The TH 10 IRC Study/Corridor Management Plan¹ is a regional roadway planning analysis for Mn/DOT that evaluated future needs on TH 10 through Anoka County. While the study findings have been adopted, the improvements suggested in the study have not yet been incorporated into the State Transportation Improvement Plan, nor are they yet in the Metro Division *Transportation Systems Plan*. Updates of these planning documents are expected to address the recommendations from the TH 10 study. That study estimates that traffic volumes on TH 10 will grow between 40 and 50 percent by the year 2025 to over 50,000 vpd in the study area. The report notes that to accommodate this level of volume, even if the Northstar Commuter Rail service and a new Mississippi River crossing are implemented will require TH 10 to become a six-lane freeway through Ramsey by 2025 with interchanges at Sunfish Lake and Ramsey Boulevards.

In the interim by 2010, the report suggests that TH 10 in the study area be expanded to a six-lane expressway with improved intersections. In the near terms by 2005, the study suggests that signal timing optimization and improvements to Ramsey, Armstrong, and Sunfish Lake Boulevards are necessary. The report notes that one “concern with constructing a 6-lane expressway as an interim strategy to constructing a freeway is the roadway alignment. As an expressway, it is preferable to have TH 10 as far away as possible from the parallel railroad in order to allow for vehicle stacking at the intersections. As a freeway, it would be preferable to have the roadway alignment as close to the railroad as possible so that interchanges can provide grade separation over both the highway and the railroad.”²

¹ H. R. Green Co., *TH 10 IRC Study Corridor Management Plan*, Mn/DOT, January 2002

² *ibid.* Page 6-24.





The study also notes that environmental documentation for the proposed improvements has not started and that an EIS will likely be required for the expansion of the roadway.

The draft Scoping Document for the Northwest Metro Corridor and River Crossing Study³ has been completed by Mn/DOT and the final is expected to be published in May 2003. This document explored a reasonable range of alternatives for a new Mississippi River crossing and for the highway and network elements needed to connect the crossing to the existing regional roadway system. The new crossing would be located west of the TH 169 crossing in Anoka and east of the TH 101 crossing in Elk River. The Scoping Document has established the purpose and need for the study and the Draft Scoping Decision has identified a corridor for the crossing.

It is anticipated that the northern terminus of the crossing will likely be west of Armstrong Boulevard and will likely connect to an extension of Industry Avenue. The next step for the crossing would be to start preparation of an EIS, but this work has not been initiated because of the current state budget status and issues with the City of Dayton about alignments south of the river. It is unlikely that interchanges with TH 10 would be allowed at both Armstrong and the river crossing, but might be possible and would depend on the distance separating the interchanges and the function of each in the roadway system. Detailed planning for the section of TH 10 adjacent to the project site would be part of an EIS for the river crossing, if/when it is initiated.

Traffic volumes on Armstrong Boulevard and Industry Avenue would be directly affected by the proposed river crossing if the new roadway terminates in an extension of Industry Avenue. The portion of Armstrong Boulevard south of Industry Avenue, currently a direct connection to and across TH 10 would become a local-serving street, while north of Industry Avenue, its regional role serving traffic north and west would be expanded since it would directly connect to the new river crossing. Similarly Industry Avenue would be expected to see an increase in regional traffic. Anoka County's proposal to change the functional class on these roadways to Principal Arterial is in anticipation of this increased regional role.

Transit

The project site is located west of the portion of Anoka County served by fixed route transit service and is currently served only by Anoka County Traveler demand responsive service. The North Star commuter coach operated by Mn/DOT, which currently provides peak period, peak direction, express service between Elk River, Coon Rapids and Minneapolis, is expected to serve a park and ride at the project site in the future. The Northstar service is a demonstration project that is operating motor coaches along the proposed route for the Northstar commuter rail service and is currently carrying between 500 and 600 passenger trips per day⁴.

A Final Environmental Impact Statement⁵ has been completed for the Northstar Corridor. The preferred alternative for the corridor is a commuter rail service that would operate on the freight railroad tracks that are adjacent to the site. In the FEIS, the Ramsey station location was dropped in favor of the Anoka station location for the preferred alternative. However, the Ramsey station location is listed in the EIS as a candidate for expansion once service has commenced. Accordingly, this traffic analysis assumes that a rail station is active on the site in the future and that 450 riders per day would use the Ramsey stop⁶.

³ *Northwest Metro Corridor and River Crossing Study*, Mn/DOT, Draft, April 2002

⁴ *Rider Report, Northstar Commuter Coach*, Mn/DOT, October 2002

⁵ BRW, Inc., *Northstar Corridor FEIS*, Mn/DOT, March 2002

⁶ Ridership estimate is from the supplemental analysis commissioned by the City of Ramsey and presented to the Northstar Corridor Development Authority in support of a Ramsey station (HKGI/SRF, April 4, 2000).

FUTURE CONDITIONS ANALYSES

Two sets of future conditions, Future Base and Future with Project, were analyzed. The Future Base represents growth in traffic from non-project sources at the year of project buildout, which was assumed to be the year 2007.

Regional Growth and Approved Projects

A growth factor was used to account for the regional growth in traffic in the area irrespective of the proposed development. This growth factor was calculated to be two percent per year on the basis of forecasts for 2025 from the Metropolitan Council. This level of growth is consistent with the volume projections in the TH 10 IRC Study.⁷

The Future Base also includes the effects of other approved development projects in the vicinity of the project site that anticipate being constructed and occupied within the 2007 time line. The following two projects were identified as having a qualifying development time line:

- The Rivenwick 3rd Subdivision residential development, which is located south of TH 10 at Ramsey Boulevard, would have 112 townhouses and would add a fourth leg to the intersection of Ramsey Boulevard and TH 10.
- The Bright Keys residential development, located across Industry Boulevard from the project site near Ramsey Boulevard, would have 284 townhouse units.

Traffic for the Rivenwick 3rd Subdivision, as reported in that project's traffic study⁸, was added into the Future Base. Traffic for the Bright Keys development was generated using standard trip generation rates and assigned to the study area street system using the data developed for the project traffic forecasts (see below). Figures 4 and 5 show the AM and PM peak hour turning movements for the Future Base conditions.

Project Traffic Forecast

The proposed development has varied land uses that include residential, retail, civic, recreational, institutional, and office uses. The traffic forecasting process involves estimating the new trips generated by the development and assigning these trips to various study intersections depending on the directional distribution of the trips.

Trip Generation

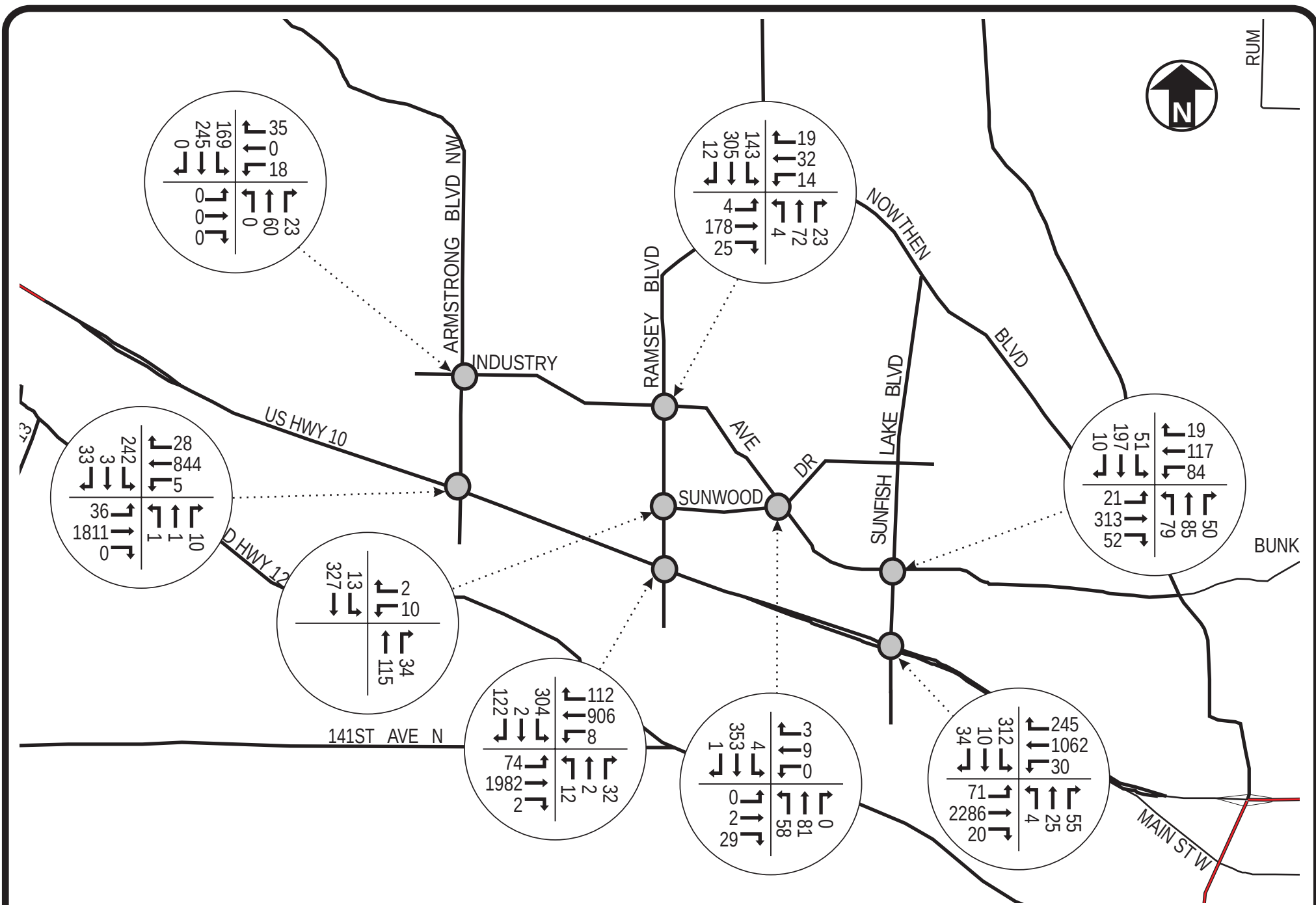
Trip generation for the proposed development was estimated using the rates from the 6th edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. This is considered a standard reference. Table 1 shows the trip generation for the proposed redevelopment scenario estimated using the ITE rates for both the AM and PM peak hours.

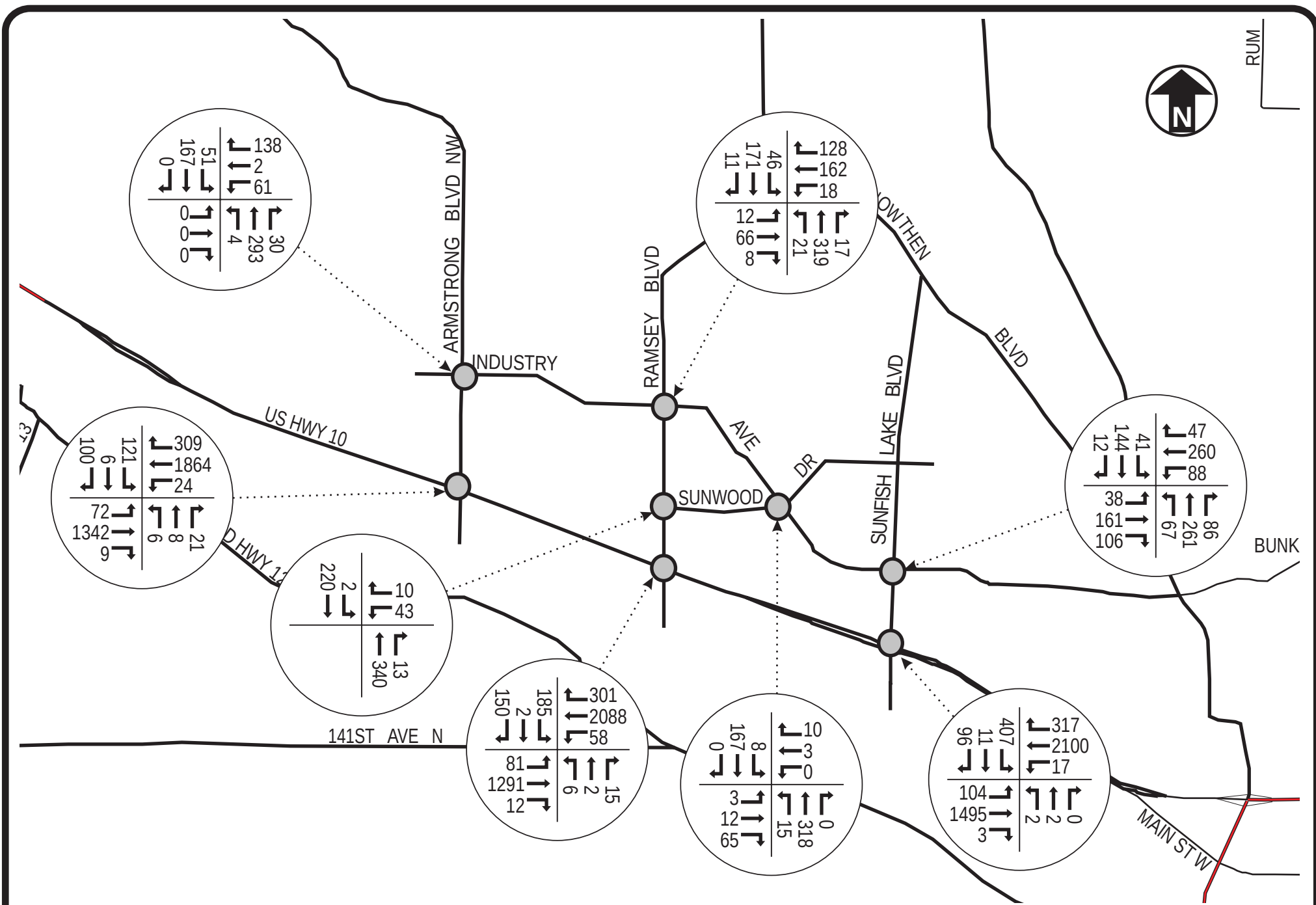
Table 1: Project Trip Generation

	Daily	AM PEAK HOUR			PM PEAK HOUR		
		Total	In	Out	Total	In	Out
Total New Trips	51,200	2,920	1,700	1,220	5,210	2,480	2,730

⁷ Table 3.4-5 of the TH 10 study reports growth rates of 1.66 and 1.96 percent per year for TH 10 with and without the Northstar Commuter Rail respectively.

⁸ SRF, Inc., *Traffic Study for Rivenwick 3rd Subdivision Residential Development in the City of Ramsey*, October 2002.





Some trips generated by a mixed-use development of the project type will move between uses within the development site and not reach intersections external to the site and should be excluded from traffic assignment at those locations. This internal trip making is attributed to the interaction between various land uses in a development. Additionally, some trips will take alternate forms of transport, which can be bicycling, walking, and use of transit. The presence of sidewalks, street network density and proximity to transit facilities affect the amount of trip making by non-auto modes. Because of the limited nature of transit service to the site, no reductions have been made for alternate mode use.

Rather, a single factor was used to calculate the percentage of trips that would remain internal to the proposed redevelopment. This factor considers the diversity of uses within the project and their potential to create linked trips among the project land uses. This factor is based on ITE data for mixed-use developments and is a function of the size and mix of land uses. For the proposed project, the diversity factor indicates that approximately nine percent of AM peak trips and about 16 percent of PM peak trips would be internal.

No adjustments for pass-by or diverted traffic⁹ within the site were made, although some of the uses would warrant incorporation of such reductions. Accordingly, the amount of linked trips is conservatively low in relation to the scale and mix of land uses. Trip generation and linked trip calculations are shown in the Appendix. Northstar riders who would park and ride from the site were included in the analysis, but were added directly to the intersection traffic assignment and are not shown in the trip generation numbers in Table 1.

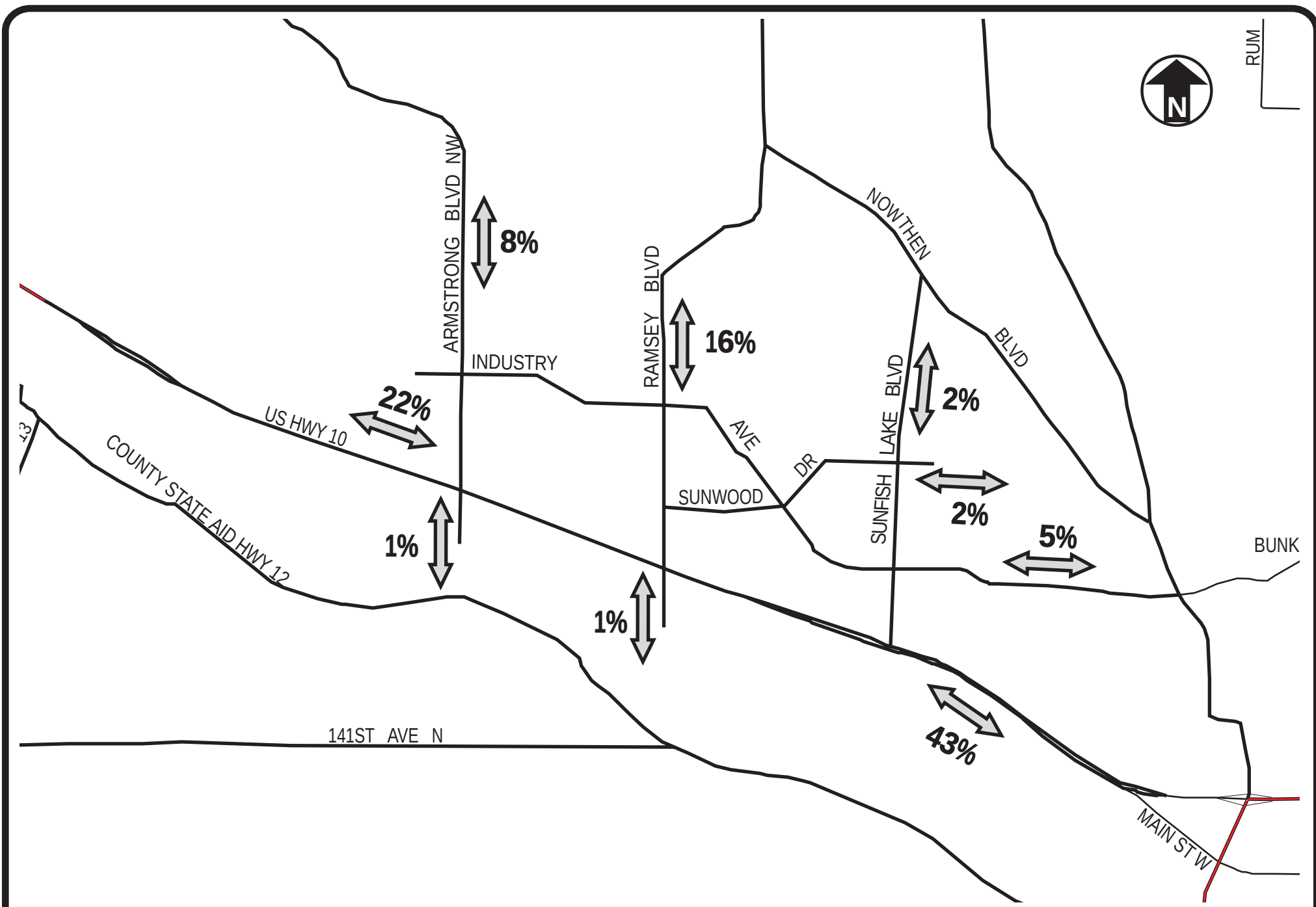
Trip Distribution/Traffic Assignment

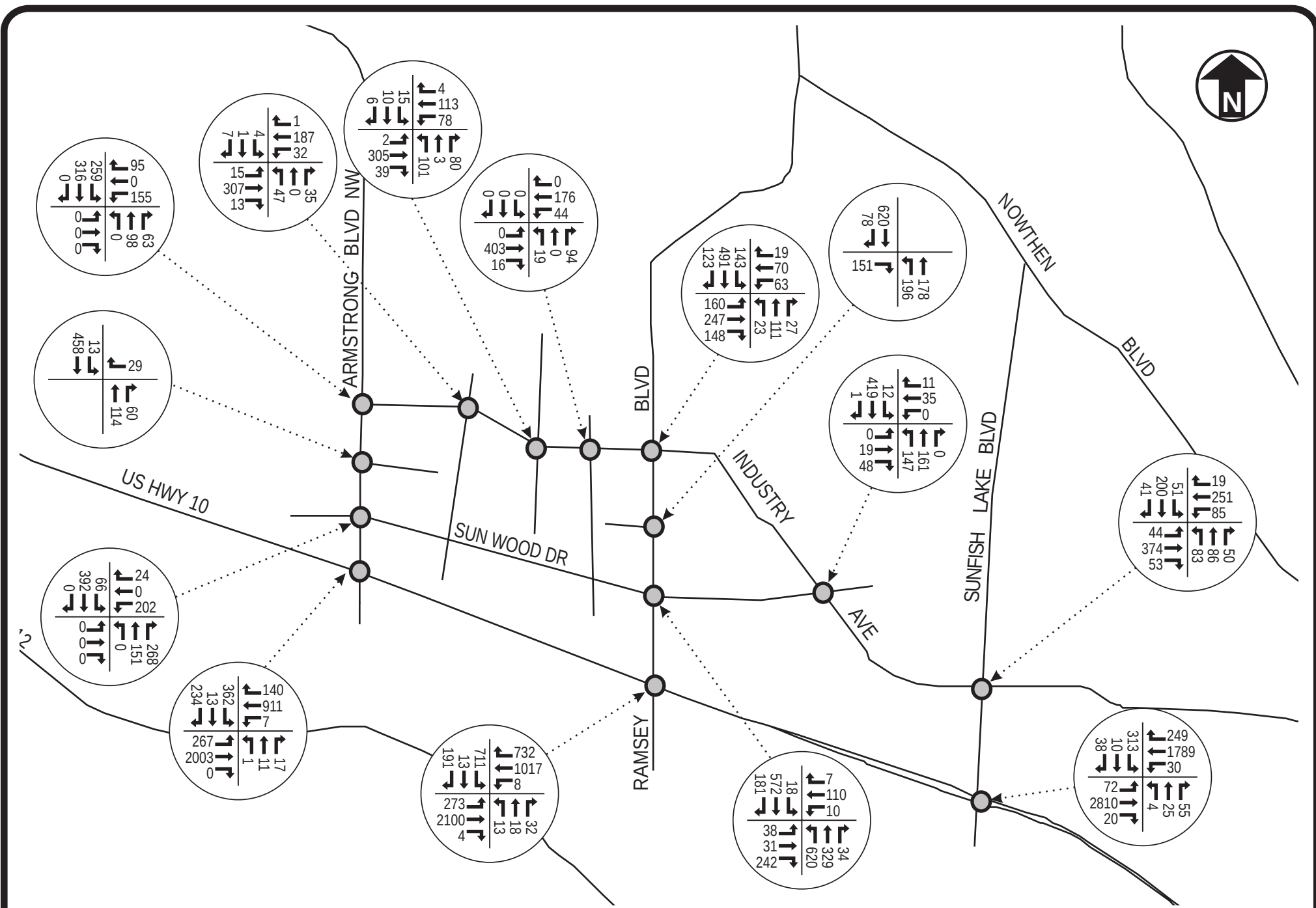
Trip distribution refers to the distribution of new trips entering and exiting the site from various directions. The direction of approach percentages for the site-generated trips were estimated using forecast data for zones in the project area from the Metropolitan Council's regional travel demand forecasting model. Figure 6 shows the estimated percentage of future direction of approach trip distribution from the proposed site. The regional forecasts used for this analysis did not include the new river crossing. Accordingly, traffic distribution is highly biased with about 43 percent of the trips being made to and from the south and east along TH 10 (this also includes traffic destined south on TH 169). It should be noted that with the new Mississippi River crossing, approximately one-third to one-half of the project trips on TH 10 to the south and east would redistribute to the new crossing.¹⁰ Assignment of the project trips to turning movements at various intersections was conducted using a TRAFFIX model of the study area. The model used the directional distribution percentages shown in Figure 6 and provided a detailed assignment of trips to streets inside the project site as well as to the external network.

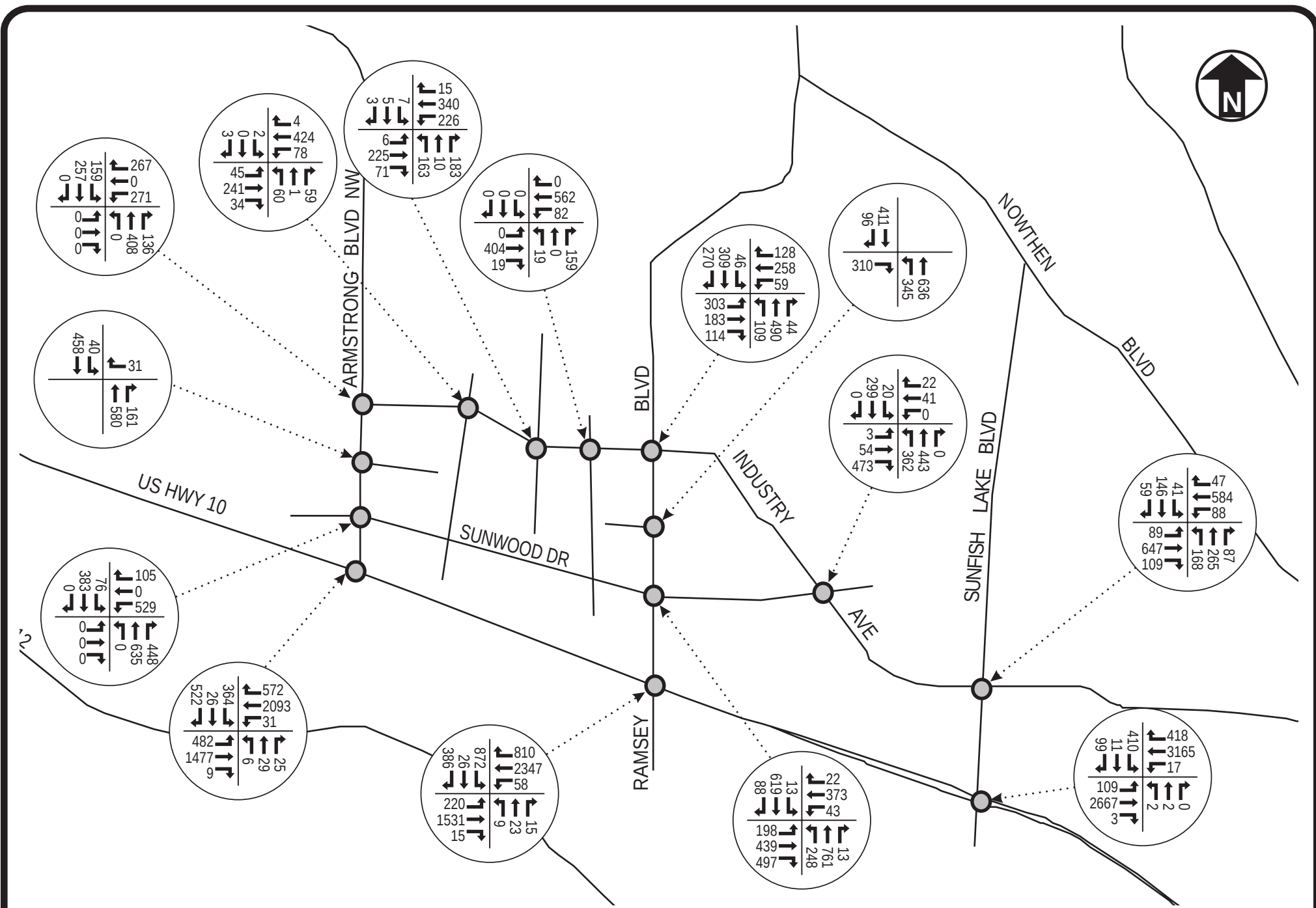
The Future with Project conditions were developed by adding the project trip generation to the Future Base volumes and adding 150 peak hour Northstar rider trips to the resulting assignments. Since the existing site is largely vacant and not generating any traffic, no adjustments were made to subtract existing trips from the project site. Figures 7 and 8 show the AM and PM peak hour turning movements for the Future with Project conditions.

⁹ Pass-by and diverted trips are opportunity trips that are already on the street system and divert to a new land use. As such, these trips are included in the counted traffic volumes (other than at site access points) and are double-counted in the trip generation rates for some retail uses.

¹⁰ See *Ramsey Smart Growth Twin Cities Opportunity Site* (Calthorpe Associates, 2003)







Traffic Impacts

Traffic impacts from the proposed project were determined by analyzing intersection operations for the future conditions. The intersection analyses were conducted for all the study area intersections using *Highway Capacity Manual*¹¹ procedures that report a Level of Service at each intersection. The Level of Service is a measure of average operating conditions at intersections and ranges from A through F, with each level defined by a range of control delay per vehicle. Signalized intersections and all-way stop control are analyzed for total intersection delay, while two-way stop control is analyzed only for minor approach delay. Table 2 summarizes the Level of Service Criteria. Conditions A, B, and C are considered excellent to good operating conditions with control delay per vehicle ranging up to 35 seconds for LOS C. Level of Service D is a generally acceptable standard for planning and design of urban transportation facilities. At Level of Service E, poor intersection operations occur as traffic volumes approach capacity and LOS F (Control Delay > 80 sec/veh) represents extremely congested conditions.

Table 2: LOS Criteria

LOS	Signalized Intersections	AWSC & TWSC Intersections
	Control Delay (sec/veh)	Control Delay (sec/veh)
A	≤ 10	0-10
B	> 10- 20	> 10- 15
C	> 20- 35	> 15- 25
D	> 35- 55	> 25- 35
E	> 55- 80	> 35- 50
F	> 80	> 50

Source: Highway Capacity Manual 2000

For intersections operating under two-way stop control (TWSC), LOS is defined for each minor movement rather than for the intersection as a whole. Intersections operating as All-way Stop Controlled (AWSC) use the same thresholds for defining LOS. The LOS criteria for TWSC and AWSC Intersections are also shown in Table 2. Table 3 shows the results of the capacity analyses at the study area intersections for Existing conditions and for both Future scenarios. The Appendix of this report contains the capacity analysis worksheets.

Existing Conditions

Under existing conditions, the intersection of TH 10 and Sunfish Lake Boulevard is operating in substandard conditions (worse than LOS D) in the PM peak hour. The other intersections are operating in good conditions in both peak hours. However, the analysis of conditions at TH 10 and Ramsey and Armstrong Boulevards indicates that conditions are unstable, particularly in the PM peak hour when the Ramsey and Armstrong approaches are at LOS F and E respectively. Left turns from TH 10 are also at LOS F and E respectively at these intersections. Under these conditions, moderate increases in volumes on either Ramsey or Armstrong Boulevard or left turning from TH 10 would cause conditions to deteriorate similar to what is currently experienced at Sunfish Lake Boulevard and the intersections could quickly move into LOS E and F.

¹¹ Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C.

Future Base Conditions

The Future Base conditions show that addition of the background growth in traffic will cause the intersection of TH 10 and Sunfish Lake Boulevard to deteriorate to LOS D during the AM peak period. The other intersections in the study area remain in acceptable conditions. Unstable conditions continue to be present at the intersections of TH 10 and Ramsey and Armstrong Boulevards.

Table 3: Level of Service Comparison

Intersection	Traffic Control at Intersection	Existing ^(a)		Future Base ^(a)		Future w Project ^(a)		Mitigated ^(a,b)	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Armstrong Blvd at TH 10	Signalized	B	A	B	B	F	F	C	C
Ramsey Blvd at TH 10	Signalized	B	A	C	B	F	F	C	D
Sunfish Lake Blvd at TH 10	Signalized	C	F	D	F	F	F	C	E
Armstrong Blvd at Industry Ave	One way Stop	(B)	(B)	(B)	(B)	(C)	(E)	A ^(c)	A ^(c)
Ramsey Blvd at Industry Ave	All-way Stop	B	B	C	B	F	F	C ^(c)	C ^(c)
Industry Ave at Sunfish Lake Blvd	All-way Stop	B	C	C	C	D	F	A ^(c)	B ^(c)
Ramsey Blvd at Sunwood Drive	One way Stop	(B)	(B)	(B)	(B)	(F)	(F)	C ^(c)	C ^(c)
Sunwood Drive at Industry Ave	One way Stop	(B)	(B)	(B)	(B)	(C)	(F)	B ^(c)	B ^(c)
Sunwood Drive at Armstrong Blvd	One way Stop					(F)	(F)	A ^(c)	B ^(c)
NS2 Street at Industry Ave	One way Stop					(B)	(C)	(B)	(C)
NS3 Street at Industry Ave	One way Stop					(C)	(F)	A ^(c)	A ^(c)
NS5 Street at Industry Ave	One way Stop					(B)	(C)	(B)	(B)
EW1 Parkway at Ramsey Blvd	One way Stop					(F)	(F)	(B)	(B)
EW1 Parkway at Armstrong Blvd	One way Stop					(B)	(F)	(A)	(B)

Notes:

(a) Values in parentheses indicate Minor Approach LOS only

(b) Mitigated conditions include lane adjustments and lane additions at intersections as noted in the text.

(c) Intersection is signalized in the mitigated condition

Future with Project Conditions

The impacts of the proposed project trips were calculated by adding project trips to the Future Base and analyzing the intersections with the existing lane configurations. Project traffic would cause the intersections on TH 10 to deteriorate to LOS F would cause the stop-controlled intersection on Industry Avenue, Ramsey Boulevard, and Armstrong Boulevard to move into LOS E and F conditions during one or both peak periods.

New intersections created by the project with Industry Avenue would operate in acceptable conditions with the exception of the central north-south street (NS3) at Industry Avenue during the PM peak period. The two new intersections of the east-west parkway (EW1) with Ramsey and Armstrong Boulevards would operate in unacceptable conditions during at least one peak period.

RECOMMENDED IMPROVEMENTS/PROJECT MITIGATION

Analysis of the intersection operations indicates that lane additions and installation of intersection channelization and traffic signals would be adequate to mitigate the project impacts at the intersections in the study area. The following roadway widenings are suggested:

- Ramsey Boulevard—widen to five lane cross section south of Industry Avenue to provide two through lanes in each direction and a left turn lane/center median

- Industry Avenue—widen to five lane cross section west of Ramsey Boulevard to provide two through lanes in each direction and a left turn lane/center median

The existing cross sections on Armstrong Boulevard north of the railroad, Sunwood Drive and Industry Avenue east of Ramsey, and Sunfish Lake Boulevard north of the railroad would be adequate to meet the future demand.

Turn lanes and lane adjustments would be needed at the following intersections:

- TH 10 at Armstrong Boulevard—add an eastbound and a westbound through lane on the intersection approaches; add an eastbound and a southbound left turn lane and a southbound right turn lane.
- TH 10 at Ramsey Boulevard—add an eastbound and a westbound through lane on the intersection approaches; add an eastbound and a southbound left turn lane and a westbound right turn lane. A southbound through lane and a northbound left turn lane and northbound through/right lane would need to be added to serve the Rivenwick 3rd Subdivision traffic independent of the project traffic.
- TH 10 at Sunfish Lake Boulevard—add an eastbound and a westbound through lane on the intersection approaches; convert the southbound approach from a through/left turn lane and a right turn lane to through/right turn lane and two left turn lanes (this adds one lane to the approach).
- Industry Avenue at Ramsey Boulevard—add a southbound right turn lane; eastbound and northbound approaches would be widened by the above recommendations.
- Sunwood Drive at Industry Avenue—modify the shared lanes on the northbound, eastbound and westbound approaches to provide left turn lanes and shared through/right turn lanes

Lane modifications and additions are shown in Figure 9.

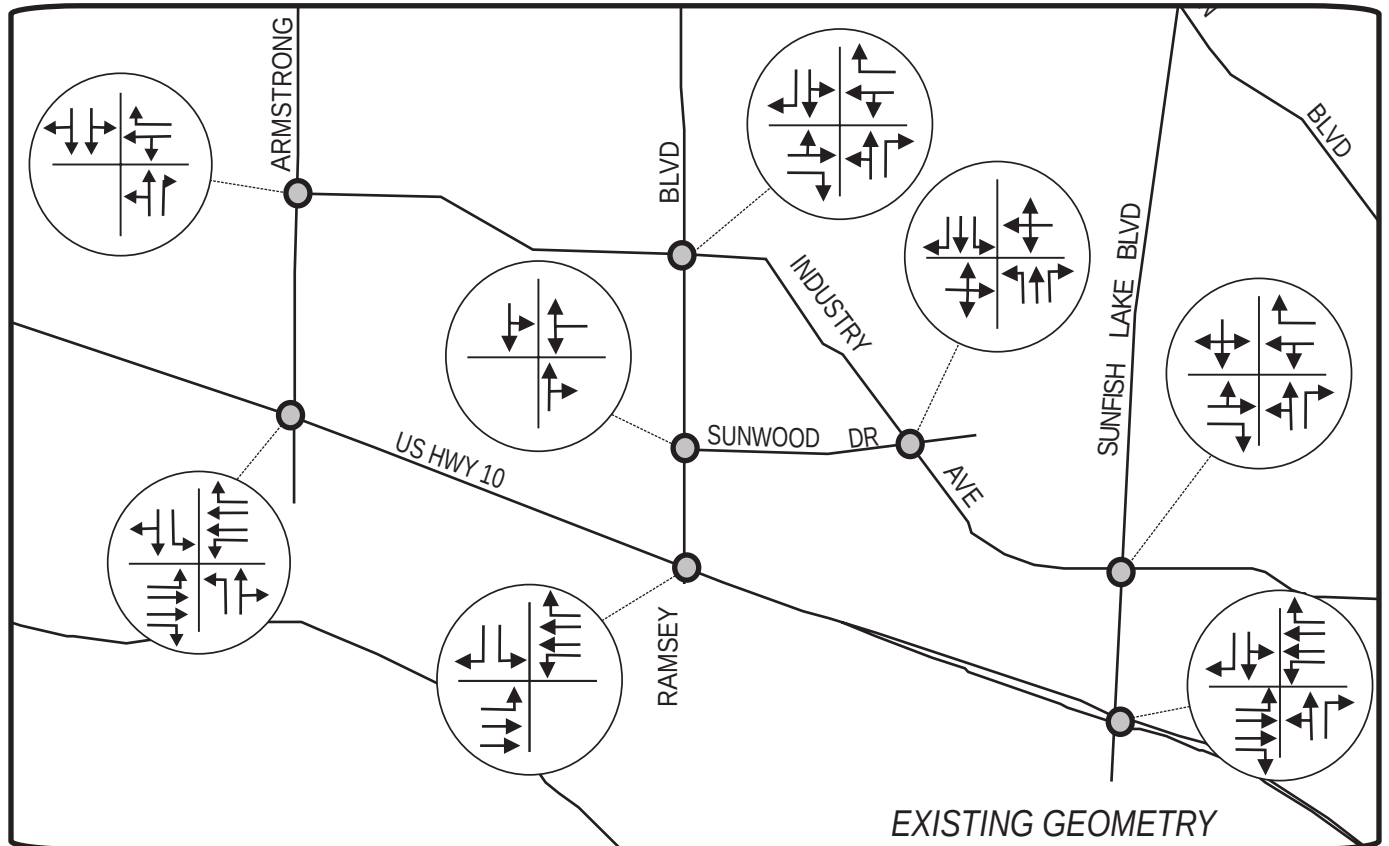
The following stop-controlled intersections would need to be signalized:

- Ramsey Boulevard at Industry Avenue
- Armstrong Boulevard at Industry Avenue
- Industry Avenue at Sunfish Lake Boulevard
- Ramsey Boulevard at Sunwood Drive
- Sunwood Drive at Industry Avenue
- Sunwood Drive at Armstrong Boulevard
- NS3 Street at Industry Avenue

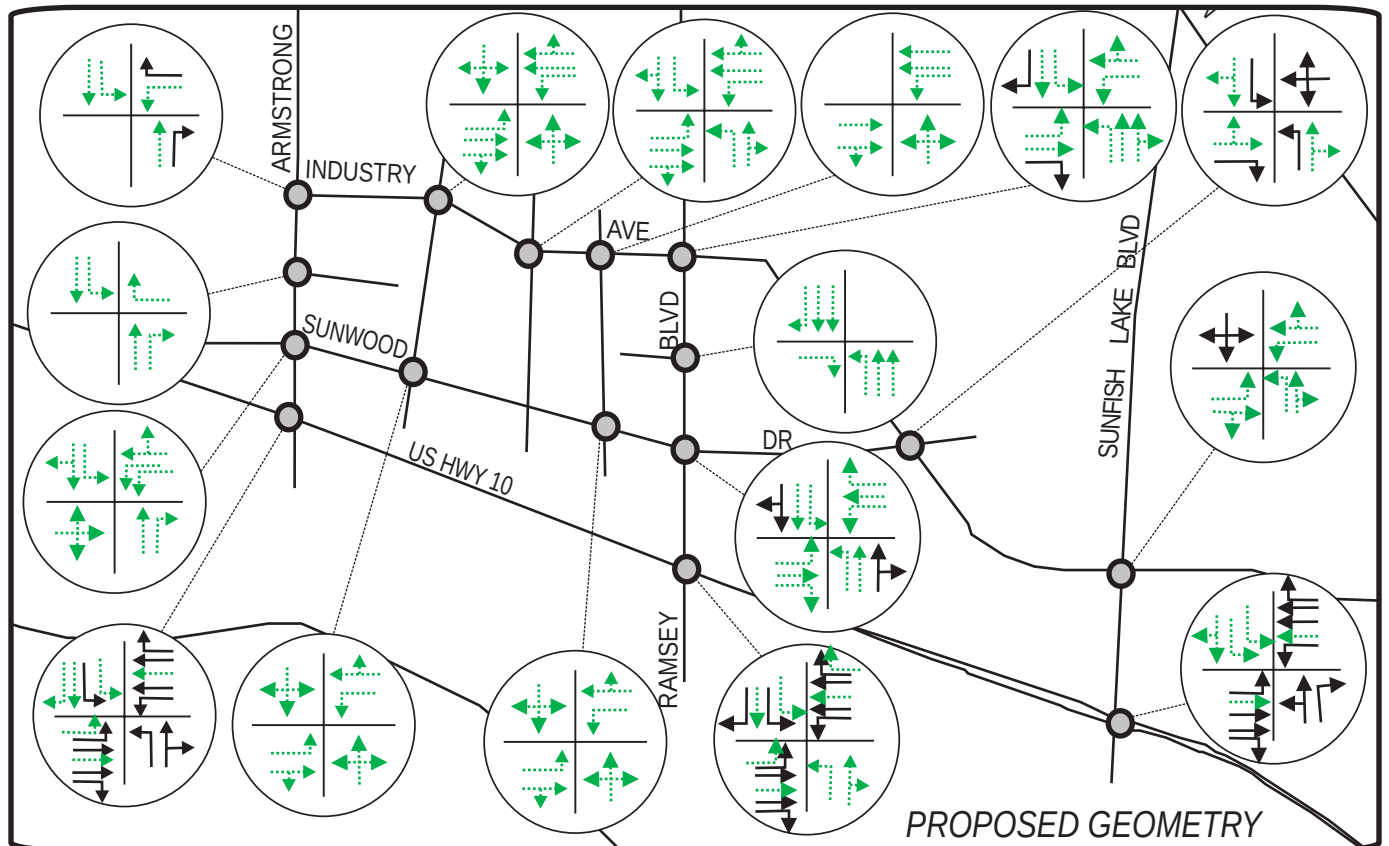
The left turn volumes from the EW1 parkway onto both Armstrong and Ramsey Boulevard cannot be accommodated at an acceptable LOS under stop control and require signalization to achieve acceptable operations. However, the close spacing between the intersections of the EW1 parkway and the intersections of Armstrong and Ramsey Boulevard with Industry Avenue limits the potential for the two parkway intersections to be signalized. Accordingly the parkway intersections should be channelized to provide right-in/right-out and left-in access ($\frac{3}{4}$ access). Left out from the parkway would be prohibited and would redistribute to the north-south streets and to Industry Avenue (these volumes have been included in the mitigated calculations for the other intersections).

Project Streets

The extension of Sunwood Drive would be the primary east-west connector street in the project site and is estimated to carry 10,000 to 13,000 vehicles per day (vpd) west of NS6 Street. Volumes on Sunwood west of Ramsey would be about 18,000 vpd as shown in Figure 10. West of NS6 Street, the volume on Sunwood Drive would be adequately handled by a two-lane cross section (one lane in each direction). However, left-turn lanes would be needed at cross streets. Between NS6 Street and Ramsey Boulevard, four lanes would be needed to accommodate the projected volumes. Two-way or all-way stop control at the intersections of Sunwood Drive internal to the site would provide LOS C or better conditions for the



EXISTING GEOMETRY



PROPOSED GEOMETRY

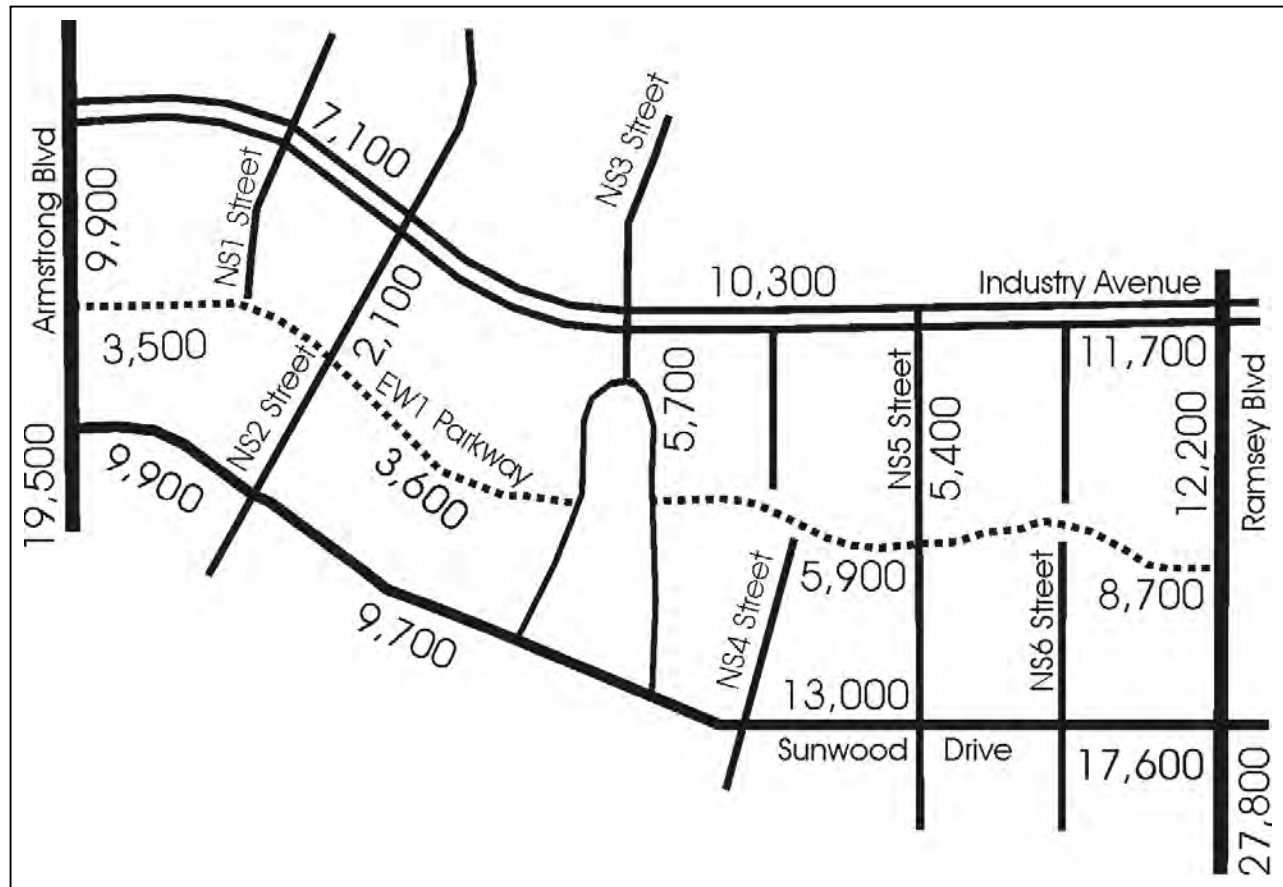


Figure 10: Estimated Average Daily Traffic

level of traffic projected at those locations, although the intersections with NS6 and/or NS5 Streets may require signalization for acceptable PM peak hour operations.

The EW1 parkway would carry about 3,600 vpd on the western end of the project and between 5,000 and 9,000 vpd on the eastern end. The proposed one-lane parkway cross section would be adequate for the segments of the EW1 parkway.

The other east-west streets internal to the project, because of their discontinuous nature would carry less volume than either Sunwood Drive or the EW1 Parkway and would generally be under 4,000 vehicles per day (and some would be in the under 1,000 range). Two-lane cross sections and stop (or yield control on the lower volume ones) would be appropriate.

The north-south streets internal to the project would carry slightly higher volumes, particularly the three streets that would have full access intersections with Industry Avenue. Those streets would have between 2,100 and 5,700 vehicles per day. The other north-south streets inside the project would be expected to have less than 2,000 vehicles per day, with the exception of the NS6 Street that serves the employment cluster in the southeast corner of the site, which would have upwards of 4,000 vpd. Two-lane cross sections and stop (or yield control on the lower volume ones) would be appropriate although signals may be required at the NS6 and/or NS5 Streets intersections with Sunwood Drive.

APPENDIX A – TRIP GENERATION



SCALE: 1" = 200'

Ramsey Town Center Trip Generation Tables
(Data: Feb 25)

Zone/ Block	Land Use	DU	SF	ITE Code	AM Peak			PM Peak			Daily
					TOTAL	IN	OUT	TOTAL	IN	OUT	
1A	Speciality Retail		100,000	820	103	63	40	374	180	194	4292
2A	Speciality Retail		54,000	820	56	34	22	202	97	105	2318
3A	Speciality Retail		40,000	820	41	25	16	150	72	78	1717
3B	Cinema		50,000	444	0	0	0	190	122	68	1462
3C	City Hall/ Police/ Transit		50,000	710	78	69	9	75	13	62	551
3D	Retail/ Bowling Alley		28,000	494	88	53	35	99	35	64	933
4A	Hotel	50	38,000	310	17	10	7	20	11	9	79
4B	Office		60,000	710	94	83	11	89	15	74	661
5A	Office		99,000	710	154	136	18	148	25	123	1090
6A	Office		280,000	710	437	385	52	417	71	346	3083
7A	School (Elementary)		55,000	520	185	113	72	172	45	127	662
7B	Retail/Office/Clinic		48,000	710	75	66	9	72	12	60	528
8A	Retail/Office/Clinic		54,000	710	84	74	10	80	14	66	595
Building 9A	Fitness		40,000	493	12	6	6	172	105	67	1147
Building 9B	Community Center		25,000	495	33	22	11	44	15	29	572
Building 9C	Ice Rink		38,000	465	0	0	0	90	41	50	600
Building 10A	Speciality Retail		40,000	820	41	25	16	150	72	78	1717
Building 10B	Speciality Retail		7,000	820	7	4	3	26	12	14	300
Building 10C	Speciality Retail		3,000	820	3	2	1	11	5	6	129
Building 11A	Speciality Retail		10,000	820	10	6	4	37	18	19	429
Building 11B	Restaurant		8,000	831	6	3	3	60	40	20	720
Building 12A	Speciality Retail		21,000	820	22	13	9	79	38	41	901
Building 12B	Residential	60	8,000	221	28	6	22	35	23	12	395
Building 13A	Speciality Retail		33,000	820	34	21	13	123	59	64	1416
Building 13B	Speciality Retail		22,000	820	23	14	9	82	39	43	944
Building 14A	Speciality Retail		45,000	820	46	28	18	168	81	87	1931
Building 14A	Restaurant		10,000	831	8	4	4	75	50	25	900
Building 15A	Residential	90	25,000	221	42	8	34	52	34	18	593
Building 15B	Speciality Retail		26,000	820	27	16	11	97	47	50	1116
Building 15C	Speciality Retail		21,000	820	22	13	9	79	38	41	901
Building 16A	Speciality Retail		30,000	820	31	19	12	112	54	58	1288
Building 16B	Restaurant		10,000	831	8	4	4	75	50	25	900
Building 17A	Speciality Retail		68,000	820	70	43	27	254	122	132	2919
Building 17A	Restaurant		20,000	831	16	7	9	150	101	50	1799
Building 18A	Live / Work	40	32,000	221	19	4	15	23	15	8	264
Building 18B	Retail / office		24,000	710	37	33	4	36	6	30	264
Building 18C	Speciality Retail		20,000	820	21	13	8	75	36	39	858
Building 19A	Residential	120	34,000	221	56	11	45	70	46	24	791
Building 19B	Speciality Retail		5,000	820	5	3	2	19	9	10	215
Building 20A	Grocery		60,000	850	250	153	98	642	327	315	6691
Building 20B	Residential	50	25,000	221	24	5	19	29	19	10	330
Building 21A-D	Townhouse (2 story)	94	66,000	230	41	7	34	51	34	17	551
Building 22A-C	Apartment	172	76,000	221	81	16	65	100	66	34	1133
Building 23A-B	Townhouse (2 Story)	18	18,000	230	8	1	7	10	7	3	105
Building 23C	Convenience Retail		20,000	820	21	13	8	75	36	39	858
Building 24A-E	Townhouse (2 Story)	48	54,000	230	21	4	17	26	17	9	281
Building 25A-G	Townhouse (2 Story)	43		230	19	3	16	23	15	8	252
Building 26A-G	Townhouse (2 Story)	50		230	22	4	18	27	18	9	293
Building 27A-B	Townhouse with Flats (3 story)	60		232	20	4	16	23	14	9	251
Building 27C	Townhouse (2 story)	60		230	26	4	22	32	21	11	352
Building 28A-C	Townhouse (2 story)	23		230	10	2	8	12	8	4	135
Building 28D	Townhouse with Flats (4 story)	50		232	17	3	14	19	12	7	209
Building 29A	Townhouse with Flats (4 story)	70		232	24	5	19	27	17	10	293
Building 30A-B	Townhouse with Flats (3 story)	50		232	17	3	14	19	12	7	209
Building 30C	Townhouse with Flats (4 story)	64		232	22	4	18	24	15	9	268
Building 31A-I	Townhouse (2 story)	51		230	22	4	18	28	19	9	299
Building 32A-I	Townhouse (2 Story)	58		230	26	4	22	31	21	10	340
Building 33A-F	Townhouse (2 story)	47		230	21	4	17	25	17	8	275
Building 34A-B	Residential	120		221	56	11	45	70	46	24	791
Building 35A-B	Gas station, convenience		3,000	845	233	119	114	289	145	145	1015
Building 36A-H	Single family detached	49		210	37	9	28	49	31	18	469
Building 37A-I	Townhouse (2 story)	45		230	20	3	17	24	16	8	264
Building 38A-C	Townhouse (2 story)	23		230	10	2	8	12	8	4	135
Building 38D	Townhouse with Flats (4 story)	50		232	17	3	14	19	12	7	209
Building 39A-E	Townhouse (2 story)	51		230	22	4	18	28	19	9	299
Building 40A	Duplex (2 story)	28		230	12	2	10	15	10	5	164
Building 41A-	Duplex (2 story)	16		230	7	1	6	9	6	3	94
Building 42A	Speciality Retail		30,000	820	31	19	12	112	54	58	1288
Building 43A-	Duplex	18		230	8	1	7	10	7	3	105
Building 44A-F	Townhouse (2 story)	26		230	11	2	9	14	9	5	152
Building 45A-G	Townhouse (2 story)	22		230	10	2	8	12	8	4	129
Total		1,816	1,933,000		3,205	1,860	1,346	6,168	2,934	3,237	60,219
								with 15% internal capture			51,186
Residential Totals		1766	338000		776	146	630	948	622	326	10430
Office Totals			695000		1177	981	196	1133	216	917	8006
Retail Totals			900000		1252	733	520	4087	2096	1994	41783
			1,933,000		3205	1860	1346	6168	2934	3237	60219

Ramsey Town Center Trip Generation Tables

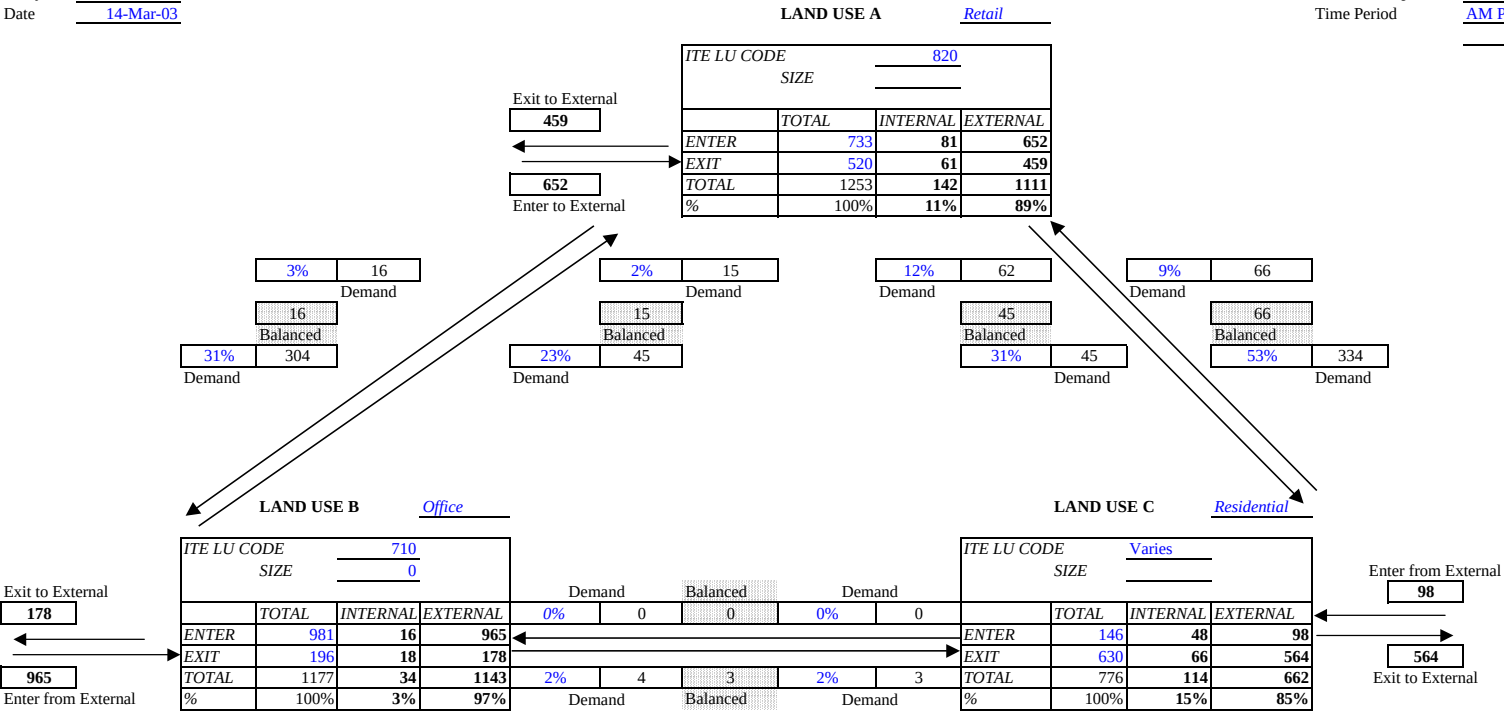
(Data: Feb 25)

Zone/ Block	Land Use	9%			16%		
		Trips after Internal Capture Reductions					
		AM Peak			PM Peak		
		TOTAL	IN	OUT	TOTAL	IN	OUT
1A	Speciality Retail	94	57	36	316	152	164
2A	Speciality Retail	51	31	20	171	82	89
3A	Speciality Retail	37	23	15	127	61	66
3B	Cinema	0	0	0	160	103	57
3C	City Hall/ Police/ Transit	71	63	8	63	11	52
3D	Retail/ Bowling Alley	80	48	32	84	30	54
4A	Hotel	15	9	6	17	9	8
4B	Office	85	75	10	75	13	62
5A	Office	140	124	16	125	21	104
6A	Office	397	350	47	352	60	292
7A	School (Elementary)	168	103	65	145	38	107
7B	Retail/Office/Clinic	68	60	8	61	10	51
8A	Retail/Office/Clinic	76	67	9	68	12	56
Building 9A	Fitness	11	5	5	145	89	57
Building 9B	Community Center	30	20	10	37	13	24
Building 9C	Ice Rink	0	0	0	76	35	42
Building 10A	Speciality Retail	37	23	15	127	61	66
Building 10B	Speciality Retail	6	4	3	22	10	12
Building 10C	Speciality Retail	3	2	1	9	4	5
Building 11A	Speciality Retail	9	5	4	31	15	16
Building 11B	Restaurant	5	3	3	51	34	17
Building 12A	Speciality Retail	20	12	8	67	32	35
Building 12B	Residential	25	5	20	30	19	10
Building 13A	Speciality Retail	31	19	12	104	50	54
Building 13B	Speciality Retail	21	13	8	69	33	36
Building 14A	Speciality Retail	42	25	16	142	68	73
Building 14A	Restaurant	7	4	4	63	42	21
Building 15A	Residential	38	7	31	44	29	15
Building 15B	Speciality Retail	25	15	10	82	40	42
Building 15C	Speciality Retail	20	12	8	67	32	35
Building 16A	Speciality Retail	28	17	11	95	46	49
Building 16B	Restaurant	7	4	4	63	42	21
Building 17A	Speciality Retail	64	39	25	214	103	111
Building 17A	Restaurant	15	6	8	127	85	42
Building 18A	Live / Work	17	4	14	19	13	7
Building 18B	Retail / office	34	30	4	30	5	25
Building 18C	Speciality Retail	19	12	7	63	30	33
Building 19A	Residential	51	10	41	59	39	20
Building 19B	Speciality Retail	5	3	2	16	8	8
Building 20A	Grocery	227	139	89	542	276	266
Building 20B	Residential	22	5	17	24	16	8
Building 21A-D	Townhouse (2 story)	37	6	31	43	29	14
Building 22A-C	Apartment	74	15	59	84	56	29
Building 23A-B	Townhouse (2 Story)	7	1	6	8	6	3
Building 23C	Convenience Retail	19	12	7	63	30	33
Building 24A-E	Townhouse (2 Story)	19	4	15	22	14	8
Building 25A-G	Townhouse (2 Story)	17	3	15	19	13	7
Building 26A-G	Townhouse (2 Story)	20	4	16	23	15	8
Building 27A-B	Townhouse with Flats (3 story)	18	4	15	19	12	8
Building 27C	Townhouse (2 story)	24	4	20	27	18	9
Building 28A-C	Townhouse (2 story)	9	2	7	10	7	3
Building 28D	Townhouse with Flats (4 story)	15	3	13	16	10	6
Building 29A	Townhouse with Flats (4 story)	22	5	17	23	14	8
Building 30A-B	Townhouse with Flats (3 story)	15	3	13	16	10	6
Building 30C	Townhouse with Flats (4 story)	20	4	16	20	13	8
Building 31A-I	Townhouse (2 story)	20	4	16	24	16	8
Building 32A-I	Townhouse (2 Story)	24	4	20	26	18	8
Building 33A-F	Townhouse (2 story)	19	4	15	21	14	7
Building 34A-B	Residential	51	10	41	59	39	20
Building 35A-B	Gas station, convenience	212	108	104	244	122	122
Building 36A-H	Single family detached	34	8	25	41	26	15
Building 37A-I	Townhouse (2 story)	18	3	15	20	14	7
Building 38A-C	Townhouse (2 story)	9	2	7	10	7	3
Building 38D	Townhouse with Flats (4 story)	15	3	13	16	10	6
Building 39A-E	Townhouse (2 story)	20	4	16	24	16	8
Building 40A	Duplex (2 story)	11	2	9	13	8	4
Building 41A-	Duplex (2 story)	6	1	5	8	5	3
Building 42A	Speciality Retail	28	17	11	95	46	49
Building 43A-	Duplex	7	1	6	8	6	3
Building 44A-F	Townhouse (2 story)	10	2	8	12	8	4
Building 45A-G	Townhouse (2 story)	9	2	7	10	7	3
	Total	2,910	1,698	1,220	5,206	2,480	2,732
	Residential Totals						
	Office Totals						
	Retail Totals						

Multi-Use Trip Generation Calculation Work Sheet

Analyst RMK
Date 14-Mar-03

Name of Dvlpt Ramsey AUAR
Time Period AM Peak Hour



Net External Trips for Multi-Use Development				
	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	652	965	98	1715
Exit	459	178	564	1201
Total	1111	1143	662	2916
Single-Use Trip Gen. Est.	1253	1177	776	3206
				Internal Capture 9%

Multi-Use Trip Generation Calculation Work Sheet

Analyst RMK
Date 14-Mar-03

Name of Dvlpt Ramsey AUAR
Time Period PM Peak Hour

LAND USE A Retail

ITE LU CODE <u>820</u>			
SIZE _____			
	TOTAL	INTERNAL	EXTERNAL
ENTER	2096	215	1881
EXIT	1994	253	1741
TOTAL	4090	468	3622
%	100%	11%	89%

Exit to External 1741

Enter to External 1881

LAND USE B Office

ITE LU CODE <u>710</u>			
SIZE <u>0</u>			
	TOTAL	INTERNAL	EXTERNAL
ENTER	216	60	156
EXIT	917	54	863
TOTAL	1133	114	1019
%	100%	10%	90%

Exit to External 863

Enter from External 156

LAND USE C Residential

ITE LU CODE <u>Varies</u>			
SIZE _____			
	TOTAL	INTERNAL	EXTERNAL
ENTER	622	205	417
EXIT	326	173	153
TOTAL	948	378	570
%	100%	40%	60%

Enter from External 417

Exit to External 153

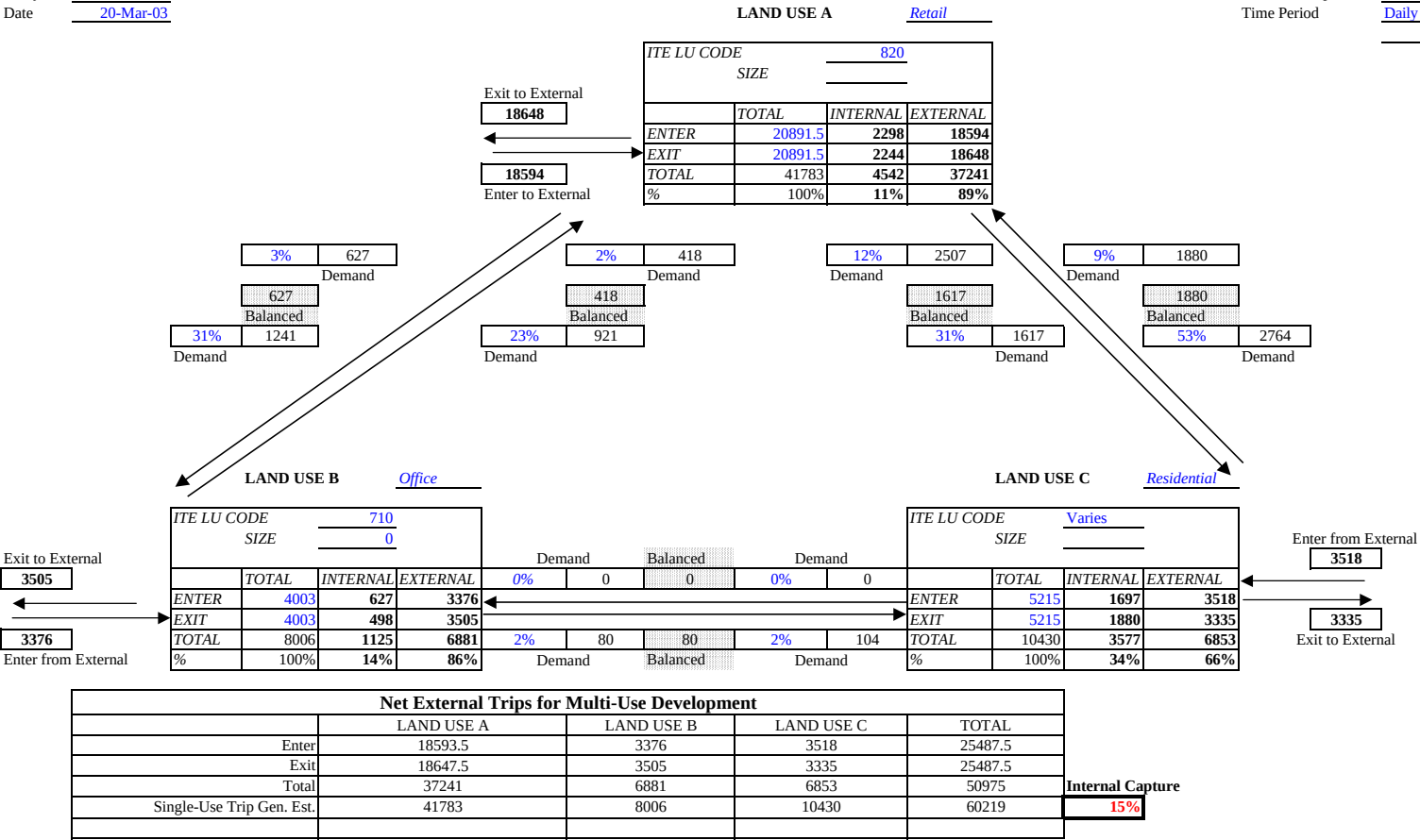
Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	1881	156	417	2454
Exit	1741	863	153	2757
Total	3622	1019	570	5211
Single-Use Trip Gen. Est.	4090	1133	948	6171
				Internal Capture 16%

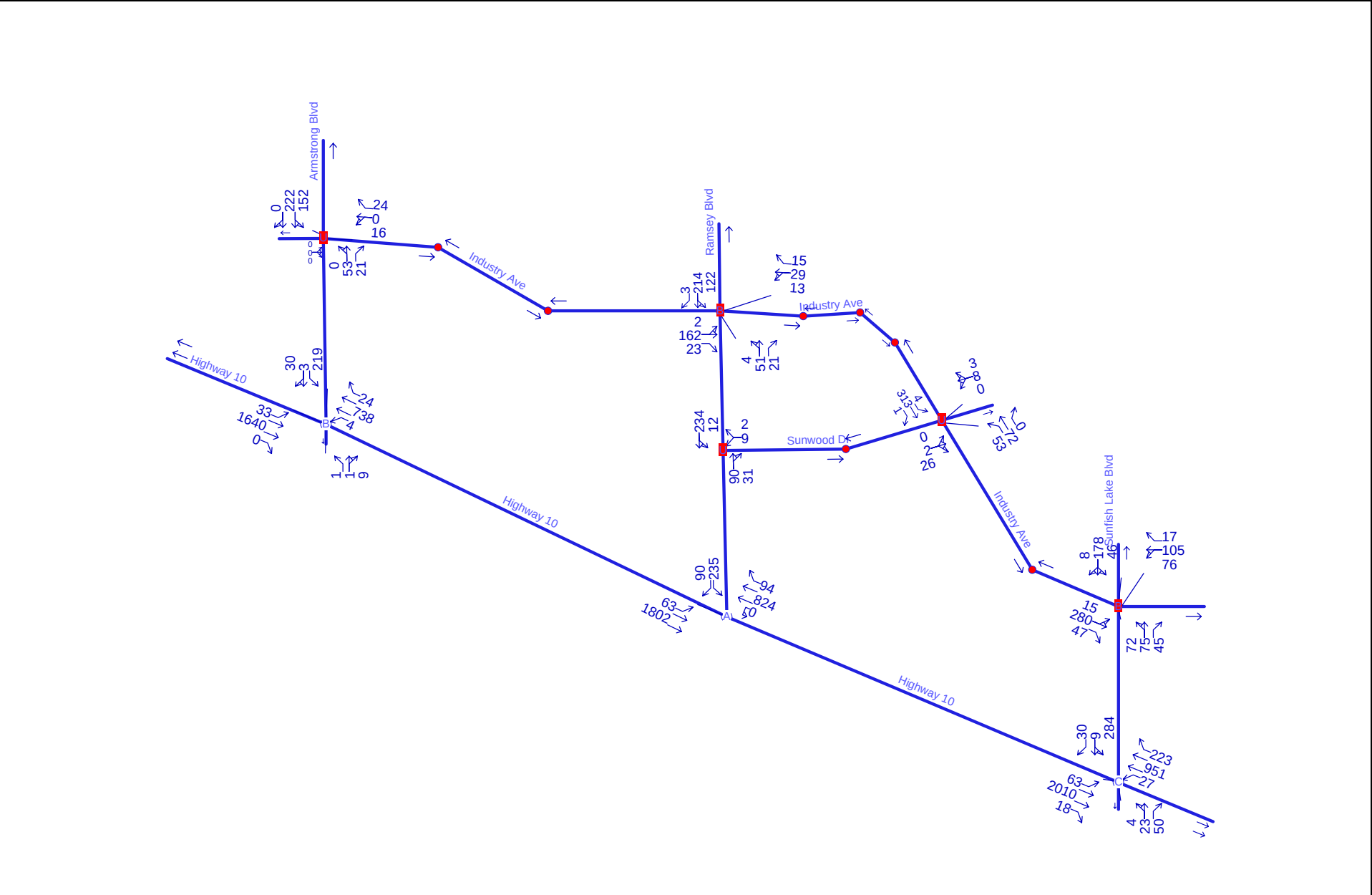
Multi-Use Trip Generation Calculation Work Sheet

Analyst FCD
Date 20-Mar-03

Name of Dvlpt Ramsey AUAR
Time Period Daily



APPENDIX B – INTERSECTION CAPACITY ANALYSES



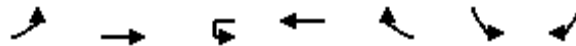
HCM Signalized Intersection Capacity Analysis **3: Highway 10 & Armstrong Blvd**

Scenario: AM Existing
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		1770	3539	1583	1770	1609		1770	1607	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.73	1.00		0.75	1.00	
Satd. Flow (perm)	1770	3539		1770	3539	1583	1367	1609		1398	1607	
Volume (vph)	33	1640	0	4	738	24	1	1	9	219	3	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	1783	0	4	802	26	1	1	10	238	3	33
Lane Group Flow (vph)	36	1783	0	4	802	26	1	11	0	238	36	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	3.6	81.2		1.2	78.8	78.8	25.1	25.1		25.1	25.1	
Effective Green, g (s)	3.6	84.7		1.2	82.3	82.3	27.1	27.1		27.1	27.1	
Actuated g/C Ratio	0.03	0.68		0.01	0.66	0.66	0.22	0.22		0.22	0.22	
Clearance Time (s)	4.0	7.5		4.0	7.5	7.5	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	51	2398		17	2330	1042	296	349		303	348	
v/s Ratio Prot	0.02	c0.50		0.00	c0.23			0.01			0.02	
v/s Ratio Perm						0.02	0.00			c0.17		
v/c Ratio	0.71	0.74		0.24	0.34	0.02	0.00	0.03		0.79	0.10	
Uniform Delay, d1	60.2	13.1		61.4	9.4	7.4	38.4	38.6		46.2	39.2	
Progression Factor	1.00	1.00		0.86	0.24	0.08	1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.0	2.1		6.7	0.4	0.0	0.0	0.0		12.6	0.1	
Delay (s)	96.1	15.2		59.7	2.6	0.6	38.4	38.6		58.8	39.3	
Level of Service	F	B		E	A	A	D	D		E	D	
Approach Delay (s)		16.8			2.8			38.6			56.2	
Approach LOS		B			A			D			E	
Intersection Summary												
HCM Average Control Delay		16.6										
HCM Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		125.0										
Intersection Capacity Utilization		75.8%										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis **6: Highway 10 & Ramsey Blvd**

Scenario: AM Existing
Timing Plan: AM Peak



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations	↰	↷	↰	↷	↰	↰	↰
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539		3539	1583	1770	1583
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539		3539	1583	1770	1583
Volume (vph)	63	1802	0	824	94	235	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	1959	0	896	102	255	98
Lane Group Flow (vph)	68	1959	0	896	102	255	98
Turn Type	Prot		Prot		Perm		Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	7.7	90.3		78.6	78.6	21.7	21.7
Effective Green, g (s)	7.7	93.3		81.6	81.6	23.7	23.7
Actuated g/C Ratio	0.06	0.75		0.65	0.65	0.19	0.19
Clearance Time (s)	4.0	7.0		7.0	7.0	6.0	6.0
Vehicle Extension (s)	3.0	6.0		6.0	6.0	4.0	4.0
Lane Grp Cap (vph)	109	2642		2310	1033	336	300
v/s Ratio Prot	0.04	c0.55		0.25		c0.14	
v/s Ratio Perm					0.06		0.06
v/c Ratio	0.62	0.74		0.39	0.10	0.76	0.33
Uniform Delay, d1	57.2	9.0		10.1	8.1	47.9	43.8
Progression Factor	0.91	0.50		0.06	0.00	1.00	1.00
Incremental Delay, d2	7.5	1.3		0.4	0.2	10.0	0.9
Delay (s)	59.5	5.9		1.0	0.2	58.0	44.6
Level of Service	E	A		A	A	E	D
Approach Delay (s)		7.7		0.9		54.3	
Approach LOS		A		A		D	
Intersection Summary							
HCM Average Control Delay			10.6		HCM Level of Service		B
HCM Volume to Capacity ratio			0.75				
Actuated Cycle Length (s)			125.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization			83.3%		ICU Level of Service		D
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
9: Highway 10 & Sunfish Lake Blvd

Scenario: AM Existing
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1850	1583		1777	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00		0.71	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		1781	1583		1325	1583
Volume (vph)	63	2010	18	27	951	223	4	23	50	284	9	30
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	2185	20	29	1034	242	4	25	54	309	10	33
Lane Group Flow (vph)	68	2185	20	29	1034	242	0	29	54	0	319	33
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	8.5	76.4	76.4	3.6	71.5	71.5		28.5	28.5		27.5	27.5
Effective Green, g (s)	8.5	79.4	79.4	3.6	74.5	74.5		30.0	30.0		30.0	30.0
Actuated g/C Ratio	0.07	0.64	0.64	0.03	0.60	0.60		0.24	0.24		0.24	0.24
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0	7.0		5.5	5.5		6.5	6.5
Vehicle Extension (s)	3.0	5.5	5.5	3.0	5.5	5.5		3.0	3.0		4.5	4.5
Lane Grp Cap (vph)	120	2248	1006	51	2109	943		427	380		318	380
v/s Ratio Prot	c0.04	c0.62		0.02	0.29							
v/s Ratio Perm			0.01			0.15		0.02	0.03		c0.24	0.02
v/c Ratio	0.57	0.97	0.02	0.57	0.49	0.26		0.07	0.14		1.00	0.09
Uniform Delay, d1	56.5	21.7	8.4	59.9	14.4	12.0		36.7	37.4		47.5	36.9
Progression Factor	0.93	0.73	0.24	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	4.1	10.4	0.0	13.7	0.8	0.7		0.1	0.2		51.3	0.2
Delay (s)	56.8	26.2	2.1	73.7	15.2	12.7		36.8	37.5		98.8	37.0
Level of Service	E	C	A	E	B	B		D	D		F	D
Approach Delay (s)		26.9			16.1			37.3			93.0	
Approach LOS		C			B			D			F	
Intersection Summary												
HCM Average Control Delay			29.4				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			99.7%				ICU Level of Service			E		
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis **12: Industry Ave & Armstrong Blvd**

Scenario: AM Existing
Timing Plan: AM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Volume (veh/h)	0	0	0	16	0	24	0	53	21	152	222	0	
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	
Hourly flow rate (veh/h)	0	0	0	17	0	26	0	58	23	165	241	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						8							
Median type	None				None								
Median storage veh													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	642	652	121	509	629	58	241						80
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	642	652	121	509	629	58	241						80
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1						4.1
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2						2.2
p0 queue free %	100	100	100	96	100	97	100						89
cM capacity (veh/h)	320	344	908	410	354	996	1322						1515
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2							
Volume Total	0	43	58	23	286	121							
Volume Left	0	17	0	0	165	0							
Volume Right	0	26	0	23	0	0							
cSH	1700	1025	1322	1700	1515	1700							
Volume to Capacity	0.00	0.04	0.00	0.01	0.11	0.07							
Queue Length (ft)	0	3	0	0	9	0							
Control Delay (s)	0.0	10.9	0.0	0.0	4.8	0.0							
Lane LOS	A	B			A								
Approach Delay (s)	0.0	10.9	0.0		3.4								
Approach LOS	A	B											
Intersection Summary													
Average Delay			3.5										
Intersection Capacity Utilization			25.8%	ICU Level of Service				A					

HCM Unsignalized Intersection Capacity Analysis
13: Industry Ave & Ramsey Blvd

Scenario: AM Existing
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	2	162	23	13	29	15	4	51	21	122	214	3
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
Hourly flow rate (veh/h)	2	176	25	14	32	16	4	55	23	133	233	3
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	178	25	46	16	60	23	365	3				
Volume Left (vph)	2	0	14	0	4	0	133	0				
Volume Right (vph)	0	25	0	16	0	23	0	3				
Hadj (s)	0.0	-0.6	0.1	-0.6	0.0	-0.6	0.1	-0.6				
Departure Headway (s)	5.8	5.2	6.1	5.4	5.7	5.1	5.4	4.8				
Degree Utilization, x	0.29	0.04	0.08	0.02	0.09	0.03	0.55	0.00				
Capacity (veh/h)	582	641	544	606	597	663	641	719				
Control Delay (s)	9.9	7.2	8.4	7.3	8.1	7.0	13.7	6.6				
Approach Delay (s)	9.6		8.1		7.8		13.6					
Approach LOS	A		A		A		B					
Intersection Summary												
Delay			11.3									
HCM Level of Service			B									
Intersection Capacity Utilization			42.5%		ICU Level of Service		A					

HCM Unsignalized Intersection Capacity Analysis
19: Industry Ave & Sunfish Lake Blvd

Scenario: AM Existing
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	15	280	47	76	105	17	72	75	45	46	178	8
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
Hourly flow rate (veh/h)	16	304	51	83	114	18	78	82	49	50	193	9
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total (vph)	321	51	197	18	160	49	252					
Volume Left (vph)	16	0	83	0	78	0	50					
Volume Right (vph)	0	51	0	18	0	49	9					
Hadj (s)	0.0	-0.6	0.1	-0.6	0.1	-0.6	0.1					
Departure Headway (s)	6.3	5.7	6.6	5.9	6.8	6.1	6.6					
Degree Utilization, x	0.56	0.08	0.36	0.03	0.30	0.08	0.46					
Capacity (veh/h)	546	595	510	560	486	543	512					
Control Delay (s)	15.9	8.0	12.1	7.9	11.5	8.4	15.3					
Approach Delay (s)	14.9		11.8		10.8		15.3					
Approach LOS	B		B		B		C					
Intersection Summary												
Delay			13.5									
HCM Level of Service			B									
Intersection Capacity Utilization			62.9%	ICU Level of Service		B						

HCM Unsignalized Intersection Capacity Analysis
21: Sunwood Dr & Ramsey Blvd

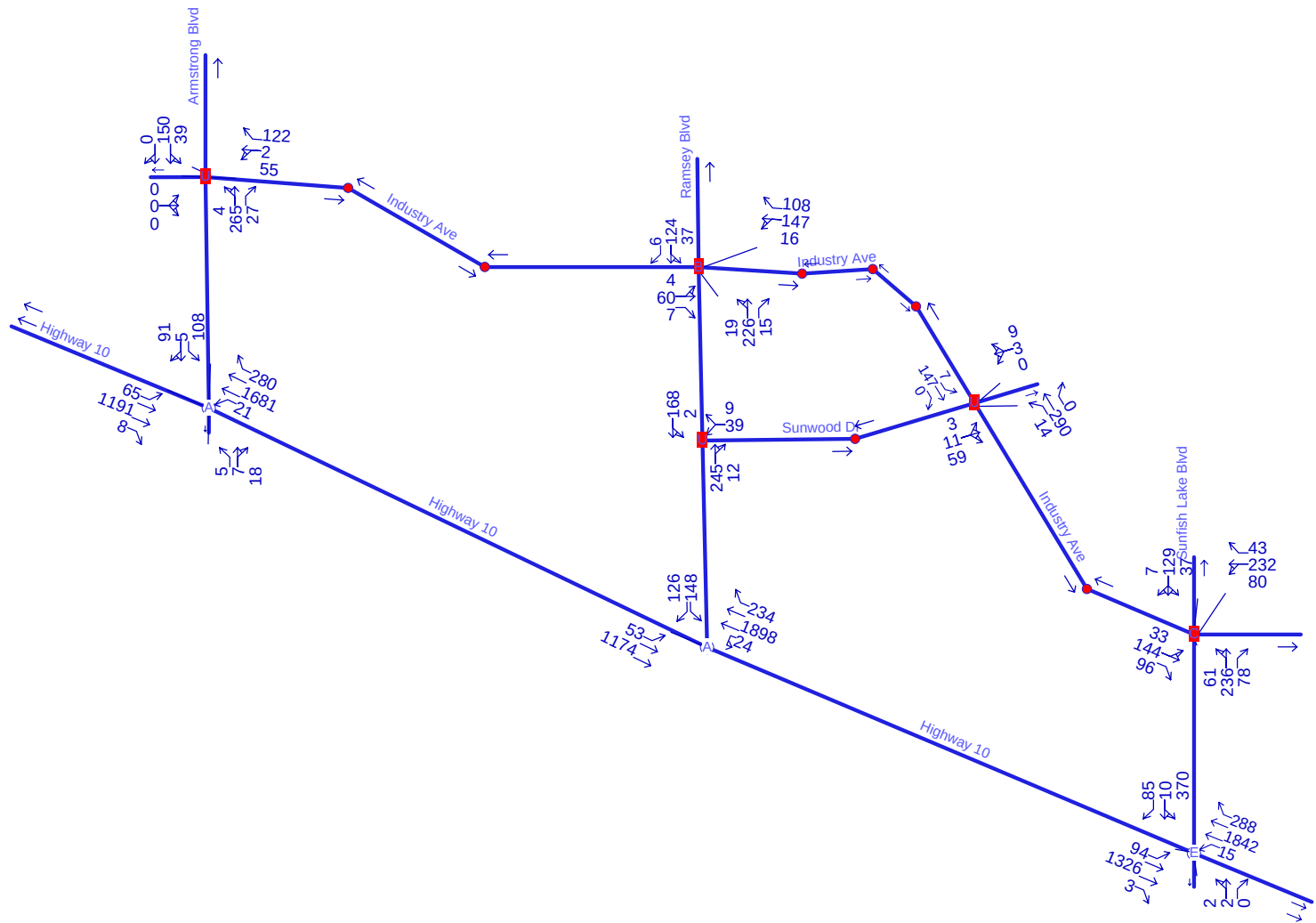
Scenario: AM Existing
Timing Plan: AM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	2	90	31	12	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	10	2	98	34	13	254
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	395	115			132	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	395	115			132	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			99	
cM capacity (veh/h)	604	938			1454	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	12	132	267			
Volume Left	10	0	13			
Volume Right	2	34	0			
cSH	646	1700	1454			
Volume to Capacity	0.02	0.08	0.01			
Queue Length (ft)	1	0	1			
Control Delay (s)	10.7	0.0	0.4			
Lane LOS	B		A			
Approach Delay (s)	10.7	0.0	0.4			
Approach LOS	B					
Intersection Summary						
Average Delay		0.6				
Intersection Capacity Utilization		27.1%		ICU Level of Service		A

HCM Unsignalized Intersection Capacity Analysis
24: Sunwood Dr & Industry Ave

Scenario: AM Existing
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	26	0	8	3	53	72	0	4	313	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
Hourly flow rate (veh/h)	0	2	28	0	9	3	58	78	0	4	340	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	550	542	340	572	543	78	341			78		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	550	542	340	572	543	78	341			78		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	96	100	98	100	95			100		
cM capacity (veh/h)	421	425	702	396	424	982	1218			1520		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	30	12	58	78	0	4	340	1				
Volume Left	0	0	58	0	0	4	0	0				
Volume Right	28	3	0	0	0	0	0	1				
cSH	671	502	1218	1700	1700	1520	1700	1700				
Volume to Capacity	0.05	0.02	0.05	0.05	0.00	0.00	0.20	0.00				
Queue Length (ft)	4	2	4	0	0	0	0	0				
Control Delay (s)	10.6	12.3	8.1	0.0	0.0	7.4	0.0	0.0				
Lane LOS	B	B	A			A						
Approach Delay (s)	10.6	12.3	3.4			0.1						
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utilization			27.9%	ICU Level of Service					A			



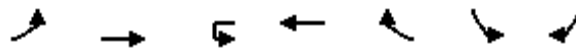
HCM Signalized Intersection Capacity Analysis **3: Highway 10 & Armstrong Blvd**

Scenario: PM Existing
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1663		1770	1597	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.59	1.00		0.74	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1093	1663		1377	1597	
Volume (vph)	65	1191	8	21	1681	280	5	7	18	108	5	91
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	1295	9	23	1827	304	5	8	20	117	5	99
Lane Group Flow (vph)	71	1295	9	23	1827	304	5	28	0	117	104	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	9.0	88.5	88.5	3.6	83.1	83.1	16.4	16.4		15.4	15.4	
Effective Green, g (s)	9.0	92.0	92.0	3.6	86.6	86.6	17.4	17.4		17.4	17.4	
Actuated g/C Ratio	0.07	0.74	0.74	0.03	0.69	0.69	0.14	0.14		0.14	0.14	
Clearance Time (s)	4.0	7.5	7.5	4.0	7.5	7.5	5.0	5.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	127	2605	1165	51	2452	1097	152	231		192	222	
v/s Ratio Prot	0.04	c0.37		0.01	c0.52			0.02			0.07	
v/s Ratio Perm			0.01			0.19	0.00			c0.08		
v/c Ratio	0.56	0.50	0.01	0.45	0.75	0.28	0.03	0.12		0.61	0.47	
Uniform Delay, d1	56.1	6.9	4.4	59.7	12.2	7.3	46.5	47.1		50.6	49.5	
Progression Factor	1.00	1.00	1.00	0.72	0.17	0.04	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.3	0.7	0.0	3.7	1.3	0.4	0.1	0.2		5.4	1.6	
Delay (s)	61.3	7.6	4.4	46.7	3.3	0.6	46.6	47.3		56.0	51.1	
Level of Service	E	A	A	D	A	A	D	D		E	D	
Approach Delay (s)		10.3			3.4			47.2			53.7	
Approach LOS		B			A			D			D	
Intersection Summary												
HCM Average Control Delay			9.2			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			78.7%			ICU Level of Service			C			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis **6: Highway 10 & Ramsey Blvd**

Scenario: PM Existing
Timing Plan: PM Peak



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations	↰	↶↷	↰	↶↷	↰	↰	↰
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	1770	3539	1583	1770	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	1770	3539	1583	1770	1583
Volume (vph)	53	1174	24	1898	234	148	126
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	1276	26	2063	254	161	137
Lane Group Flow (vph)	58	1276	26	2063	254	161	137
Turn Type	Prot		Prot		Perm		Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	5.6	88.1	3.6	86.1	86.1	16.3	16.3
Effective Green, g (s)	5.6	91.1	3.6	89.1	89.1	18.3	18.3
Actuated g/C Ratio	0.04	0.73	0.03	0.71	0.71	0.15	0.15
Clearance Time (s)	4.0	7.0	4.0	7.0	7.0	6.0	6.0
Vehicle Extension (s)	3.0	6.0	3.0	6.0	6.0	4.0	4.0
Lane Grp Cap (vph)	79	2579	51	2523	1128	259	232
v/s Ratio Prot	c0.03	0.36	0.01	c0.58		c0.09	
v/s Ratio Perm					0.16		0.09
v/c Ratio	0.73	0.49	0.51	0.82	0.23	0.62	0.59
Uniform Delay, d1	59.0	7.2	59.8	12.4	6.1	50.1	49.8
Progression Factor	1.31	0.39	0.81	0.39	0.00	1.00	1.00
Incremental Delay, d2	26.9	0.6	0.7	0.3	0.0	5.2	4.6
Delay (s)	104.0	3.4	49.2	5.1	0.0	55.3	54.5
Level of Service	F	A	D	A	A	E	D
Approach Delay (s)		7.8		5.0		54.9	
Approach LOS		A		A		D	
Intersection Summary							
HCM Average Control Delay			9.7		HCM Level of Service		A
HCM Volume to Capacity ratio			0.78				
Actuated Cycle Length (s)			125.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			72.6%		ICU Level of Service		C
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
9: Highway 10 & Sunfish Lake Blvd

Scenario: PM Existing
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1817			1776	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.83			0.73	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		1541			1359	1583
Volume (vph)	94	1326	3	15	1842	288	2	2	0	370	10	85
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	1441	3	16	2002	313	2	2	0	402	11	92
Lane Group Flow (vph)	102	1441	3	16	2002	313	0	4	0	0	413	92
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	20.0	67.0	67.0	8.0	55.0	55.0		29.5			29.5	29.5
Effective Green, g (s)	23.0	70.0	70.0	11.0	58.0	58.0		32.0			32.0	32.0
Actuated g/C Ratio	0.18	0.56	0.56	0.09	0.46	0.46		0.26			0.26	0.26
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		6.5			6.5	6.5
Vehicle Extension (s)	5.5	5.5	5.5	5.5	5.5	5.5		3.0			4.5	4.5
Lane Grp Cap (vph)	326	1982	886	156	1642	735		394			348	405
v/s Ratio Prot	0.06	c0.41		0.01	c0.57							
v/s Ratio Perm			0.00			0.20		0.00			c0.30	0.06
v/c Ratio	0.31	0.73	0.00	0.10	1.22	0.43		0.01			1.19	0.23
Uniform Delay, d1	44.2	20.4	12.1	52.5	33.5	22.4		34.7			46.5	36.7
Progression Factor	1.12	0.68	0.64	1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	1.2	2.1	0.0	0.7	104.4	1.8		0.0			109.3	0.5
Delay (s)	50.7	16.1	7.8	53.2	137.9	24.2		34.7			155.8	37.2
Level of Service	D	B	A	D	F	C		C			F	D
Approach Delay (s)		18.4			122.1			34.7			134.2	
Approach LOS		B			F			C			F	
Intersection Summary												
HCM Average Control Delay			86.8				HCM Level of Service			F		
HCM Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			111.5%				ICU Level of Service		G			
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis **12: Industry Ave & Armstrong Blvd**

Scenario: PM Existing
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	55	2	122	4	265	27	39	150	0
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
Hourly flow rate (veh/h)	0	0	0	60	2	133	4	288	29	42	163	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						8						
Median type	None				None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	612	574	82	463	545	288	163			317		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	612	574	82	463	545	288	163			317		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	87	99	81	100			97		
cM capacity (veh/h)	297	412	962	468	428	709	1413			1239		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	195	292	29	124	82						
Volume Left	0	60	4	0	42	0						
Volume Right	0	133	0	29	0	0						
cSH	1700	1040	1413	1700	1239	1700						
Volume to Capacity	0.00	0.19	0.00	0.02	0.03	0.05						
Queue Length (ft)	0	17	0	0	3	0						
Control Delay (s)	0.0	12.1	0.1	0.0	2.9	0.0						
Lane LOS	A	B	A		A							
Approach Delay (s)	0.0	12.1	0.1		1.8							
Approach LOS	A	B										
Intersection Summary												
Average Delay			3.8									
Intersection Capacity Utilization			30.3%		ICU Level of Service		A					

HCM Unsignalized Intersection Capacity Analysis
13: Industry Ave & Ramsey Blvd

Scenario: PM Existing
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	4	60	7	16	147	108	19	226	15	37	124	6
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
Hourly flow rate (veh/h)	4	65	8	17	160	117	21	246	16	40	135	7
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	70	8	177	117	266	16	175	7				
Volume Left (vph)	4	0	17	0	21	0	40	0				
Volume Right (vph)	0	8	0	117	0	16	0	7				
Hadj (s)	0.0	-0.6	0.1	-0.6	0.0	-0.6	0.1	-0.6				
Departure Headway (s)	6.2	5.6	5.9	5.3	5.8	5.2	5.9	5.3				
Degree Utilization, x	0.12	0.01	0.29	0.17	0.43	0.02	0.29	0.01				
Capacity (veh/h)	531	584	573	636	599	657	574	637				
Control Delay (s)	8.9	7.5	10.2	8.2	11.8	7.1	10.1	7.1				
Approach Delay (s)	8.7		9.4		11.6		10.0					
Approach LOS	A		A		B		B					
Intersection Summary												
Delay			10.2									
HCM Level of Service			B									
Intersection Capacity Utilization			40.0%		ICU Level of Service		A					

HCM Unsignalized Intersection Capacity Analysis
19: Industry Ave & Sunfish Lake Blvd

Scenario: PM Existing
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	33	144	96	80	232	43	61	236	78	37	129	7
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
Hourly flow rate (veh/h)	36	157	104	87	252	47	66	257	85	40	140	8
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total (vph)	192	104	339	47	323	85	188					
Volume Left (vph)	36	0	87	0	66	0	40					
Volume Right (vph)	0	104	0	47	0	85	8					
Hadj (s)	0.1	-0.6	0.1	-0.6	0.1	-0.6	0.1					
Departure Headway (s)	7.2	6.6	7.0	6.4	7.0	6.4	7.5					
Degree Utilization, x	0.38	0.19	0.66	0.08	0.63	0.15	0.39					
Capacity (veh/h)	472	513	497	537	491	535	450					
Control Delay (s)	13.4	9.9	21.4	8.7	20.0	9.3	15.2					
Approach Delay (s)	12.2		19.9		17.8		15.2					
Approach LOS	B		C		C		C					
Intersection Summary												
Delay			16.7									
HCM Level of Service			C									
Intersection Capacity Utilization			68.9%	ICU Level of Service				B				

HCM Unsignalized Intersection Capacity Analysis
21: Sunwood Dr & Ramsey Blvd

Scenario: PM Existing
Timing Plan: PM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	39	9	245	12	2	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	42	10	266	13	2	183
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	460	273			279	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	460	273			279	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	99			100	
cM capacity (veh/h)	559	766			1283	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	52	279	185			
Volume Left	42	0	2			
Volume Right	10	13	0			
cSH	588	1700	1283			
Volume to Capacity	0.09	0.16	0.00			
Queue Length (ft)	7	0	0			
Control Delay (s)	11.7	0.0	0.1			
Lane LOS	B		A			
Approach Delay (s)	11.7	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay		1.2				
Intersection Capacity Utilization		24.8%		ICU Level of Service		A

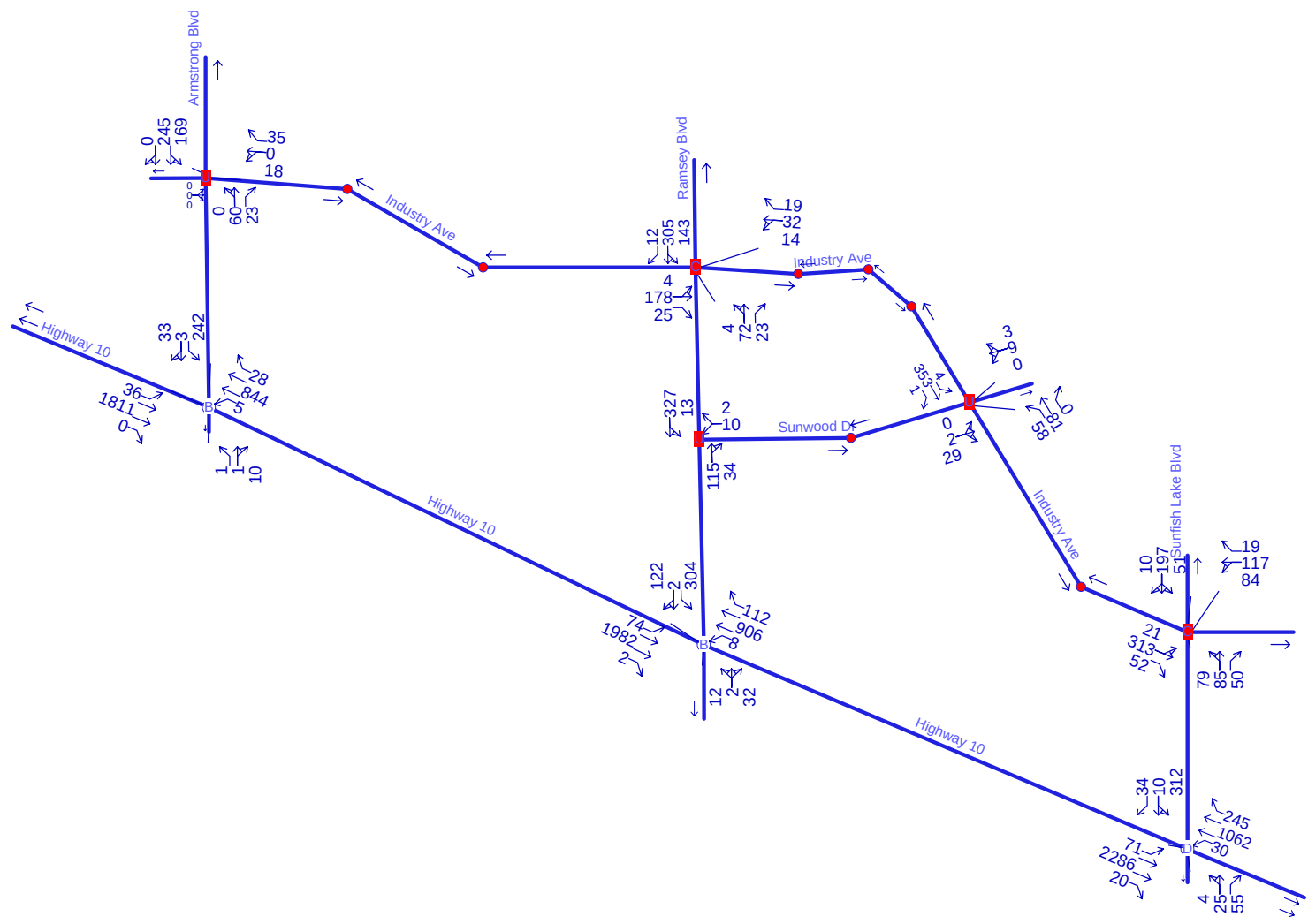
HCM Unsignalized Intersection Capacity Analysis
24: Sunwood Dr & Industry Ave

Scenario: PM Existing
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	3	11	59	0	3	9	14	290	0	7	147	0
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
Hourly flow rate (veh/h)	3	12	64	0	3	10	15	315	0	8	160	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	532	521	160	591	521	315	160				315	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	532	521	160	591	521	315	160				315	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	99	97	93	100	99	99	99				99	
cM capacity (veh/h)	444	452	885	376	452	725	1419				1245	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	79	13	15	315	0	8	160	0				
Volume Left	3	0	15	0	0	8	0	0				
Volume Right	64	10	0	0	0	0	0	0				
cSH	747	630	1419	1700	1700	1245	1700	1700				
Volume to Capacity	0.11	0.02	0.01	0.19	0.00	0.01	0.09	0.00				
Queue Length (ft)	9	2	1	0	0	0	0	0				
Control Delay (s)	10.4	10.8	7.6	0.0	0.0	7.9	0.0	0.0				
Lane LOS	B	B	A				A					
Approach Delay (s)	10.4	10.8	0.3				0.4					
Approach LOS	B	B										
Intersection Summary												
Average Delay	1.9											
Intersection Capacity Utilization	28.1%			ICU Level of Service					A			

Map - Ramsey AUAR
Levels of Service

Timing Plan: AM Peak
Ramsey AUAR AM Future Base (2007)



HCM Signalized Intersection Capacity Analysis **3: Highway 10 & Armstrong Blvd**

Scenario: AM Future Base (2007)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		1770	3539	1583	1770	1607		1770	1605	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.73	1.00		0.75	1.00	
Satd. Flow (perm)	1770	3539		1770	3539	1583	1363	1607		1397	1605	
Volume (vph)	36	1811	0	5	844	28	1	1	10	242	3	33
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	1968	0	5	917	30	1	1	11	263	3	36
Lane Group Flow (vph)	39	1968	0	5	917	30	1	12	0	263	39	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	4.8	79.5		1.2	75.9	75.9	26.8	26.8		26.8	26.8	
Effective Green, g (s)	4.8	83.0		1.2	79.4	79.4	28.8	28.8		28.8	28.8	
Actuated g/C Ratio	0.04	0.66		0.01	0.64	0.64	0.23	0.23		0.23	0.23	
Clearance Time (s)	4.0	7.5		4.0	7.5	7.5	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	68	2350		17	2248	1006	314	370		322	370	
v/s Ratio Prot	0.02	c0.56		0.00	c0.26			0.01			0.02	
v/s Ratio Perm						0.02	0.00			c0.19		
v/c Ratio	0.57	0.84		0.29	0.41	0.03	0.00	0.03		0.82	0.11	
Uniform Delay, d1	59.1	15.9		61.5	11.2	8.5	37.0	37.3		45.6	37.9	
Progression Factor	1.00	1.00		0.94	0.37	0.18	1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.2	3.8		8.6	0.5	0.1	0.0	0.0		14.7	0.1	
Delay (s)	70.3	19.6		66.3	4.7	1.6	37.0	37.3		60.3	38.1	
Level of Service	E	B		E	A	A	D	D		E	D	
Approach Delay (s)		20.6			4.9			37.3			57.4	
Approach LOS		C			A			D			E	
Intersection Summary												
HCM Average Control Delay			19.5			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			82.3%			ICU Level of Service			D			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis **6: Highway 10 & Ramsey Blvd**

Scenario: AM Future Base (2007)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.91		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1665		1770	1587	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.92		0.75	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		1554		1398	1587	
Volume (vph)	74	1982	2	8	906	112	12	2	32	304	2	122
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	2154	2	9	985	122	13	2	35	330	2	133
Lane Group Flow (vph)	80	2154	2	9	985	122	0	50	0	330	135	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		
Actuated Green, G (s)	11.2	78.2	78.2	0.8	67.8	67.8		28.0		28.0	28.0	
Effective Green, g (s)	11.2	81.2	81.2	0.8	70.8	70.8		31.0		31.0	31.0	
Actuated g/C Ratio	0.09	0.65	0.65	0.01	0.57	0.57		0.25		0.25	0.25	
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0	7.0		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	6.0	6.0	3.0	6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)	159	2299	1028	11	2004	897		385		347	394	
v/s Ratio Prot	c0.05	c0.61		0.01	0.28						0.09	
v/s Ratio Perm			0.00			0.08		0.03		c0.24		
v/c Ratio	0.50	0.94	0.00	0.82	0.49	0.14		0.13		0.95	0.34	
Uniform Delay, d1	54.2	19.6	7.7	62.0	16.3	12.7		36.5		46.3	38.6	
Progression Factor	0.83	0.51	0.28	0.88	0.22	0.02		1.00		1.00	1.00	
Incremental Delay, d2	1.5	5.7	0.0	153.8	0.7	0.3		0.4		36.7	1.5	
Delay (s)	46.7	15.7	2.2	208.2	4.3	0.6		37.0		82.9	40.1	
Level of Service	D	B	A	F	A	A		D		F	D	
Approach Delay (s)		16.8			5.5			37.0			70.5	
Approach LOS		B			A			D			E	
Intersection Summary												
HCM Average Control Delay			20.2				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			97.9%				ICU Level of Service			E		
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
9: Highway 10 & Sunfish Lake Blvd

Scenario: AM Future Base (2007)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1851	1583		1777	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.94	1.00		0.71	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		1742	1583		1323	1583
Volume (vph)	71	2286	20	30	1062	245	4	25	55	312	10	34
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	2485	22	33	1154	266	4	27	60	339	11	37
Lane Group Flow (vph)	77	2485	22	33	1154	266	0	31	60	0	350	37
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	8.6	76.4	76.4	3.6	71.4	71.4		28.5	28.5		27.5	27.5
Effective Green, g (s)	8.6	79.4	79.4	3.6	74.4	74.4		30.0	30.0		30.0	30.0
Actuated g/C Ratio	0.07	0.64	0.64	0.03	0.60	0.60		0.24	0.24		0.24	0.24
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0	7.0		5.5	5.5		6.5	6.5
Vehicle Extension (s)	3.0	5.5	5.5	3.0	5.5	5.5		3.0	3.0		4.5	4.5
Lane Grp Cap (vph)	122	2248	1006	51	2106	942		418	380		318	380
v/s Ratio Prot	c0.04	c0.70		0.02	0.33							
v/s Ratio Perm			0.01			0.17		0.02	0.04		c0.26	0.02
v/c Ratio	0.63	1.11	0.02	0.65	0.55	0.28		0.07	0.16		1.10	0.10
Uniform Delay, d1	56.7	22.8	8.4	60.1	15.2	12.3		36.8	37.5		47.5	37.0
Progression Factor	0.94	0.68	0.28	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	4.8	51.0	0.0	24.8	1.0	0.8		0.1	0.2		80.2	0.2
Delay (s)	57.9	66.5	2.4	84.9	16.2	13.1		36.8	37.7		127.7	37.2
Level of Service	E	E	A	F	B	B		D	D		F	D
Approach Delay (s)		65.7			17.2			37.4			119.1	
Approach LOS		E			B			D			F	
Intersection Summary												
HCM Average Control Delay			54.1				HCM Level of Service			D		
HCM Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)		8.0			
Intersection Capacity Utilization			109.7%				ICU Level of Service		F			
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

Scenario: AM Future Base (2007)

12: Industry Ave & Armstrong Blvd

Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	18	0	35	0	60	23	169	245	0
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
Hourly flow rate (veh/h)	0	0	0	20	0	38	0	65	25	184	266	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						8						
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	718	724	133	566	699	65	266			90		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	718	724	133	566	699	65	266			90		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	95	100	96	100			88		
cM capacity (veh/h)	276	308	891	369	318	985	1295			1503		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	58	65	25	317	133						
Volume Left	0	20	0	0	184	0						
Volume Right	0	38	0	25	0	0						
cSH	1700	1086	1295	1700	1503	1700						
Volume to Capacity	0.00	0.05	0.00	0.01	0.12	0.08						
Queue Length (ft)	0	4	0	0	10	0						
Control Delay (s)	0.0	11.0	0.0	0.0	4.9	0.0						
Lane LOS	A	B			A							
Approach Delay (s)	0.0	11.0	0.0		3.5							
Approach LOS	A	B										
Intersection Summary												
Average Delay			3.7									
Intersection Capacity Utilization			26.8%		ICU Level of Service		A					

HCM Unsignalized Intersection Capacity Analysis
13: Industry Ave & Ramsey Blvd

Scenario: AM Future Base (2007)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	4	178	25	14	32	19	4	72	23	143	305	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
Hourly flow rate (veh/h)	4	193	27	15	35	21	4	78	25	155	332	13
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	198	27	50	21	83	25	487	13				
Volume Left (vph)	4	0	15	0	4	0	155	0				
Volume Right (vph)	0	27	0	21	0	25	0	13				
Hadj (s)	0.0	-0.6	0.1	-0.6	0.0	-0.6	0.1	-0.6				
Departure Headway (s)	6.3	5.7	6.6	6.0	6.0	5.4	5.6	5.0				
Degree Utilization, x	0.35	0.04	0.09	0.03	0.14	0.04	0.76	0.02				
Capacity (veh/h)	535	582	493	542	560	617	628	695				
Control Delay (s)	11.4	7.8	9.1	8.0	8.8	7.4	23.1	6.9				
Approach Delay (s)	11.0		8.8		8.5		22.7					
Approach LOS	B		A		A		C					
Intersection Summary												
Delay	17.0											
HCM Level of Service	C											
Intersection Capacity Utilization	50.4%			ICU Level of Service			A					

HCM Unsignalized Intersection Capacity Analysis
19: Industry Ave & Sunfish Lake Blvd

Scenario: AM Future Base (2007)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	21	313	52	84	117	19	79	85	50	51	197	10
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
Hourly flow rate (veh/h)	23	340	57	91	127	21	86	92	54	55	214	11
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total (vph)	363	57	218	21	178	54	280					
Volume Left (vph)	23	0	91	0	86	0	55					
Volume Right (vph)	0	57	0	21	0	54	11					
Hadj (s)	0.0	-0.6	0.1	-0.6	0.1	-0.6	0.1					
Departure Headway (s)	6.7	6.0	7.0	6.3	7.2	6.5	7.0					
Degree Utilization, x	0.67	0.09	0.43	0.04	0.36	0.10	0.55					
Capacity (veh/h)	524	567	483	526	461	510	487					
Control Delay (s)	21.0	8.5	13.9	8.4	12.9	9.0	18.2					
Approach Delay (s)	19.3		13.5		12.0		18.2					
Approach LOS	C		B		B		C					
Intersection Summary												
Delay			16.4									
HCM Level of Service			C									
Intersection Capacity Utilization			68.9%	ICU Level of Service				B				

HCM Unsignalized Intersection Capacity Analysis
21: Sunwood Dr & Ramsey Blvd

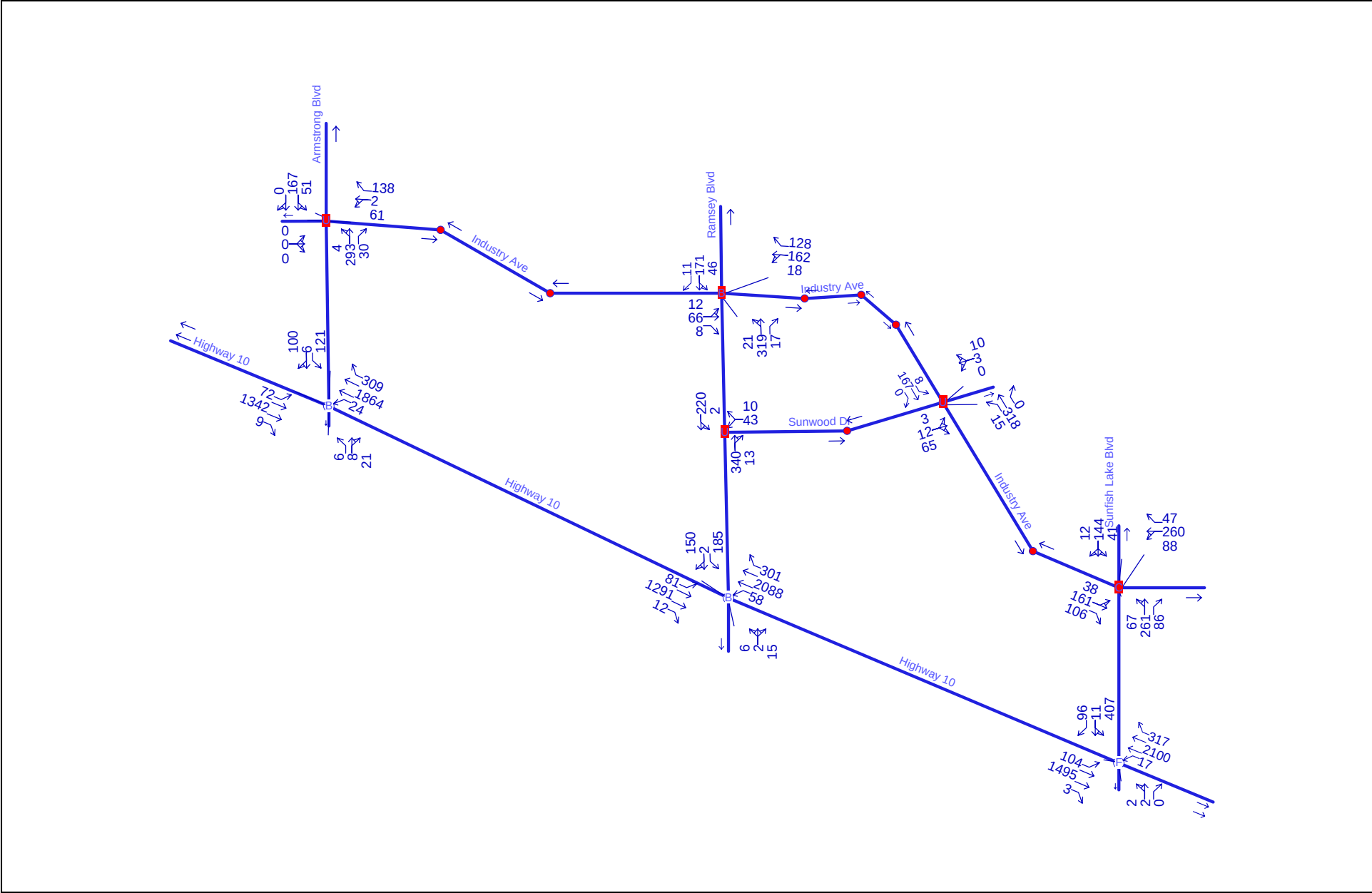
Scenario: AM Future Base (2007)
Timing Plan: AM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	2	115	34	13	327
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	11	2	125	37	14	355
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	527	143			162	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527	143			162	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			99	
cM capacity (veh/h)	506	904			1417	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	13	162	370			
Volume Left	11	0	14			
Volume Right	2	37	0			
cSH	546	1700	1417			
Volume to Capacity	0.02	0.10	0.01			
Queue Length (ft)	2	0	1			
Control Delay (s)	11.7	0.0	0.4			
Lane LOS	B		A			
Approach Delay (s)	11.7	0.0	0.4			
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization		34.5%		ICU Level of Service		A

HCM Unsignalized Intersection Capacity Analysis
24: Sunwood Dr & Industry Ave

Scenario: AM Future Base (2007)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	2	29	0	9	3	58	81	0	4	353	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
Hourly flow rate (veh/h)	0	2	32	0	10	3	63	88	0	4	384	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	615	607	384	639	608	88	385			88		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	615	607	384	639	608	88	385			88		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	95	100	97	100	95			100		
cM capacity (veh/h)	378	388	664	353	387	970	1174			1508		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	34	13	63	88	0	4	384	1				
Volume Left	0	0	63	0	0	4	0	0				
Volume Right	32	3	0	0	0	0	0	1				
cSH	635	456	1174	1700	1700	1508	1700	1700				
Volume to Capacity	0.05	0.03	0.05	0.05	0.00	0.00	0.23	0.00				
Queue Length (ft)	4	2	4	0	0	0	0	0				
Control Delay (s)	11.0	13.1	8.2	0.0	0.0	7.4	0.0	0.0				
Lane LOS	B	B	A			A						
Approach Delay (s)	11.0	13.1	3.4			0.1						
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utilization			37.0%		ICU Level of Service					A		



HCM Signalized Intersection Capacity Analysis **3: Highway 10 & Armstrong Blvd**

Scenario: PM Future Base (2007)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1662		1770	1600	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.56	1.00		0.74	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1044	1662		1372	1600	
Volume (vph)	72	1342	9	24	1864	309	6	8	21	121	6	100
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	78	1459	10	26	2026	336	7	9	23	132	7	109
Lane Group Flow (vph)	78	1459	10	26	2026	336	7	32	0	132	116	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	9.4	87.3	87.3	3.6	81.5	81.5	17.6	17.6		16.6	16.6	
Effective Green, g (s)	9.4	90.8	90.8	3.6	85.0	85.0	18.6	18.6		18.6	18.6	
Actuated g/C Ratio	0.08	0.73	0.73	0.03	0.68	0.68	0.15	0.15		0.15	0.15	
Clearance Time (s)	4.0	7.5	7.5	4.0	7.5	7.5	5.0	5.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	133	2571	1150	51	2407	1076	155	247		204	238	
v/s Ratio Prot	0.04	c0.41		0.01	c0.57			0.02			0.07	
v/s Ratio Perm			0.01			0.21	0.01			c0.10		
v/c Ratio	0.59	0.57	0.01	0.51	0.84	0.31	0.05	0.13		0.65	0.49	
Uniform Delay, d1	55.9	8.0	4.7	59.8	15.0	8.1	45.6	46.2		50.1	48.8	
Progression Factor	1.00	1.00	1.00	0.91	0.63	0.31	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.5	0.9	0.0	2.9	1.4	0.3	0.1	0.2		6.9	1.6	
Delay (s)	62.4	8.9	4.7	57.1	10.9	2.8	45.7	46.4		57.0	50.4	
Level of Service	E	A	A	E	B	A	D	D		E	D	
Approach Delay (s)		11.5			10.2			46.3			53.9	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM Average Control Delay			13.6			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			85.0%			ICU Level of Service			D			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis **6: Highway 10 & Ramsey Blvd**

Scenario: PM Future Base (2007)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.91		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1678		1770	1587	
Flt Permitted	0.95	1.00	1.00	0.15	1.00	1.00		0.91		0.74	1.00	
Satd. Flow (perm)	1770	3539	1583	281	3539	1583		1557		1380	1587	
Volume (vph)	81	1291	12	58	2088	301	6	2	15	185	2	150
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	1403	13	63	2270	327	7	2	16	201	2	163
Lane Group Flow (vph)	88	1403	13	63	2270	327	0	25	0	201	165	0
Turn Type	Prot		Perm	Perm		Perm	Perm			Perm		
Protected Phases	1	6			2			8			4	
Permitted Phases			6	2		2	8			4		
Actuated Green, G (s)	7.0	91.0	91.0	80.0	80.0	80.0		20.0		20.0	20.0	
Effective Green, g (s)	7.0	94.0	94.0	83.0	83.0	83.0		23.0		23.0	23.0	
Actuated g/C Ratio	0.06	0.75	0.75	0.66	0.66	0.66		0.18		0.18	0.18	
Clearance Time (s)	4.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	6.0	6.0	6.0	6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)	99	2661	1190	187	2350	1051		286		254	292	
v/s Ratio Prot	c0.05	0.40			c0.64						0.10	
v/s Ratio Perm			0.01	0.22		0.21		0.02		c0.15		
v/c Ratio	0.89	0.53	0.01	0.34	0.97	0.31		0.09		0.79	0.57	
Uniform Delay, d1	58.6	6.4	3.9	9.1	19.7	8.9		42.3		48.7	46.4	
Progression Factor	0.92	0.38	0.15	0.12	0.62	0.00		1.00		1.00	1.00	
Incremental Delay, d2	50.2	0.6	0.0	0.4	1.8	0.1		0.4		18.4	5.1	
Delay (s)	104.2	3.1	0.6	1.5	13.9	0.1		42.7		67.1	51.6	
Level of Service	F	A	A	A	B	A		D		E	D	
Approach Delay (s)		9.0			11.9			42.7			60.1	
Approach LOS		A			B			D			E	
Intersection Summary												
HCM Average Control Delay			15.0				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			95.5%				ICU Level of Service			E		
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
9: Highway 10 & Sunfish Lake Blvd

Scenario: PM Future Base (2007)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1817			1776	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.75			0.73	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		1398			1359	1583
Volume (vph)	104	1495	3	17	2100	317	2	2	0	407	11	96
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	1625	3	18	2283	345	2	2	0	442	12	104
Lane Group Flow (vph)	113	1625	3	18	2283	345	0	4	0	0	454	104
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	20.0	67.0	67.0	8.0	55.0	55.0		29.5			29.5	29.5
Effective Green, g (s)	23.0	70.0	70.0	11.0	58.0	58.0		32.0			32.0	32.0
Actuated g/C Ratio	0.18	0.56	0.56	0.09	0.46	0.46		0.26			0.26	0.26
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		6.5			6.5	6.5
Vehicle Extension (s)	5.5	5.5	5.5	5.5	5.5	5.5		3.0			4.5	4.5
Lane Grp Cap (vph)	326	1982	886	156	1642	735		358			348	405
v/s Ratio Prot	0.06	c0.46		0.01	c0.65							
v/s Ratio Perm			0.00			0.22		0.00			c0.33	0.07
v/c Ratio	0.35	0.82	0.00	0.12	1.39	0.47		0.01			1.30	0.26
Uniform Delay, d1	44.5	22.4	12.1	52.5	33.5	23.0		34.7			46.5	37.0
Progression Factor	1.19	0.73	0.87	1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	1.4	3.4	0.0	0.8	179.5	2.1		0.0			156.5	0.6
Delay (s)	54.0	19.9	10.6	53.3	213.0	25.1		34.7			203.0	37.6
Level of Service	D	B	B	D	F	C		C			F	D
Approach Delay (s)		22.1			187.4			34.7			172.2	
Approach LOS		C			F			C			F	
Intersection Summary												
HCM Average Control Delay			127.4			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.26									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			121.6%			ICU Level of Service			H			
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

Scenario: PM Future Base (2007)

12: Industry Ave & Armstrong Blvd

Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	61	2	138	4	293	30	51	167	0
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
Hourly flow rate (veh/h)	0	0	0	66	2	150	4	318	33	55	182	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						8						
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	696	652	91	529	620	318	182			351		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	696	652	91	529	620	318	182			351		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	84	99	78	100			95		
cM capacity (veh/h)	245	367	949	417	383	677	1391			1204		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	218	323	33	146	91						
Volume Left	0	66	4	0	55	0						
Volume Right	0	150	0	33	0	0						
cSH	1700	986	1391	1700	1204	1700						
Volume to Capacity	0.00	0.22	0.00	0.02	0.05	0.05						
Queue Length (ft)	0	21	0	0	4	0						
Control Delay (s)	0.0	12.9	0.1	0.0	3.3	0.0						
Lane LOS	A	B	A		A							
Approach Delay (s)	0.0	12.9	0.1		2.1							
Approach LOS	A	B										
Intersection Summary												
Average Delay			4.1									
Intersection Capacity Utilization			33.0%			ICU Level of Service			A			

HCM Unsignalized Intersection Capacity Analysis
13: Industry Ave & Ramsey Blvd

Scenario: PM Future Base (2007)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	12	66	8	18	162	128	21	319	17	46	171	11
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
Hourly flow rate (veh/h)	13	72	9	20	176	139	23	347	18	50	186	12
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	85	9	196	139	370	18	236	12				
Volume Left (vph)	13	0	20	0	23	0	50	0				
Volume Right (vph)	0	9	0	139	0	18	0	12				
Hadj (s)	0.1	-0.6	0.1	-0.6	0.0	-0.6	0.1	-0.6				
Departure Headway (s)	6.9	6.3	6.5	5.9	6.2	5.5	6.4	5.7				
Degree Utilization, x	0.16	0.02	0.35	0.23	0.63	0.03	0.42	0.02				
Capacity (veh/h)	471	512	518	570	562	617	538	588				
Control Delay (s)	10.1	8.2	11.9	9.4	17.9	7.5	12.7	7.6				
Approach Delay (s)	9.9		10.9		17.4		12.4					
Approach LOS	A		B		C		B					
Intersection Summary												
Delay	13.5											
HCM Level of Service	B											
Intersection Capacity Utilization	55.8%			ICU Level of Service			A					

HCM Unsignalized Intersection Capacity Analysis
19: Industry Ave & Sunfish Lake Blvd

Scenario: PM Future Base (2007)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	38	161	106	88	260	47	67	261	86	41	144	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
Hourly flow rate (veh/h)	41	175	115	96	283	51	73	284	93	45	157	13
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total (vph)	216	115	378	51	357	93	214					
Volume Left (vph)	41	0	96	0	73	0	45					
Volume Right (vph)	0	115	0	51	0	93	13					
Hadj (s)	0.1	-0.6	0.1	-0.6	0.1	-0.6	0.0					
Departure Headway (s)	7.7	7.0	7.4	6.8	7.5	6.8	8.0					
Degree Utilization, x	0.46	0.23	0.78	0.10	0.74	0.18	0.48					
Capacity (veh/h)	445	480	465	507	468	504	416					
Control Delay (s)	15.9	10.9	31.0	9.3	27.5	10.1	18.0					
Approach Delay (s)	14.2		28.4		23.9		18.0					
Approach LOS	B		D		C		C					
Intersection Summary												
Delay			22.1									
HCM Level of Service			C									
Intersection Capacity Utilization			75.4%	ICU Level of Service				C				

HCM Unsignalized Intersection Capacity Analysis
21: Sunwood Dr & Ramsey Blvd

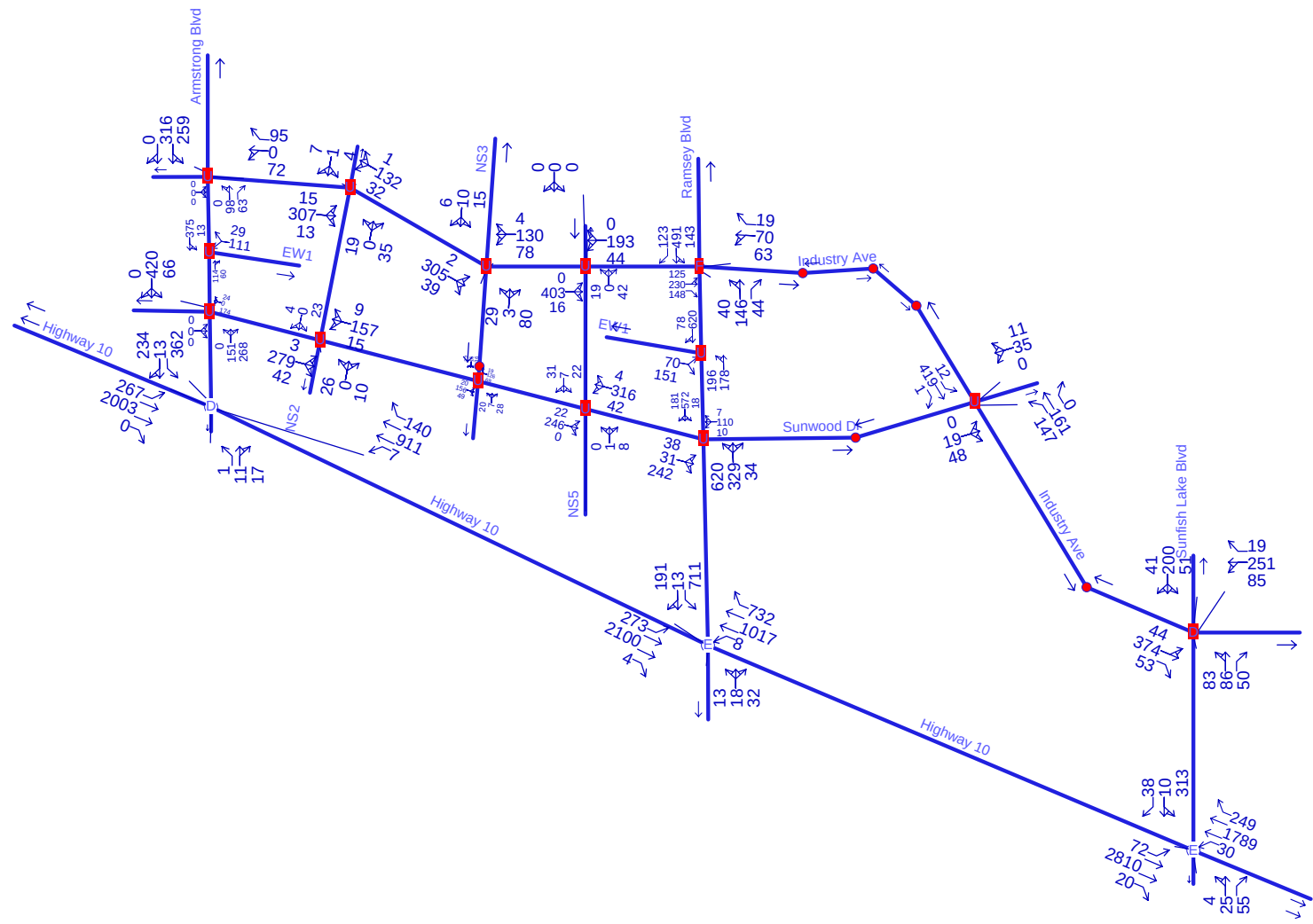
Scenario: PM Future Base (2007)
Timing Plan: PM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	43	10	340	13	2	220
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	47	11	370	14	2	239
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	620	377			384	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620	377			384	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	98			100	
cM capacity (veh/h)	451	670			1175	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	58	384	241			
Volume Left	47	0	2			
Volume Right	11	14	0			
cSH	480	1700	1175			
Volume to Capacity	0.12	0.23	0.00			
Queue Length (ft)	10	0	0			
Control Delay (s)	13.5	0.0	0.1			
Lane LOS	B		A			
Approach Delay (s)	13.5	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay		1.2				
Intersection Capacity Utilization		30.3%		ICU Level of Service		A

HCM Unsignalized Intersection Capacity Analysis
24: Sunwood Dr & Industry Ave

Scenario: PM Future Base (2007)
Timing Plan: PM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Volume (veh/h)	3	12	65	0	3	10	15	318	0	8	167	0	
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	
Hourly flow rate (veh/h)	3	13	71	0	3	11	16	346	0	9	182	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type	None			None									
Median storage veh													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	590	577	182	654	577	346	182			346			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	590	577	182	654	577	346	182			346			
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	99	97	92	100	99	98	99			99			
cM capacity (veh/h)	405	419	861	335	419	697	1394			1213			
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3					
Volume Total	87	14	16	346	0	9	182	0					
Volume Left	3	0	16	0	0	9	0	0					
Volume Right	71	11	0	0	0	0	0	0					
cSH	717	605	1394	1700	1700	1213	1700	1700					
Volume to Capacity	0.12	0.02	0.01	0.20	0.00	0.01	0.11	0.00					
Queue Length (ft)	10	2	1	0	0	1	0	0					
Control Delay (s)	10.7	11.1	7.6	0.0	0.0	8.0	0.0	0.0					
Lane LOS	B	B	A			A							
Approach Delay (s)	10.7	11.1	0.3			0.4							
Approach LOS	B	B											
Intersection Summary													
Average Delay			2.0										
Intersection Capacity Utilization			30.2%	ICU Level of Service					A				



HCM Signalized Intersection Capacity Analysis
3: Highway 10 & Armstrong Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		1770	3539	1583	1770	1695		1770	1598	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.39	1.00		0.74	1.00	
Satd. Flow (perm)	1770	3539		1770	3539	1583	719	1695		1374	1598	
Volume (vph)	267	2003	0	7	911	140	1	11	17	362	13	234
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	290	2177	0	8	990	152	1	12	18	393	14	254
Lane Group Flow (vph)	290	2177	0	8	990	152	1	30	0	393	268	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	6.0	74.3		1.2	69.5	69.5	32.0	32.0		32.0	32.0	
Effective Green, g (s)	6.0	77.8		1.2	73.0	73.0	34.0	34.0		34.0	34.0	
Actuated g/C Ratio	0.05	0.62		0.01	0.58	0.58	0.27	0.27		0.27	0.27	
Clearance Time (s)	4.0	7.5		4.0	7.5	7.5	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	85	2203		17	2067	924	196	461		374	435	
v/s Ratio Prot	c0.16	c0.62		0.00	c0.28			0.02			0.17	
v/s Ratio Perm						0.10	0.00			c0.29		
v/c Ratio	3.41	0.99		0.47	0.48	0.16	0.01	0.07		1.05	0.62	
Uniform Delay, d1	59.5	23.1		61.6	15.0	12.0	33.2	33.7		45.5	39.8	
Progression Factor	1.00	1.00		0.89	0.43	0.37	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1114.5	16.6		16.6	0.7	0.3	0.0	0.1		60.5	2.6	
Delay (s)	1174.0	39.7		71.1	7.1	4.8	33.2	33.8		106.0	42.4	
Level of Service	F	D		E	A	A	C	C		F	D	
Approach Delay (s)		173.1			7.2			33.8			80.2	
Approach LOS		F			A			C			F	
Intersection Summary												
HCM Average Control Delay			113.6			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			103.6%			ICU Level of Service			F			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
6: Highway 10 & Ramsey Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.93		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1718		1770	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.92		0.71	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		1598		1321	1601	
Volume (vph)	273	2100	4	8	1017	732	13	18	32	711	13	191
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	297	2283	4	9	1105	796	14	20	35	773	14	208
Lane Group Flow (vph)	297	2283	4	9	1105	796	0	69	0	773	222	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		
Actuated Green, G (s)	15.2	78.2	78.2	0.8	63.8	63.8		28.0		28.0	28.0	
Effective Green, g (s)	15.2	81.2	81.2	0.8	66.8	66.8		31.0		31.0	31.0	
Actuated g/C Ratio	0.12	0.65	0.65	0.01	0.53	0.53		0.25		0.25	0.25	
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0	7.0		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	6.0	6.0	3.0	6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)	215	2299	1028	11	1891	846		396		328	397	
v/s Ratio Prot	c0.17	c0.65		0.01	0.31						0.14	
v/s Ratio Perm			0.00			0.50		0.04		c0.59		
v/c Ratio	1.38	0.99	0.00	0.82	0.58	0.94		0.17		2.36	0.56	
Uniform Delay, d1	54.9	21.6	7.7	62.0	19.7	27.3		36.9		47.0	41.0	
Progression Factor	0.84	0.41	0.27	0.72	0.30	0.67		1.00		1.00	1.00	
Incremental Delay, d2	180.5	8.9	0.0	100.7	0.6	10.6		0.6		619.9	3.7	
Delay (s)	226.4	17.8	2.1	145.5	6.4	28.8		37.5		666.9	44.7	
Level of Service	F	B	A	F	A	C		D		F	D	
Approach Delay (s)		41.8			16.4			37.5			528.1	
Approach LOS		D			B			D			F	
Intersection Summary												
HCM Average Control Delay			120.1			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.43									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			125.9%			ICU Level of Service			H			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
9: Highway 10 & Sunfish Lake Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1851	1583		1777	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.93	1.00		0.71	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		1738	1583		1323	1583
Volume (vph)	72	2810	20	30	1789	249	4	25	55	313	10	38
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	78	3054	22	33	1945	271	4	27	60	340	11	41
Lane Group Flow (vph)	78	3054	22	33	1945	271	0	31	60	0	351	41
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	8.6	76.4	76.4	3.6	71.4	71.4		28.5	28.5		27.5	27.5
Effective Green, g (s)	8.6	79.4	79.4	3.6	74.4	74.4		30.0	30.0		30.0	30.0
Actuated g/C Ratio	0.07	0.64	0.64	0.03	0.60	0.60		0.24	0.24		0.24	0.24
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0	7.0		5.5	5.5		6.5	6.5
Vehicle Extension (s)	3.0	5.5	5.5	3.0	5.5	5.5		3.0	3.0		4.5	4.5
Lane Grp Cap (vph)	122	2248	1006	51	2106	942		417	380		318	380
v/s Ratio Prot	c0.04	c0.86		0.02	0.55							
v/s Ratio Perm			0.01			0.17		0.02	0.04		c0.27	0.03
v/c Ratio	0.64	1.36	0.02	0.65	0.92	0.29		0.07	0.16		1.10	0.11
Uniform Delay, d1	56.7	22.8	8.4	60.1	22.7	12.4		36.8	37.5		47.5	37.1
Progression Factor	1.04	0.96	0.70	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	161.6	0.0	24.8	8.3	0.8		0.1	0.2		81.3	0.2
Delay (s)	59.8	183.4	5.9	84.9	31.1	13.1		36.8	37.7		128.8	37.3
Level of Service	E	F	A	F	C	B		D	D		F	D
Approach Delay (s)		179.1			29.7			37.4			119.2	
Approach LOS		F			C			D			F	
Intersection Summary												
HCM Average Control Delay			115.8				HCM Level of Service				F	
HCM Volume to Capacity ratio			1.24									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			125.5%				ICU Level of Service			H		
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
12: Industry Ave & Armstrong Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	72	0	95	0	98	63	259	316	0
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
Hourly flow rate (veh/h)	0	0	0	78	0	103	0	107	68	282	343	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						8						
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1065	1082	172	841	1013	107	343			175		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1065	1082	172	841	1013	107	343			175		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	64	100	89	100			80		
cM capacity (veh/h)	133	173	842	218	190	927	1212			1399		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	182	107	68	453	172						
Volume Left	0	78	0	0	282	0						
Volume Right	0	103	0	68	0	0						
cSH	1700	505	1212	1700	1399	1700						
Volume to Capacity	0.00	0.36	0.00	0.04	0.20	0.10						
Queue Length (ft)	0	40	0	0	19	0						
Control Delay (s)	0.0	18.5	0.0	0.0	5.8	0.0						
Lane LOS	A	C			A							
Approach Delay (s)	0.0	18.5	0.0		4.2							
Approach LOS	A	C										
Intersection Summary												
Average Delay			6.1									
Intersection Capacity Utilization			33.3%		ICU Level of Service		A					

HCM Unsignalized Intersection Capacity Analysis
13: Industry Ave & Ramsey Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	125	230	148	63	70	19	40	146	44	143	491	123
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
Hourly flow rate (veh/h)	136	250	161	68	76	21	43	159	48	155	534	134
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	386	161	145	21	202	48	689	134				
Volume Left (vph)	136	0	68	0	43	0	155	0				
Volume Right (vph)	0	161	0	21	0	48	0	134				
Hadj (s)	0.1	-0.6	0.1	-0.6	0.1	-0.6	0.1	-0.6				
Departure Headway (s)	7.6	7.0	8.4	7.7	8.0	7.4	7.4	6.7				
Degree Utilization, x	0.82	0.31	0.34	0.04	0.45	0.10	1.41	0.25				
Capacity (veh/h)	461	507	412	444	426	466	496	522				
Control Delay (s)	35.5	11.9	14.4	9.9	16.3	10.0	216.7	10.8				
Approach Delay (s)	28.6		13.9		15.1		183.3					
Approach LOS	D		B		C		F					
Intersection Summary												
Delay			96.6									
HCM Level of Service			F									
Intersection Capacity Utilization			89.2%		ICU Level of Service		D					

HCM Unsignalized Intersection Capacity Analysis
14: Industry Ave & NS3

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	   											
Sign Control	Free											
Grade	0%											
Volume (veh/h)	2	305	39	78	130	4	29	3	80	15	10	6
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
Hourly flow rate (veh/h)	2	332	42	85	141	4	32	3	87	16	11	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None											
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	146			374			682	672	353	759	691	143
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	146			374			682	672	353	759	691	143
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			91	99	87	94	97	99
cM capacity (veh/h)	1436			1185			333	349	691	265	341	904
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	376	230	122	34								
Volume Left	2	85	32	16								
Volume Right	42	4	87	7								
cSH	1436	1185	530	335								
Volume to Capacity	0.00	0.07	0.23	0.10								
Queue Length (ft)	0	6	22	8								
Control Delay (s)	0.1	3.5	13.8	17.0								
Lane LOS	A	A	B	C								
Approach Delay (s)	0.1	3.5	13.8	17.0								
Approach LOS			B	C								
Intersection Summary												
Average Delay	4.0											
Intersection Capacity Utilization	54.2%											
ICU Level of Service	A											

HCM Unsignalized Intersection Capacity Analysis
19: Industry Ave & Sunfish Lake Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	44	374	53	85	251	19	83	86	50	51	200	41
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
Hourly flow rate (veh/h)	48	407	58	92	273	21	90	93	54	55	217	45
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total (vph)	454	58	365	21	184	54	317					
Volume Left (vph)	48	0	92	0	90	0	55					
Volume Right (vph)	0	58	0	21	0	54	45					
Hadj (s)	0.1	-0.6	0.1	-0.6	0.1	-0.6	0.0					
Departure Headway (s)	7.5	6.9	7.7	7.1	8.4	7.7	8.1					
Degree Utilization, x	0.95	0.11	0.79	0.04	0.43	0.12	0.71					
Capacity (veh/h)	454	505	449	484	396	432	420					
Control Delay (s)	55.2	9.5	32.5	9.2	16.4	10.6	28.8					
Approach Delay (s)	50.0		31.3		15.1		28.8					
Approach LOS	F		D		C		D					
Intersection Summary												
Delay			34.7									
HCM Level of Service			D									
Intersection Capacity Utilization			84.0%	ICU Level of Service		D						

HCM Unsignalized Intersection Capacity Analysis
21: Sunwood Dr & Ramsey Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	38	31	242	10	110	7	620	329	34	18	572	181
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
Hourly flow rate (veh/h)	41	34	263	11	120	8	674	358	37	20	622	197
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2551	2502	720	2763	2582	376	818			395		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2551	2502	720	2763	2582	376	818			395		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	39	0	0	99	17			98		
cM capacity (veh/h)	0	5	428	0	4	670	810			1164		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	338	138	1068	838								
Volume Left	41	11	674	20								
Volume Right	263	8	37	197								
cSH	0	0	810	1164								
Volume to Capacity	Err	Err	0.83	0.02								
Queue Length (ft)	Err	Err	238	1								
Control Delay (s)	Err	Err	28.1	0.4								
Lane LOS	F	F	D	A								
Approach Delay (s)	Err	Err	28.1	0.4								
Approach LOS	F	F										
Intersection Summary												
Average Delay			Err									
Intersection Capacity Utilization		145.1%			ICU Level of Service					H		

HCM Unsignalized Intersection Capacity Analysis
24: Sunwood Dr & Industry Ave

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	19	48	0	35	11	147	161	0	12	419	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
Hourly flow rate (veh/h)	0	21	52	0	38	12	160	175	0	13	455	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1007	976	455	1039	977	175	457			175		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1007	976	455	1039	977	175	457			175		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	90	91	100	82	99	86			99		
cM capacity (veh/h)	165	213	605	156	212	868	1104			1401		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	73	50	160	175	0	13	455	1				
Volume Left	0	0	160	0	0	13	0	0				
Volume Right	52	12	0	0	0	0	0	1				
cSH	397	259	1104	1700	1700	1401	1700	1700				
Volume to Capacity	0.18	0.19	0.14	0.10	0.00	0.01	0.27	0.00				
Queue Length (ft)	17	17	13	0	0	1	0	0				
Control Delay (s)	16.1	22.2	8.8	0.0	0.0	7.6	0.0	0.0				
Lane LOS	C	C	A			A						
Approach Delay (s)	16.1	22.2	4.2			0.2						
Approach LOS	C	C										
Intersection Summary												
Average Delay			4.1									
Intersection Capacity Utilization			47.1%		ICU Level of Service				A			

HCM Unsignalized Intersection Capacity Analysis
26: Industry Ave & NS2

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Free											
Grade	0%											
Volume (veh/h)	15	307	13	32	132	1	19	0	35	4	1	7
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
Hourly flow rate (veh/h)	16	334	14	35	143	1	21	0	38	4	1	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None											
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	145			348			595	588	341	625	594	144
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	145			348			595	588	341	625	594	144
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			95	100	95	99	100	99
cM capacity (veh/h)	1438			1211			399	405	702	364	401	903
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	364	179	59	13								
Volume Left	16	35	21	4								
Volume Right	14	1	38	8								
cSH	1438	1211	554	566								
Volume to Capacity	0.01	0.03	0.11	0.02								
Queue Length (ft)	1	2	9	2								
Control Delay (s)	0.4	1.8	12.3	11.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	1.8	12.3	11.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.2									
Intersection Capacity Utilization			35.6%	ICU Level of Service		A						

HCM Unsignalized Intersection Capacity Analysis
27: Sunwood Dr & Armstrong Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Volume (veh/h)	0	0	0	174	0	24	0	151	268	66	420	0	
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	
Hourly flow rate (veh/h)	0	0	0	189	0	26	0	164	291	72	457	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type		None			None								
Median storage veh													
Upstream signal (ft)								1007					
pX, platoon unblocked													
vC, conflicting volume	936	1055	457	910	910	310	457			455			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	936	1055	457	910	910	310	457			455			
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	100	100	22	100	96	100			94			
cM capacity (veh/h)	225	211	604	243	257	730	1104			1105			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	0	215	455	528									
Volume Left	0	189	0	72									
Volume Right	0	26	291	0									
cSH	1700	264	1104	1105									
Volume to Capacity	0.00	0.81	0.00	0.06									
Queue Length (ft)	0	161	0	5									
Control Delay (s)	0.0	59.0	0.0	1.8									
Lane LOS	A	F		A									
Approach Delay (s)	0.0	59.0	0.0	1.8									
Approach LOS	A	F											
Intersection Summary													
Average Delay			11.4										
Intersection Capacity Utilization			76.6%	ICU Level of Service							C		

HCM Unsignalized Intersection Capacity Analysis
29: Industry Ave & NS5

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	   											
Sign Control	Free											
Grade	0%											
Volume (veh/h)	0	403	16	44	193	0	19	0	42	0	0	0
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
Hourly flow rate (veh/h)	0	438	17	48	210	0	21	0	46	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None											
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	210			455			752	752	447	798	761	210
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	210			455			752	752	447	798	761	210
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			93	100	93	100	100	100
cM capacity (veh/h)	1361			1105			316	324	612	272	321	830
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	455	258	66	0								
Volume Left	0	48	21	0								
Volume Right	17	0	46	0								
cSH	1361	1105	473	1700								
Volume to Capacity	0.00	0.04	0.14	0.00								
Queue Length (ft)	0	3	12	0								
Control Delay (s)	0.0	1.9	13.8	0.0								
Lane LOS		A	B	A								
Approach Delay (s)	0.0	1.9	13.8	0.0								
Approach LOS			B	A								
Intersection Summary												
Average Delay	1.8											
Intersection Capacity Utilization	51.7%											
ICU Level of Service	A											

HCM Unsignalized Intersection Capacity Analysis
38: EW1 & Ramsey Blvd

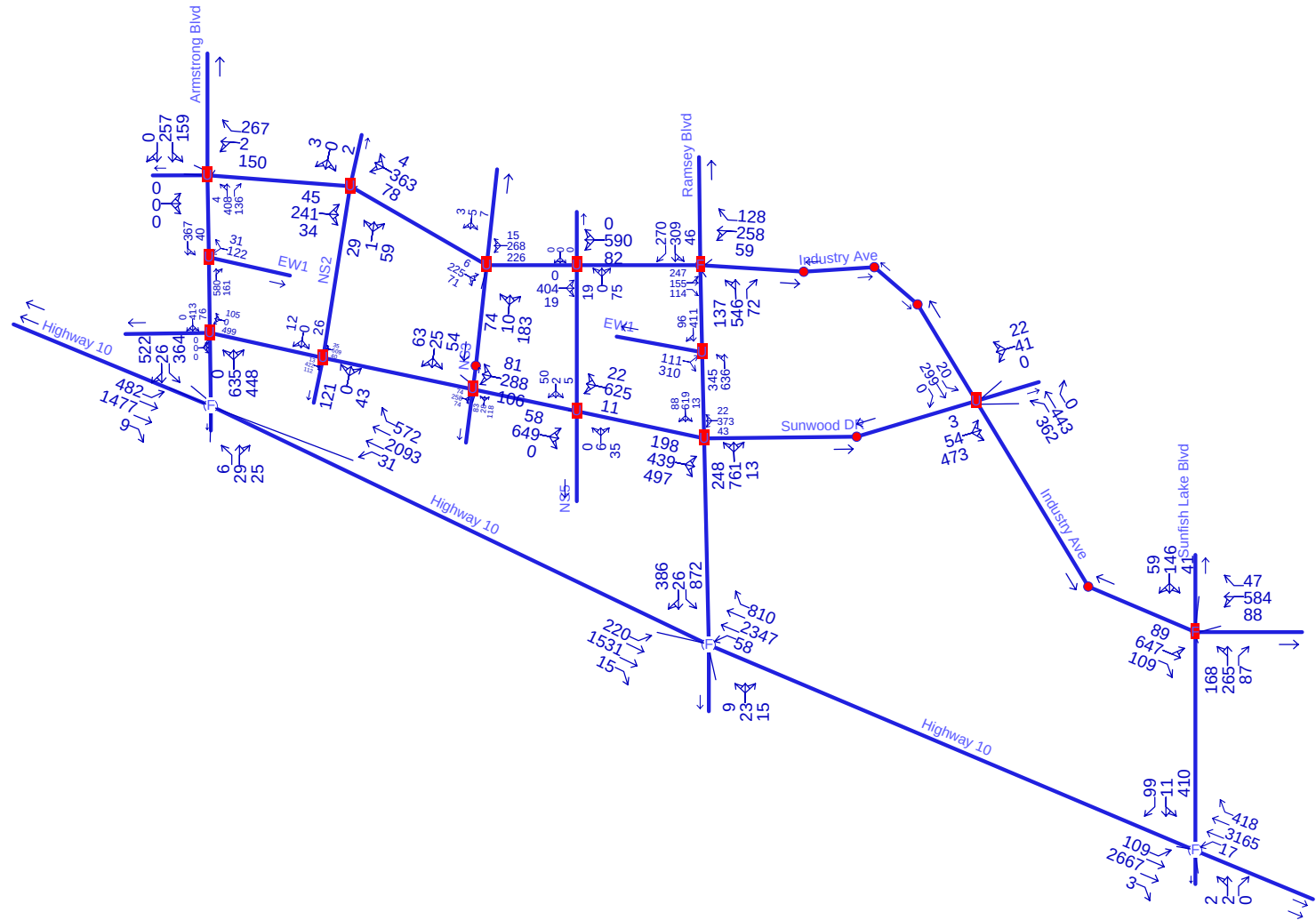
Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	70	151	196	178	620	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	76	164	213	193	674	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1336	716	759			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1336	716	759			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	62	75			
cM capacity (veh/h)	127	430	853			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	240	407	759			
Volume Left	76	213	0			
Volume Right	164	0	85			
cSH	245	853	1700			
Volume to Capacity	0.98	0.25	0.45			
Queue Length (ft)	230	25	0			
Control Delay (s)	96.1	7.0	0.0			
Lane LOS	F	A				
Approach Delay (s)	96.1	7.0	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			18.5			
Intersection Capacity Utilization			86.9%	ICU Level of Service	D	

HCM Unsignalized Intersection Capacity Analysis
40: EW1 & Armstrong Blvd

Scenario: AM Future w Proj (No Mitig)
Timing Plan: AM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	111	29	114	60	13	375
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	121	32	124	65	14	408
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	592	157			189	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	592	157			189	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	74	96			99	
cM capacity (veh/h)	464	889			1385	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	152	189	422			
Volume Left	121	0	14			
Volume Right	32	65	0			
cSH	515	1700	1385			
Volume to Capacity	0.30	0.11	0.01			
Queue Length (ft)	31	0	1			
Control Delay (s)	14.9	0.0	0.4			
Lane LOS	B		A			
Approach Delay (s)	14.9	0.0	0.4			
Approach LOS	B					
Intersection Summary						
Average Delay		3.2				
Intersection Capacity Utilization		43.3%		ICU Level of Service		A



HCM Signalized Intersection Capacity Analysis **3: Highway 10 & Armstrong Blvd**

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1735		1770	1596	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.12	1.00		0.72	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	219	1735		1338	1596	
Volume (vph)	482	1477	9	31	2093	572	6	29	25	364	26	522
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	524	1605	10	34	2275	622	7	32	27	396	28	567
Lane Group Flow (vph)	524	1605	10	34	2275	622	7	59	0	396	595	0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	16.0	71.9	71.9	3.6	59.5	59.5	33.0	33.0		32.0	32.0	
Effective Green, g (s)	16.0	75.4	75.4	3.6	63.0	63.0	34.0	34.0		34.0	34.0	
Actuated g/C Ratio	0.13	0.60	0.60	0.03	0.50	0.50	0.27	0.27		0.27	0.27	
Clearance Time (s)	4.0	7.5	7.5	4.0	7.5	7.5	5.0	5.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	227	2135	955	51	1784	798	60	472		364	434	
v/s Ratio Prot	c0.30	0.45		0.02	c0.64			0.03			c0.37	
v/s Ratio Perm			0.01			0.39	0.03			0.30		
v/c Ratio	2.31	0.75	0.01	0.67	1.28	0.78	0.12	0.12		1.09	1.37	
Uniform Delay, d1	54.5	18.0	9.9	60.1	31.0	25.3	34.2	34.3		45.5	45.5	
Progression Factor	1.00	1.00	1.00	0.98	0.95	0.79	1.00	1.00		1.00	1.00	
Incremental Delay, d2	602.4	2.5	0.0	3.0	124.3	0.7	0.9	0.1		72.8	181.1	
Delay (s)	656.9	20.5	9.9	61.9	153.8	20.7	35.1	34.4		118.3	226.6	
Level of Service	F	C	A	E	F	C	D	C		F	F	
Approach Delay (s)		176.4			124.5			34.5			183.3	
Approach LOS		F			F			C			F	
Intersection Summary												
HCM Average Control Delay			151.1			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.45									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			138.5%			ICU Level of Service			H			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis **6: Highway 10 & Ramsey Blvd**

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.96		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1767		1770	1601	
Flt Permitted	0.95	1.00	1.00	0.10	1.00	1.00		0.38		0.74	1.00	
Satd. Flow (perm)	1770	3539	1583	190	3539	1583		687		1385	1601	
Volume (vph)	220	1531	15	58	2347	810	9	23	15	872	26	386
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1664	16	63	2551	880	10	25	16	948	28	420
Lane Group Flow (vph)	239	1664	16	63	2551	880	0	51	0	948	448	0
Turn Type	Prot		Perm	Perm		Perm	Perm			Perm		
Protected Phases	1	6			2			8			4	
Permitted Phases			6	2		2	8			4		
Actuated Green, G (s)	7.0	91.0	91.0	80.0	80.0	80.0		20.0		20.0	20.0	
Effective Green, g (s)	7.0	94.0	94.0	83.0	83.0	83.0		23.0		23.0	23.0	
Actuated g/C Ratio	0.06	0.75	0.75	0.66	0.66	0.66		0.18		0.18	0.18	
Clearance Time (s)	4.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	6.0	6.0	6.0	6.0	6.0		6.0		6.0	6.0	
Lane Grp Cap (vph)	99	2661	1190	126	2350	1051		126		255	295	
v/s Ratio Prot	c0.14	0.47			c0.72						0.28	
v/s Ratio Perm			0.01	0.33		0.56		0.07		c0.68		
v/c Ratio	2.41	0.63	0.01	0.50	1.09	0.84		0.40		3.72	1.52	
Uniform Delay, d1	59.0	7.3	3.9	10.6	21.0	15.9		45.0		51.0	51.0	
Progression Factor	0.89	0.34	0.22	0.41	0.91	1.43		1.00		1.00	1.00	
Incremental Delay, d2	653.8	0.6	0.0	1.3	39.3	0.8		5.9		1232.5	250.1	
Delay (s)	706.2	3.1	0.9	5.6	58.5	23.5		50.9		1283.5	301.1	
Level of Service	F	A	A	A	E	C		D		F	F	
Approach Delay (s)		90.7			48.7			50.9			968.2	
Approach LOS		F			D			D			F	
Intersection Summary												
HCM Average Control Delay			247.6				HCM Level of Service			F		
HCM Volume to Capacity ratio			1.70									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			152.9%				ICU Level of Service		H			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
9: Highway 10 & Sunfish Lake Blvd

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			0.95	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		1817			1776	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.74			0.73	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		1384			1359	1583
Volume (vph)	109	2667	3	17	3165	418	2	2	0	410	11	99
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	2899	3	18	3440	454	2	2	0	446	12	108
Lane Group Flow (vph)	118	2899	3	18	3440	454	0	4	0	0	458	108
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8		8	4		4
Actuated Green, G (s)	20.0	67.0	67.0	8.0	55.0	55.0		29.5			29.5	29.5
Effective Green, g (s)	23.0	70.0	70.0	11.0	58.0	58.0		32.0			32.0	32.0
Actuated g/C Ratio	0.18	0.56	0.56	0.09	0.46	0.46		0.26			0.26	0.26
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		6.5			6.5	6.5
Vehicle Extension (s)	5.5	5.5	5.5	5.5	5.5	5.5		3.0			4.5	4.5
Lane Grp Cap (vph)	326	1982	886	156	1642	735		354			348	405
v/s Ratio Prot	0.07	c0.82		0.01	c0.97							
v/s Ratio Perm			0.00			0.29		0.00			c0.34	0.07
v/c Ratio	0.36	1.46	0.00	0.12	2.10	0.62		0.01			1.32	0.27
Uniform Delay, d1	44.6	27.5	12.1	52.5	33.5	25.2		34.7			46.5	37.1
Progression Factor	0.87	1.03	0.86	1.00	1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	0.2	208.5	0.0	0.8	494.8	3.9		0.0			161.2	0.6
Delay (s)	38.8	236.9	10.5	53.3	528.3	29.0		34.7			207.7	37.7
Level of Service	D	F	B	D	F	C		C			F	D
Approach Delay (s)		228.9			468.2			34.7			175.3	
Approach LOS		F			F			C			F	
Intersection Summary												
HCM Average Control Delay			349.5				HCM Level of Service				F	
HCM Volume to Capacity ratio			1.77									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			153.7%				ICU Level of Service			H		
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
12: Industry Ave & Armstrong Blvd

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	150	2	267	4	408	136	159	257	0
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
Hourly flow rate (veh/h)	0	0	0	163	2	290	4	443	148	173	279	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)						8						
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1223	1225	140	938	1077	443	279			591		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1223	1225	140	938	1077	443	279			591		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	14	99	48	100			82		
cM capacity (veh/h)	56	146	883	189	179	562	1280			980		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	455	448	148	312	140						
Volume Left	0	163	4	0	173	0						
Volume Right	0	290	0	148	0	0						
cSH	1700	521	1280	1700	980	1700						
Volume to Capacity	0.00	0.87	0.00	0.09	0.18	0.08						
Queue Length (ft)	0	240	0	0	16	0						
Control Delay (s)	0.0	43.0	0.1	0.0	6.0	0.0						
Lane LOS	A	E	A		A							
Approach Delay (s)	0.0	43.0	0.1		4.2							
Approach LOS	A	E										
Intersection Summary												
Average Delay			14.3									
Intersection Capacity Utilization			55.5%		ICU Level of Service					A		

HCM Unsignalized Intersection Capacity Analysis
13: Industry Ave & Ramsey Blvd

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	247	155	114	59	258	128	137	546	72	46	309	270
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
Hourly flow rate (veh/h)	268	168	124	64	280	139	149	593	78	50	336	293
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	437	124	345	139	742	78	386	293				
Volume Left (vph)	268	0	64	0	149	0	50	0				
Volume Right (vph)	0	124	0	139	0	78	0	293				
Hadj (s)	0.2	-0.6	0.1	-0.6	0.1	-0.6	0.1	-0.6				
Departure Headway (s)	9.5	8.8	9.5	8.9	9.5	8.8	9.3	8.7				
Degree Utilization, x	1.15	0.30	0.91	0.34	1.95	0.19	1.00	0.71				
Capacity (veh/h)	392	404	375	401	386	400	386	404				
Control Delay (s)	123.6	14.3	56.5	15.2	458.7	12.7	75.2	28.9				
Approach Delay (s)	99.5		44.6		416.2		55.2					
Approach LOS	F		E		F		F					
Intersection Summary												
Delay			179.4									
HCM Level of Service			F									
Intersection Capacity Utilization			115.3%		ICU Level of Service		G					

HCM Unsignalized Intersection Capacity Analysis **14: Industry Ave & NS3**

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	   											
Sign Control	Free				Free				Stop			
Grade	0%				0%				0%			
Volume (veh/h)	6	225	71	226	268	15	74	10	183	7	5	3
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
Hourly flow rate (veh/h)	7	245	77	246	291	16	80	11	199	8	5	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	308			322			1093	1095	283	1291	1126	299
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	308			322			1093	1095	283	1291	1126	299
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			80			49	94	74	91	97	100
cM capacity (veh/h)	1253			1238			157	170	756	83	163	740
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	328	553	290	16								
Volume Left	7	246	80	8								
Volume Right	77	16	199	3								
cSH	1253	1238	346	126								
Volume to Capacity	0.01	0.20	0.84	0.13								
Queue Length (ft)	0	18	188	11								
Control Delay (s)	0.2	5.0	51.5	37.7								
Lane LOS	A	A	F	E								
Approach Delay (s)	0.2	5.0	51.5	37.7								
Approach LOS				F	E							
Intersection Summary												
Average Delay				15.5								
Intersection Capacity Utilization				81.8%	ICU Level of Service				D			

HCM Unsignalized Intersection Capacity Analysis
19: Industry Ave & Sunfish Lake Blvd

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (veh/h)	89	647	109	88	584	47	168	265	87	41	146	59
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
Hourly flow rate (veh/h)	97	703	118	96	635	51	183	288	95	45	159	64
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1					
Volume Total (vph)	800	118	730	51	471	95	267					
Volume Left (vph)	97	0	96	0	183	0	45					
Volume Right (vph)	0	118	0	51	0	95	64					
Hadj (s)	0.1	-0.6	0.1	-0.6	0.1	-0.6	-0.1					
Departure Headway (s)	8.8	8.2	8.9	8.2	8.9	8.2	9.6					
Degree Utilization, x	1.96	0.27	1.80	0.12	1.16	0.22	0.72					
Capacity (veh/h)	412	433	411	431	409	432	367					
Control Delay (s)	462.0	13.0	389.3	11.1	125.1	12.3	33.6					
Approach Delay (s)	404.1		364.6		106.2		33.6					
Approach LOS	F		F		F		D					
Intersection Summary												
Delay	286.3											
HCM Level of Service	F											
Intersection Capacity Utilization	134.4%			ICU Level of Service			H					

HCM Unsignalized Intersection Capacity Analysis
21: Sunwood DR & Ramsey Blvd

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	198	439	497	43	373	22	248	761	13	13	619	88
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
Hourly flow rate (veh/h)	215	477	540	47	405	24	270	827	14	14	673	96
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2349	2129	721	2901	2170	834	768			841		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2349	2129	721	2901	2170	834	768			841		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	0	0	0	94	68			98		
cM capacity (veh/h)	0	33	428	0	31	368	846			794		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	1233	476	1111	783								
Volume Left	215	47	270	14								
Volume Right	540	24	14	96								
cSH	0	0	846	794								
Volume to Capacity	Err	Err	0.32	0.02								
Queue Length (ft)	Err	Err	34	1								
Control Delay (s)	Err	Err	8.1	0.5								
Lane LOS	F	F	A	A								
Approach Delay (s)	Err	Err	8.1	0.5								
Approach LOS	F	F										
Intersection Summary												
Average Delay			Err									
Intersection Capacity Utilization	210.1%		ICU Level of Service				H					

HCM Unsignalized Intersection Capacity Analysis
24: Sunwood DR & Industry Ave

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	54	473	0	41	22	362	443	0	20	299	0
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
Hourly flow rate (veh/h)	3	59	514	0	45	24	393	482	0	22	325	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1683	1637	325	2180	1637	482	325			482		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1683	1637	325	2180	1637	482	325			482		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	13	28	100	34	96	68			98		
cM capacity (veh/h)	26	67	716	2	67	585	1235			1081		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	576	68	393	482	0	22	325	0				
Volume Left	3	0	393	0	0	22	0	0				
Volume Right	514	24	0	0	0	0	0	0				
cSH	335	97	1235	1700	1700	1081	1700	1700				
Volume to Capacity	1.72	0.70	0.32	0.28	0.00	0.02	0.19	0.00				
Queue Length (ft)	902	89	35	0	0	2	0	0				
Control Delay (s)	362.7	102.6	9.3	0.0	0.0	8.4	0.0	0.0				
Lane LOS	F	F	A			A						
Approach Delay (s)	362.7	102.6	4.2			0.5						
Approach LOS	F	F										
Intersection Summary												
Average Delay			117.8									
Intersection Capacity Utilization			85.7%			ICU Level of Service			D			

HCM Unsignalized Intersection Capacity Analysis
26: Industry Ave & NS2

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	   											
Sign Control	Free    											
Grade	0%											
Volume (veh/h)	45	241	34	78	363	4	29	1	59	2	0	3
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
Hourly flow rate (veh/h)	49	262	37	85	395	4	32	1	64	2	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None											
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	399			299			948	947	280	1009	963	397
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	399			299			948	947	280	1009	963	397
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			93			86	100	92	99	100	100
cM capacity (veh/h)	1160			1262			220	233	758	183	228	653
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	348	484	97	5								
Volume Left	49	85	32	2								
Volume Right	37	4	64	3								
cSH	1160	1262	416	322								
Volume to Capacity	0.04	0.07	0.23	0.02								
Queue Length (ft)	3	5	22	1								
Control Delay (s)	1.5	2.0	16.3	16.4								
Lane LOS	A	A	C	C								
Approach Delay (s)	1.5	2.0	16.3	16.4								
Approach LOS			C	C								
Intersection Summary												
Average Delay	3.4											
Intersection Capacity Utilization	62.9%											
ICU Level of Service					B							

HCM Unsignalized Intersection Capacity Analysis
27: Sunwood DR & Armstrong Blvd

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	499	0	105	0	635	448	76	413	0
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
Hourly flow rate (veh/h)	0	0	0	542	0	114	0	690	487	83	449	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (ft)	772											
pX, platoon unblocked												
vC, conflicting volume	1662	1791	449	1548	1548	934	449			1177		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1662	1791	449	1548	1548	934	449			1177		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	0	100	65	100			86		
cM capacity (veh/h)	45	70	610	83	98	322	1111			593		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	0	657	1177	532								
Volume Left	0	542	0	83								
Volume Right	0	114	487	0								
cSH	1700	95	1111	593								
Volume to Capacity	0.00	6.89	0.00	0.14								
Queue Length (ft)	0	Err	0	12								
Control Delay (s)	0.0	Err	0.0	3.8								
Lane LOS	A	F		A								
Approach Delay (s)	0.0	Err	0.0	3.8								
Approach LOS	A	F										
Intersection Summary												
Average Delay	2776.3											
Intersection Capacity Utilization	141.3%		ICU Level of Service						H			

HCM Unsignalized Intersection Capacity Analysis
29: EW1 & Armstrong Blvd

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	122	31	580	161	40	367
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	133	34	630	175	43	399
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1204	718			805	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1204	718			805	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	31	92			95	
cM capacity (veh/h)	193	429			819	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	166	805	442			
Volume Left	133	0	43			
Volume Right	34	175	0			
cSH	217	1700	819			
Volume to Capacity	0.77	0.47	0.05			
Queue Length (ft)	134	0	4			
Control Delay (s)	61.3	0.0	1.6			
Lane LOS	F		A			
Approach Delay (s)	61.3	0.0	1.6			
Approach LOS	F					
Intersection Summary						
Average Delay		7.7				
Intersection Capacity Utilization		86.6%		ICU Level of Service		D

HCM Unsignalized Intersection Capacity Analysis
36: Industry Ave & NS5

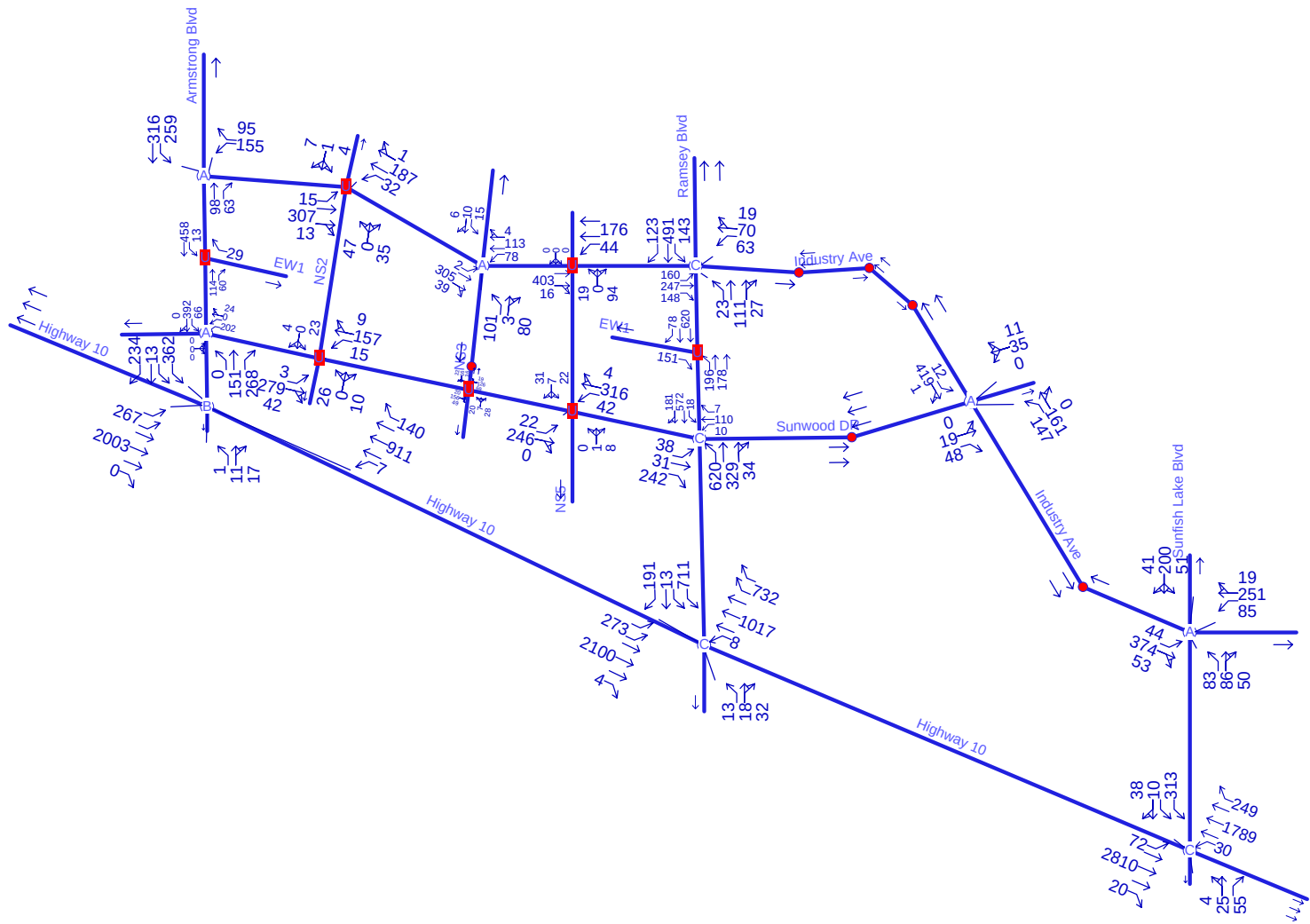
Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Free				Free		Stop				Stop	
Grade	0%				0%		0%				0%	
Volume (veh/h)	0	404	19	82	590	0	19	0	75	0	0	0
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
Hourly flow rate (veh/h)	0	439	21	89	641	0	21	0	82	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	641			460			1269	1269	449	1351	1279	641
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	641			460			1269	1269	449	1351	1279	641
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			85	100	87	100	100	100
cM capacity (veh/h)	943			1101			136	155	610	104	152	475
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	460	730	102	0								
Volume Left	0	89	21	0								
Volume Right	21	0	82	0								
cSH	943	1101	358	1700								
Volume to Capacity	0.00	0.08	0.29	0.00								
Queue Length (ft)	0	7	29	0								
Control Delay (s)	0.0	2.0	19.0	0.0								
Lane LOS		A	C	A								
Approach Delay (s)	0.0	2.0	19.0	0.0								
Approach LOS			C	A								
Intersection Summary												
Average Delay			2.6									
Intersection Capacity Utilization			79.2%	ICU Level of Service		C						

HCM Unsignalized Intersection Capacity Analysis
40: EW1 & Ramsey Blvd

Scenario: PM Future w Proj (No Mitig)
Timing Plan: PM Peak

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	111	310	345	636	411	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	121	337	375	691	447	104
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1940	499	551			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1940	499	551			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	41	63			
cM capacity (veh/h)	45	572	1019			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	458	1066	551			
Volume Left	121	375	0			
Volume Right	337	0	104			
cSH	141	1019	1700			
Volume to Capacity	3.25	0.37	0.32			
Queue Length (ft)	Err	43	0			
Control Delay (s)	Err	8.0	0.0			
Lane LOS	F	A				
Approach Delay (s)	Err	8.0	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			2209.2			
Intersection Capacity Utilization			124.4%	ICU Level of Service	H	



HCM Signalized Intersection Capacity Analysis **3: Highway 10 & Armstrong Blvd**

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		1.00	0.91	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085		1770	5085	1583	1770	1695		3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.75	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085		1770	5085	1583	1394	1695		3433	1863	1583
Volume (vph)	267	2003	0	7	911	140	1	11	17	362	13	234
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	290	2177	0	8	990	152	1	12	18	393	14	254
Lane Group Flow (vph)	290	2177	0	8	990	152	1	30	0	393	14	254
Turn Type	Prot		Perm	Prot		Perm	Perm			Prot		Free
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases			2			6	8					Free
Actuated Green, G (s)	25.2	96.1		1.5	72.4	72.4	10.0	10.0		21.9	34.9	150.0
Effective Green, g (s)	25.2	99.6		1.5	75.9	75.9	11.0	11.0		21.9	36.9	150.0
Actuated g/C Ratio	0.17	0.66		0.01	0.51	0.51	0.07	0.07		0.15	0.25	1.00
Clearance Time (s)	4.0	7.5		4.0	7.5	7.5	5.0	5.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	577	3376		18	2573	801	102	124		501	458	1583
v/s Ratio Prot	0.08	c0.43		0.00	c0.19			c0.02		c0.11	0.01	
v/s Ratio Perm						0.10	0.00					0.16
v/c Ratio	0.50	0.64		0.44	0.38	0.19	0.01	0.24		0.78	0.03	0.16
Uniform Delay, d1	56.7	14.8		73.8	22.7	20.2	64.4	65.6		61.8	43.0	0.0
Progression Factor	1.00	1.00		1.32	0.25	0.05	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	1.0		15.1	0.4	0.5	0.0	1.0		7.9	0.0	0.2
Delay (s)	57.4	15.8		112.3	6.1	1.6	64.5	66.6		69.7	43.0	0.2
Level of Service	E	B		F	A	A	E	E		E	D	A
Approach Delay (s)		20.7			6.2			66.5			42.4	
Approach LOS		C			A			E			D	
Intersection Summary												
HCM Average Control Delay		20.5				HCM Level of Service		C				
HCM Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		150.0				Sum of lost time (s)		16.0				
Intersection Capacity Utilization		75.0%				ICU Level of Service		C				
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis **6: Highway 10 & Ramsey Blvd**

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  	 				 		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.88	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	2787	1770	1685		3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	1770	5085	2787	1770	1685		3433	1863	1583
Volume (vph)	273	2100	4	8	1017	732	13	18	32	711	13	191
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	297	2283	4	9	1105	796	14	20	35	773	14	208
Lane Group Flow (vph)	297	2283	4	9	1105	796	14	55	0	773	14	208
Turn Type	Prot		Perm	Prot		Free	Prot			Prot		Free
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			Free						Free
Actuated Green, G (s)	19.5	72.7	72.7	1.6	54.8	150.0	19.8	16.0		37.7	33.9	150.0
Effective Green, g (s)	19.5	75.7	75.7	1.6	57.8	150.0	19.8	19.0		37.7	36.9	150.0
Actuated g/C Ratio	0.13	0.50	0.50	0.01	0.39	1.00	0.13	0.13		0.25	0.25	1.00
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0		3.0	6.0	
Lane Grp Cap (vph)	446	2566	799	19	1959	2787	234	213		863	458	1583
v/s Ratio Prot	c0.09	c0.45		0.01	0.22		0.01	0.03		c0.23	0.01	
v/s Ratio Perm			0.00			c0.29						0.13
v/c Ratio	0.67	0.89	0.01	0.47	0.56	0.29	0.06	0.26		0.90	0.03	0.13
Uniform Delay, d1	62.1	33.4	18.4	73.8	36.2	0.0	57.0	59.1		54.3	43.0	0.0
Progression Factor	0.90	0.77	0.51	0.89	0.41	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.9	4.1	0.0	13.4	0.9	0.2	0.1	1.8		11.8	0.1	0.2
Delay (s)	58.7	29.8	9.4	79.0	15.9	0.2	57.1	61.0		66.0	43.0	0.2
Level of Service	E	C	A	E	B	A	E	E		E	D	A
Approach Delay (s)		33.1			9.6			60.2			52.0	
Approach LOS		C			A			E			D	
Intersection Summary												
HCM Average Control Delay			28.8			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			86.2%			ICU Level of Service				D		
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
9: Highway 10 & Sunfish Lake Blvd

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00	1.00	0.97	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		1851	1583	3433	1642	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583		1783	1583	3433	1642	
Volume (vph)	72	2810	20	30	1789	249	4	25	55	313	10	38
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	78	3054	22	33	1945	271	4	27	60	340	11	41
Lane Group Flow (vph)	78	3054	22	33	1945	271	0	31	60	340	52	0
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Prot		
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases			6			2	8		8			
Actuated Green, G (s)	20.0	91.8	91.8	12.0	83.8	83.8		8.7	8.7	13.0	25.7	
Effective Green, g (s)	23.0	94.8	94.8	15.0	86.8	86.8		11.2	11.2	13.0	28.2	
Actuated g/C Ratio	0.15	0.63	0.63	0.10	0.58	0.58		0.07	0.07	0.09	0.19	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		6.5	6.5	4.0	6.5	
Vehicle Extension (s)	5.5	5.5	5.5	5.5	5.5	5.5		3.0	3.0	3.0	4.5	
Lane Grp Cap (vph)	271	3214	1000	177	2943	916		133	118	298	309	
v/s Ratio Prot	0.04	c0.60		0.02	c0.38					c0.10	0.03	
v/s Ratio Perm			0.01			0.17		0.02	c0.04			
v/c Ratio	0.29	0.95	0.02	0.19	0.66	0.30		0.23	0.51	1.14	0.17	
Uniform Delay, d1	56.2	25.4	10.3	61.9	21.6	16.1		65.4	66.8	68.5	51.1	
Progression Factor	1.20	0.50	0.43	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	4.7	0.0	1.3	1.2	0.8		0.9	3.4	95.8	0.4	
Delay (s)	68.2	17.4	4.4	63.2	22.7	16.9		66.3	70.2	164.3	51.5	
Level of Service	E	B	A	E	C	B		E	E	F	D	
Approach Delay (s)		18.5			22.6			68.8			149.3	
Approach LOS		B			C			E			F	
Intersection Summary												
HCM Average Control Delay			29.6			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			102.1%			ICU Level of Service			F			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
12: Industry Ave & Armstrong Blvd

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.69	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1281	1863
Volume (vph)	155	95	98	63	259	316
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	103	107	68	282	343
Lane Group Flow (vph)	168	103	107	68	282	343
Turn Type	Perm		Perm		Perm	
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	8.9	8.9	22.8	22.8	22.8	22.8
Effective Green, g (s)	8.9	8.9	22.8	22.8	22.8	22.8
Actuated g/C Ratio	0.22	0.22	0.57	0.57	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	397	355	1070	909	736	1070
v/s Ratio Prot	c0.09		0.06			0.18
v/s Ratio Perm		0.07		0.04	c0.22	
v/c Ratio	0.42	0.29	0.10	0.07	0.38	0.32
Uniform Delay, d1	13.2	12.8	3.8	3.8	4.6	4.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.5	0.0	0.0	0.3	0.2
Delay (s)	13.9	13.2	3.9	3.8	4.9	4.6
Level of Service	B	B	A	A	A	A
Approach Delay (s)	13.7		3.8			4.7
Approach LOS	B		A			A
Intersection Summary						
HCM Average Control Delay			6.9		HCM Level of Service	A
HCM Volume to Capacity ratio			0.39			
Actuated Cycle Length (s)			39.7		Sum of lost time (s)	8.0
Intersection Capacity Utilization			38.3%		ICU Level of Service	A
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
13: Industry Ave & Ramsey Blvd

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1802		1770	3437		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1802		1770	3437		1770	1863	1583
Volume (vph)	160	247	148	63	70	19	23	111	27	143	491	123
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	268	161	68	76	21	25	121	29	155	534	134
Lane Group Flow (vph)	174	268	161	68	97	0	25	150	0	155	534	134
Turn Type	Prot	pm+ov		Prot			Prot			Prot	pm+ov	
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Actuated Green, G (s)	5.9	12.3	15.3	3.2	9.6		3.0	22.3		5.9	25.2	31.1
Effective Green, g (s)	5.9	12.3	15.3	3.2	9.6		3.0	22.3		5.9	25.2	31.1
Actuated g/C Ratio	0.10	0.21	0.26	0.05	0.16		0.05	0.37		0.10	0.42	0.52
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	175	384	512	95	290		89	1284		175	786	931
v/s Ratio Prot	c0.10	c0.14	0.02	0.04	0.05		0.01	0.04		c0.09	c0.29	0.01
v/s Ratio Perm			0.09									0.07
v/c Ratio	0.99	0.70	0.31	0.72	0.33		0.28	0.12		0.89	0.68	0.14
Uniform Delay, d1	26.9	22.0	18.0	27.8	22.2		27.3	12.2		26.6	14.0	7.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	66.0	5.5	0.4	22.5	0.7		1.7	0.0		37.3	2.3	0.1
Delay (s)	92.9	27.4	18.3	50.3	22.9		29.0	12.3		63.9	16.3	7.5
Level of Service	F	C	B	D	C		C	B		E	B	A
Approach Delay (s)		43.9			34.2			14.7			23.8	
Approach LOS		D			C			B			C	
Intersection Summary												
HCM Average Control Delay			30.7			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			59.7			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			62.7%			ICU Level of Service				B		
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
14: Industry Ave & NS3

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.85		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3480		1770	3522		1770	1593		1770	1754	
Flt Permitted	0.67	1.00		0.53	1.00		0.75	1.00		0.70	1.00	
Satd. Flow (perm)	1251	3480		986	3522		1389	1593		1301	1754	
Volume (vph)	2	305	39	78	113	4	101	3	80	15	10	6
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	332	42	85	123	4	110	3	87	16	11	7
Lane Group Flow (vph)	2	374	0	85	127	0	110	90	0	16	18	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.9	7.9		7.9	7.9		9.0	9.0		9.0	9.0	
Effective Green, g (s)	7.9	7.9		7.9	7.9		9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.36	0.36		0.36	0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	397	1104		313	1117		502	576		470	634	
v/s Ratio Prot		c0.11			0.04			0.06			0.01	
v/s Ratio Perm	0.00			0.09			c0.08			0.01		
v/c Ratio	0.01	0.34		0.27	0.11		0.22	0.16		0.03	0.03	
Uniform Delay, d1	5.8	6.5		6.4	6.0		5.5	5.4		5.1	5.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.5	0.0		0.2	0.1		0.0	0.0	
Delay (s)	5.8	6.7		6.8	6.1		5.7	5.5		5.2	5.1	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s)		6.7			6.4			5.6			5.2	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay		6.3					HCM Level of Service			A		
HCM Volume to Capacity ratio		0.28										
Actuated Cycle Length (s)		24.9					Sum of lost time (s)		8.0			
Intersection Capacity Utilization		38.0%					ICU Level of Service		A			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: Industry Ave & Sunfish Lake Blvd

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.94			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1828		1770	1843		1770	1760			1811	
Flt Permitted	0.58	1.00		0.39	1.00		0.60	1.00			0.93	
Satd. Flow (perm)	1081	1828		736	1843		1111	1760			1692	
Volume (vph)	44	374	53	85	251	19	83	86	50	51	200	41
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	407	58	92	273	21	90	93	54	55	217	45
Lane Group Flow (vph)	48	465	0	92	294	0	90	147	0	0	317	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.7	13.7		13.7	13.7		11.5	11.5			11.5	
Effective Green, g (s)	13.7	13.7		13.7	13.7		11.5	11.5			11.5	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.35	0.35			0.35	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	446	754		304	761		385	610			586	
v/s Ratio Prot		c0.25			0.16			0.08				
v/s Ratio Perm	0.04			0.13			0.08				c0.19	
v/c Ratio	0.11	0.62		0.30	0.39		0.23	0.24			0.54	
Uniform Delay, d1	6.0	7.7		6.5	6.8		7.7	7.7			8.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	1.5		0.6	0.3		0.3	0.2			1.0	
Delay (s)	6.1	9.2		7.1	7.1		8.0	7.9			9.7	
Level of Service	A	A		A	A		A	A			A	
Approach Delay (s)		8.9			7.1			8.0			9.7	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay			8.5			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			33.2			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			68.8%			ICU Level of Service			B			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
21: Sunwood DR & Ramsey Blvd

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3489		1770	3412	
Flt Permitted	0.95	1.00	1.00	0.73	1.00	1.00	0.95	1.00		0.52	1.00	
Satd. Flow (perm)	1770	1863	1583	1369	1863	1583	1770	3489		967	3412	
Volume (vph)	38	31	242	10	110	7	620	329	34	18	572	181
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	34	263	11	120	8	674	358	37	20	622	197
Lane Group Flow (vph)	41	34	263	11	120	8	674	395	0	20	819	0
Turn Type	Prot		pm+ov	Perm		Perm	Prot			Perm		
Protected Phases	7	4	5		8		5	2			6	
Permitted Phases			4	8		8				6		
Actuated Green, G (s)	2.2	14.9	48.6	8.7	8.7	8.7	33.7	58.7		21.0	21.0	
Effective Green, g (s)	2.2	14.9	48.6	8.7	8.7	8.7	33.7	58.7		21.0	21.0	
Actuated g/C Ratio	0.03	0.18	0.60	0.11	0.11	0.11	0.41	0.72		0.26	0.26	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	48	340	1020	146	199	169	731	2510		249	878	
v/s Ratio Prot	c0.02	0.02	0.11		c0.06		c0.38	0.11			c0.24	
v/s Ratio Perm			0.06	0.01		0.01				0.02		
v/c Ratio	0.85	0.10	0.26	0.08	0.60	0.05	0.92	0.16		0.08	0.93	
Uniform Delay, d1	39.5	27.8	7.9	32.8	34.8	32.7	22.7	3.6		23.0	29.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	76.9	0.1	0.1	0.2	5.1	0.1	17.1	0.0		0.1	16.4	
Delay (s)	116.4	27.9	8.0	33.0	39.9	32.8	39.8	3.7		23.1	46.0	
Level of Service	F	C	A	C	D	C	D	A		C	D	
Approach Delay (s)		23.2			38.9			26.4			45.5	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM Average Control Delay			33.4				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			81.6				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			77.1%				ICU Level of Service			C		
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
24: Sunwood DR & Industry Ave

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.97		1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1863	1583		1802		1770	1863		1770	1862	
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1863	1583		1802		1770	1863		1770	1862	
Volume (vph)	0	19	48	0	35	11	147	161	0	12	419	1
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	21	52	0	38	12	160	175	0	13	455	1
Lane Group Flow (vph)	0	21	52	0	50	0	160	175	0	13	456	0
Turn Type	Perm	pm+ov		Perm			Prot			Prot		
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4	4		8								
Actuated Green, G (s)		3.0	11.6		3.0		8.6	37.6		0.7	29.7	
Effective Green, g (s)		3.0	11.6		3.0		8.6	37.6		0.7	29.7	
Actuated g/C Ratio		0.06	0.22		0.06		0.16	0.71		0.01	0.56	
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		105	463		101		286	1314		23	1038	
v/s Ratio Prot		0.01	0.02		c0.03		c0.09	0.09		0.01	c0.24	
v/s Ratio Perm		0.01										
v/c Ratio		0.20	0.11		0.50		0.56	0.13		0.57	0.44	
Uniform Delay, d1		24.0	16.7		24.4		20.6	2.6		26.1	6.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9	0.1		3.8		2.4	0.0		28.1	0.3	
Delay (s)		24.9	16.8		28.2		23.0	2.6		54.3	7.2	
Level of Service		C	B		C		C	A		D	A	
Approach Delay (s)		19.2			28.2			12.3			8.5	
Approach LOS		B			C			B			A	
Intersection Summary												
HCM Average Control Delay		11.8		HCM Level of Service		B						
HCM Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		53.3		Sum of lost time (s)		12.0						
Intersection Capacity Utilization		46.2%		ICU Level of Service		A						
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
27: Sunwood DR & Armstrong Blvd

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 							 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor				0.97	1.00			1.00	1.00	1.00	1.00	
Frt				1.00	0.85			1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433	1583			1863	1583	1770	1863	
Flt Permitted				0.76	1.00			1.00	1.00	0.65	1.00	
Satd. Flow (perm)				2736	1583			1863	1583	1217	1863	
Volume (vph)	0	0	0	202	0	24	0	151	268	66	392	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	220	0	26	0	164	291	72	426	0
Lane Group Flow (vph)	0	0	0	220	26	0	0	164	291	72	426	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	4			8			2			6		
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				8.5	8.5				19.3	19.3	19.3	19.3
Effective Green, g (s)				8.5	8.5				19.3	19.3	19.3	19.3
Actuated g/C Ratio				0.24	0.24				0.54	0.54	0.54	0.54
Clearance Time (s)				4.0	4.0				4.0	4.0	4.0	4.0
Vehicle Extension (s)				3.0	3.0				3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				650	376				1004	853	656	1004
v/s Ratio Prot				0.02						c0.23		
v/s Ratio Perm				c0.08						0.18	0.06	
v/c Ratio				0.34	0.07				0.16	0.34	0.11	0.42
Uniform Delay, d1				11.3	10.6				4.2	4.7	4.0	4.9
Progression Factor				1.00	1.00				1.00	1.00	1.00	1.00
Incremental Delay, d2				0.3	0.1				0.1	0.2	0.1	0.3
Delay (s)				11.6	10.7				4.2	4.9	4.1	5.2
Level of Service				B	B				A	A	A	A
Approach Delay (s)	0.0			11.5			4.7			5.1		
Approach LOS	A			B			A			A		
Intersection Summary												
HCM Average Control Delay	6.2			HCM Level of Service					A			
HCM Volume to Capacity ratio	0.40											
Actuated Cycle Length (s)	35.8			Sum of lost time (s)					8.0			
Intersection Capacity Utilization	42.0%			ICU Level of Service					A			
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
26: Industry Ave & NS2

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	15	307	13	32	187	1	47	0	35	4	1	7
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
Hourly flow rate (veh/h)	16	334	14	35	203	1	51	0	38	4	1	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None						None					
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	204			348			553	647	174	511	654	102
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	204			348			553	647	174	511	654	102
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			87	100	95	99	100	99
cM capacity (veh/h)	1364			1208			399	372	839	412	369	933
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	16	222	125	35	136	69	89	13				
Volume Left	16	0	0	35	0	0	51	4				
Volume Right	0	0	14	0	0	1	38	8				
cSH	1364	1700	1700	1208	1700	1700	514	603				
Volume to Capacity	0.01	0.13	0.07	0.03	0.08	0.04	0.17	0.02				
Queue Length (ft)	1	0	0	2	0	0	16	2				
Control Delay (s)	7.7	0.0	0.0	8.1	0.0	0.0	13.5	11.1				
Lane LOS	A			A			B	B				
Approach Delay (s)	0.3			1.2			13.5	11.1				
Approach LOS							B	B				
Intersection Summary												
Average Delay				2.5								
Intersection Capacity Utilization				28.2%	ICU Level of Service				A			

HCM Unsignalized Intersection Capacity Analysis
29: EW1 & Armstrong Blvd

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗	↗	↗
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	29	114	60	13	458
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	0	32	124	65	14	498
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			796			866
pX, platoon unblocked	0.98					
vC, conflicting volume	650	124			189	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	643	124			189	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			99	
cM capacity (veh/h)	425	927			1385	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	32	124	65	14	498	
Volume Left	0	0	0	14	0	
Volume Right	32	0	65	0	0	
cSH	927	1700	1700	1385	1700	
Volume to Capacity	0.03	0.07	0.04	0.01	0.29	
Queue Length (ft)	3	0	0	1	0	
Control Delay (s)	9.0	0.0	0.0	7.6	0.0	
Lane LOS	A			A		
Approach Delay (s)	9.0	0.0		0.2		
Approach LOS	A					
Intersection Summary						
Average Delay		0.5				
Intersection Capacity Utilization		29.5%		ICU Level of Service		A

HCM Unsignalized Intersection Capacity Analysis
36: Industry Ave & NS5

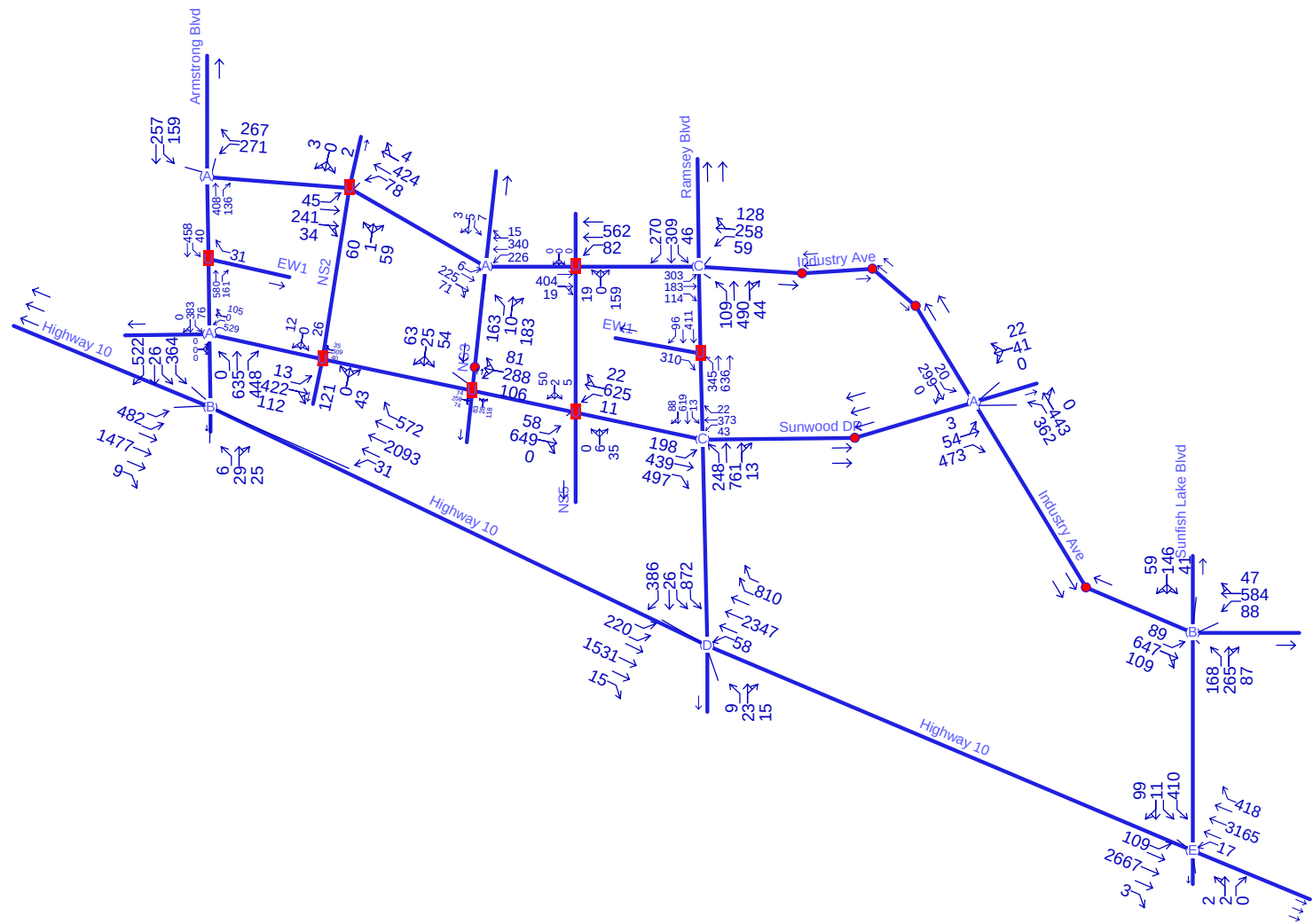
Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	403	16	44	176	0	19	0	94	0	0	0
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
Hourly flow rate (veh/h)	0	438	17	48	191	0	21	0	102	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh)												
Upstream signal (ft)	950			1302								
pX, platoon unblocked												
vC, conflicting volume	191			455			638	734	228	608	742	96
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	191			455			638	734	228	608	742	96
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			94	100	87	100	100	100
cM capacity (veh/h)	1380			1102			349	331	775	319	327	942
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	292	163	48	96	96	123	0					
Volume Left	0	0	48	0	0	21	0					
Volume Right	0	17	0	0	0	102	0					
cSH	1700	1700	1102	1700	1700	643	1700					
Volume to Capacity	0.17	0.10	0.04	0.06	0.06	0.19	0.00					
Queue Length (ft)	0	0	3	0	0	18	0					
Control Delay (s)	0.0	0.0	8.4	0.0	0.0	11.9	0.0					
Lane LOS			A			B	A					
Approach Delay (s)	0.0		1.7			11.9	0.0					
Approach LOS						B	A					
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			26.8%	ICU Level of Service				A				

HCM Unsignalized Intersection Capacity Analysis
40: EW1 & Ramsey Blvd

Scenario: AM Future w Proj (Mitigated)
Timing Plan: AM Peak

							
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations				 	 		
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Volume (veh/h)	0	151	196	178	620	78	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (veh/h)	0	164	213	193	674	85	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)				910	918		
pX, platoon unblocked							
vC, conflicting volume	1197	337	759				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1197	337	759				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	100	75	75				
cM capacity (veh/h)	134	659	849				
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	164	213	97	97	337	337	85
Volume Left	0	213	0	0	0	0	0
Volume Right	164	0	0	0	0	0	85
cSH	659	849	1700	1700	1700	1700	1700
Volume to Capacity	0.25	0.25	0.06	0.06	0.20	0.20	0.05
Queue Length (ft)	24	25	0	0	0	0	0
Control Delay (s)	12.3	10.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	12.3	5.6			0.0		
Approach LOS	B						
Intersection Summary							
Average Delay			3.2				
Intersection Capacity Utilization			37.1%		ICU Level of Service		A



HCM Signalized Intersection Capacity Analysis **3: Highway 10 & Armstrong Blvd**

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	1735		3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1377	1735		3433	1863	1583
Volume (vph)	482	1477	9	31	2093	572	6	29	25	364	26	522
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	524	1605	10	34	2275	622	7	32	27	396	28	567
Lane Group Flow (vph)	524	1605	10	34	2275	622	7	59	0	396	28	567
Turn Type	Prot		Perm	Prot		Perm	Perm			Prot		Free
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases			2			6	8					Free
Actuated Green, G (s)	24.6	94.5	94.5	5.6	75.5	75.5	10.5	10.5		18.9	32.4	150.0
Effective Green, g (s)	24.6	98.0	98.0	5.6	79.0	79.0	11.5	11.5		18.9	34.4	150.0
Actuated g/C Ratio	0.16	0.65	0.65	0.04	0.53	0.53	0.08	0.08		0.13	0.23	1.00
Clearance Time (s)	4.0	7.5	7.5	4.0	7.5	7.5	5.0	5.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	563	3322	1034	66	2678	834	106	133		433	427	1583
v/s Ratio Prot	c0.15	0.32		0.02	c0.45			0.03		c0.12	0.02	
v/s Ratio Perm			0.01			0.39	0.01					c0.36
v/c Ratio	0.93	0.48	0.01	0.52	0.85	0.75	0.07	0.44		0.91	0.07	0.36
Uniform Delay, d1	61.9	13.2	9.1	70.9	30.4	27.7	64.3	66.2		64.8	45.2	0.0
Progression Factor	1.00	1.00	1.00	1.16	0.12	0.02	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	22.3	0.5	0.0	2.3	1.3	2.1	0.3	2.4		23.6	0.1	0.6
Delay (s)	84.1	13.7	9.1	84.2	4.9	2.8	64.5	68.5		88.4	45.3	0.6
Level of Service	F	B	A	F	A	A	E	E		F	D	A
Approach Delay (s)		30.9			5.4			68.1			36.9	
Approach LOS		C			A			E			D	
Intersection Summary												
HCM Average Control Delay			20.1									
HCM Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			150.0									
Intersection Capacity Utilization			86.9%									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis **6: Highway 10 & Ramsey Blvd**

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.88	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	2787	1770	1754		3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	1770	5085	2787	1770	1754		3433	1863	1583
Volume (vph)	220	1531	15	58	2347	810	9	23	15	872	26	386
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	1664	16	63	2551	880	10	25	16	948	28	420
Lane Group Flow (vph)	239	1664	16	63	2551	880	10	41	0	948	28	420
Turn Type	Prot		Perm	Prot		Free	Prot			Prot		Free
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			Free						Free
Actuated Green, G (s)	9.8	66.2	66.2	8.8	65.2	150.0	1.6	16.0		37.0	51.4	150.0
Effective Green, g (s)	9.8	69.2	69.2	8.8	68.2	150.0	1.6	19.0		37.0	54.4	150.0
Actuated g/C Ratio	0.07	0.46	0.46	0.06	0.45	1.00	0.01	0.13		0.25	0.36	1.00
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0		3.0	6.0	
Lane Grp Cap (vph)	224	2346	730	104	2312	2787	19	222		847	676	1583
v/s Ratio Prot	c0.07	0.33		0.04	c0.50		0.01	0.02		c0.28	0.02	
v/s Ratio Perm			0.01			c0.32						0.27
v/c Ratio	1.07	0.71	0.02	0.61	1.10	0.32	0.53	0.18		1.12	0.04	0.27
Uniform Delay, d1	70.1	32.3	22.0	68.9	40.9	0.0	73.8	58.6		56.5	30.9	0.0
Progression Factor	0.98	1.03	0.98	0.73	0.27	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	73.8	1.5	0.0	0.9	47.3	0.0	23.9	1.1		69.1	0.1	0.4
Delay (s)	142.2	34.7	21.6	51.2	58.1	0.0	97.7	59.7		125.6	31.0	0.4
Level of Service	F	C	C	D	E	A	F	E		F	C	A
Approach Delay (s)		48.0			43.4			67.2			86.1	
Approach LOS		D			D			E			F	
Intersection Summary												
HCM Average Control Delay			53.5			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			99.8%			ICU Level of Service				E		
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
9: Highway 10 & Sunfish Lake Blvd

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		1.00		0.97	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		1817		3433	1611	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.69		0.95	1.00	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583		1292		3433	1611	
Volume (vph)	109	2667	3	17	3165	418	2	2	0	410	11	99
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	2899	3	18	3440	454	2	2	0	446	12	108
Lane Group Flow (vph)	118	2899	3	18	3440	454	0	4	0	446	120	0
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Prot		
Protected Phases	1	6		5	2			8		7	4	
Permitted Phases			6			2	8		8			
Actuated Green, G (s)	20.0	94.5	94.5	8.0	82.5	82.5		8.0		15.0	27.0	
Effective Green, g (s)	23.0	97.5	97.5	11.0	85.5	85.5		10.5		15.0	29.5	
Actuated g/C Ratio	0.15	0.65	0.65	0.07	0.57	0.57		0.07		0.10	0.20	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		6.5		4.0	6.5	
Vehicle Extension (s)	5.5	5.5	5.5	5.5	5.5	5.5		3.0		3.0	4.5	
Lane Grp Cap (vph)	271	3305	1029	130	2898	902		90		343	317	
v/s Ratio Prot	0.07	c0.57		0.01	c0.68					c0.13	c0.07	
v/s Ratio Perm			0.00			0.29		0.00				
v/c Ratio	0.44	0.88	0.00	0.14	1.19	0.50		0.04		1.30	0.38	
Uniform Delay, d1	57.6	21.4	9.2	65.1	32.2	19.4		65.1		67.5	52.3	
Progression Factor	1.11	0.68	0.23	1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	1.8	2.5	0.0	1.2	87.9	2.0		0.2		154.9	1.3	
Delay (s)	65.9	17.1	2.1	66.3	120.2	21.5		65.3		222.4	53.6	
Level of Service	E	B	A	E	F	C		E		F	D	
Approach Delay (s)		19.0			108.5			65.3			186.7	
Approach LOS		B			F			E			F	
Intersection Summary												
HCM Average Control Delay			78.3			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			112.5%			ICU Level of Service			G			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
12: Industry Ave & Armstrong Blvd

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.43	1.00
Satd. Flow (perm)	1770	1583	1863	1583	800	1863
Volume (vph)	271	267	408	136	159	257
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	295	290	443	148	173	279
Lane Group Flow (vph)	295	290	443	148	173	279
Turn Type	Perm		Perm		Perm	
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	11.5	11.5	15.6	15.6	15.6	15.6
Effective Green, g (s)	11.5	11.5	15.6	15.6	15.6	15.6
Actuated g/C Ratio	0.33	0.33	0.44	0.44	0.44	0.44
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	580	519	828	704	356	828
v/s Ratio Prot	0.17		c0.24			0.15
v/s Ratio Perm		c0.18		0.09	0.22	
v/c Ratio	0.51	0.56	0.54	0.21	0.49	0.34
Uniform Delay, d1	9.5	9.7	7.1	6.0	6.9	6.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	1.3	0.7	0.1	1.0	0.2
Delay (s)	10.2	11.0	7.8	6.1	8.0	6.6
Level of Service	B	B	A	A	A	A
Approach Delay (s)	10.6		7.4			7.1
Approach LOS	B		A			A
Intersection Summary						
HCM Average Control Delay			8.5		HCM Level of Service	A
HCM Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			35.1		Sum of lost time (s)	8.0
Intersection Capacity Utilization			59.2%		ICU Level of Service	A
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
13: Industry Ave & Ramsey Blvd

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1770		1770	3495		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1770		1770	3495		1770	1863	1583
Volume (vph)	303	183	114	59	258	128	109	490	44	46	309	270
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	329	199	124	64	280	139	118	533	48	50	336	293
Lane Group Flow (vph)	329	199	124	64	419	0	118	581	0	50	336	293
Turn Type	Prot	pm+ov		Prot			Prot			Prot	pm+ov	
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Actuated Green, G (s)	17.8	34.5	40.2	5.6	22.3		5.7	21.6		3.1	19.0	36.8
Effective Green, g (s)	17.8	34.5	40.2	5.6	22.3		5.7	21.6		3.1	19.0	36.8
Actuated g/C Ratio	0.22	0.43	0.50	0.07	0.28		0.07	0.27		0.04	0.24	0.46
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	390	795	866	123	489		125	934		68	438	799
v/s Ratio Prot	c0.19	0.11	0.01	0.04	c0.24		c0.07	c0.17		0.03	c0.18	0.08
v/s Ratio Perm			0.07									0.10
v/c Ratio	0.84	0.25	0.14	0.52	0.86		0.94	0.62		0.74	0.77	0.37
Uniform Delay, d1	30.2	14.9	11.0	36.3	27.7		37.4	26.0		38.4	28.8	14.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.2	0.2	0.1	3.9	13.8		62.8	1.3		33.4	7.9	0.3
Delay (s)	45.4	15.0	11.1	40.2	41.5		100.2	27.3		71.9	36.7	14.7
Level of Service	D	B	B	D	D		F	C		E	D	B
Approach Delay (s)		29.6			41.4			39.6			29.8	
Approach LOS		C			D			D			C	
Intersection Summary												
HCM Average Control Delay			34.7			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			80.8			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			79.1%			ICU Level of Service			C			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
14: Industry Ave & NS3

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.86		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3412		1770	3517		1770	1598		1770	1758	
Flt Permitted	0.52	1.00		0.56	1.00		0.75	1.00		0.63	1.00	
Satd. Flow (perm)	975	3412		1037	3517		1402	1598		1167	1758	
Volume (vph)	6	225	71	226	340	15	163	10	183	7	5	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	245	77	246	370	16	177	11	199	8	5	3
Lane Group Flow (vph)	7	322	0	246	386	0	177	210	0	8	8	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.1	13.1		13.1	13.1		9.8	9.8		9.8	9.8	
Effective Green, g (s)	13.1	13.1		13.1	13.1		9.8	9.8		9.8	9.8	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.32	0.32		0.32	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	413	1447		440	1491		445	507		370	558	
v/s Ratio Prot		0.09			0.11			c0.13			0.00	
v/s Ratio Perm	0.01			c0.24			0.13			0.01		
v/c Ratio	0.02	0.22		0.56	0.26		0.40	0.41		0.02	0.01	
Uniform Delay, d1	5.2	5.7		6.7	5.8		8.2	8.3		7.3	7.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.1		1.5	0.1		0.6	0.6		0.0	0.0	
Delay (s)	5.2	5.7		8.3	5.9		8.8	8.8		7.3	7.2	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s)		5.7			6.8			8.8			7.3	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay			7.1			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			30.9			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			49.3%			ICU Level of Service			A			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: Industry Ave & Sunfish Lake Blvd

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1823		1770	1842		1770	1793			1788	
Flt Permitted	0.25	1.00		0.17	1.00		0.56	1.00			0.80	
Satd. Flow (perm)	466	1823		312	1842		1037	1793			1447	
Volume (vph)	89	647	109	88	584	47	168	265	87	41	146	59
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	703	118	96	635	51	183	288	95	45	159	64
Lane Group Flow (vph)	97	821	0	96	686	0	183	383	0	0	268	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases			4			8			2			
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.9	23.9		23.9	23.9		13.3	13.3			13.3	
Effective Green, g (s)	23.9	23.9		23.9	23.9		13.3	13.3			13.3	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.29	0.29			0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	246	964		165	974		305	528			426	
v/s Ratio Prot	c0.45			0.37			c0.21					
v/s Ratio Perm	0.21			0.31			0.18				0.19	
v/c Ratio	0.39	0.85		0.58	0.70		0.60	0.73			0.63	
Uniform Delay, d1	6.3	9.1		7.2	8.0		13.7	14.3			13.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	1.0	7.3		5.1	2.3		3.2	4.9			2.9	
Delay (s)	7.4	16.5		12.4	10.3		16.8	19.2			16.7	
Level of Service	A	B		B	B		B	B			B	
Approach Delay (s)	15.5			10.6			18.5			16.7		
Approach LOS	B			B			B			B		
Intersection Summary												
HCM Average Control Delay			14.8		HCM Level of Service				B			
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			45.2		Sum of lost time (s)				8.0			
Intersection Capacity Utilization			98.5%		ICU Level of Service				E			
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
21: Sunwood DR & Ramsey Blvd

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3530		1770	3473	
Flt Permitted	0.95	1.00	1.00	0.49	1.00	1.00	0.95	1.00		0.34	1.00	
Satd. Flow (perm)	1770	1863	1583	914	1863	1583	1770	3530		625	3473	
Volume (vph)	198	439	497	43	373	22	248	761	13	13	619	88
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	215	477	540	47	405	24	270	827	14	14	673	96
Lane Group Flow (vph)	215	477	540	47	405	24	270	841	0	14	769	0
Turn Type	Prot	pm+ov		Perm		Perm	Prot			Perm		
Protected Phases	7	4	5		8		5	2			6	
Permitted Phases			4	8		8				6		
Actuated Green, G (s)	11.0	33.5	47.1	18.5	18.5	18.5	13.6	36.9		19.3	19.3	
Effective Green, g (s)	11.0	33.5	47.1	18.5	18.5	18.5	13.6	36.9		19.3	19.3	
Actuated g/C Ratio	0.14	0.43	0.60	0.24	0.24	0.24	0.17	0.47		0.25	0.25	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	248	796	1032	216	440	374	307	1661		154	855	
v/s Ratio Prot	c0.12	0.26	0.09		c0.22		c0.15	0.24			c0.22	
v/s Ratio Perm			0.25	0.05		0.02				0.02		
v/c Ratio	0.87	0.60	0.52	0.22	0.92	0.06	0.88	0.51		0.09	0.90	
Uniform Delay, d1	33.0	17.3	9.1	24.1	29.2	23.2	31.6	14.4		22.8	28.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.7	1.2	0.5	0.5	24.5	0.1	23.6	0.2		0.3	12.2	
Delay (s)	58.7	18.5	9.6	24.6	53.7	23.3	55.2	14.7		23.0	40.8	
Level of Service	E	B	A	C	D	C	E	B		C	D	
Approach Delay (s)		21.6			49.3			24.5			40.5	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM Average Control Delay			30.3				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			78.4				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			83.2%				ICU Level of Service			D		
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
24: Sunwood DR & Industry Ave

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.95		1.00	1.00		1.00	1.00	
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1858	1583		1775		1770	1863		1770	1863	
Flt Permitted		0.98	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1820	1583		1775		1770	1863		1770	1863	
Volume (vph)	3	54	473	0	41	22	362	443	0	20	299	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	59	514	0	45	24	393	482	0	22	325	0
Lane Group Flow (vph)	0	62	514	0	69	0	393	482	0	22	325	0
Turn Type	Perm	pm+ov		Perm			Prot			Prot		
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		3.9	18.1		3.9		14.2	29.6		0.6	16.0	
Effective Green, g (s)		3.9	18.1		3.9		14.2	29.6		0.6	16.0	
Actuated g/C Ratio		0.08	0.39		0.08		0.31	0.64		0.01	0.35	
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		154	759		150		545	1196		23	647	
v/s Ratio Prot			c0.21		0.04		c0.22	0.26		0.01	c0.17	
v/s Ratio Perm		0.03	0.12									
v/c Ratio		0.40	0.68		0.46		0.72	0.40		0.96	0.50	
Uniform Delay, d1		20.0	11.6		20.1		14.2	4.0		22.7	11.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7	2.4		2.2		4.7	0.2		166.5	0.6	
Delay (s)		21.7	14.0		22.3		18.9	4.2		189.3	12.5	
Level of Service		C	B		C		B	A		F	B	
Approach Delay (s)		14.8			22.3			10.8			23.7	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM Average Control Delay			14.9				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			46.1				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			62.7%				ICU Level of Service			B		
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
27: Sunwood DR & Armstrong Blvd

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 							 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor				0.97	1.00			1.00	1.00	1.00	1.00	
Frt				1.00	0.85			1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433	1583			1863	1583	1770	1863	
Flt Permitted				0.76	1.00			1.00	1.00	0.22	1.00	
Satd. Flow (perm)				2736	1583			1863	1583	408	1863	
Volume (vph)	0	0	0	529	0	105	0	635	448	76	383	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	575	0	114	0	690	487	83	416	0
Lane Group Flow (vph)	0	0	0	575	114	0	0	690	487	83	416	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	4			8			2			6		
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				16.9	16.9				25.2	25.2	25.2	25.2
Effective Green, g (s)				16.9	16.9				25.2	25.2	25.2	25.2
Actuated g/C Ratio				0.34	0.34				0.50	0.50	0.50	0.50
Clearance Time (s)				4.0	4.0				4.0	4.0	4.0	4.0
Vehicle Extension (s)				3.0	3.0				3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				923	534				937	796	205	937
v/s Ratio Prot				0.07			c0.37			0.22		
v/s Ratio Perm				c0.21						0.31	0.20	
v/c Ratio				0.62	0.21				0.74	0.61	0.40	0.44
Uniform Delay, d1				13.9	11.9				9.8	8.9	7.8	8.0
Progression Factor				1.00	1.00				1.00	1.00	1.00	1.00
Incremental Delay, d2				1.3	0.2				3.0	1.4	1.3	0.3
Delay (s)				15.2	12.1				12.9	10.3	9.1	8.3
Level of Service				B	B				B	B	A	A
Approach Delay (s)	0.0			14.7			11.8			8.4		
Approach LOS	A			B			B			A		
Intersection Summary												
HCM Average Control Delay	12.0			HCM Level of Service					B			
HCM Volume to Capacity ratio	0.69											
Actuated Cycle Length (s)	50.1			Sum of lost time (s)					8.0			
Intersection Capacity Utilization	67.3%			ICU Level of Service					B			
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
26: Industry Ave & NS2

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	45	241	34	78	424	4	60	1	59	2	0	3
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
Hourly flow rate (veh/h)	49	262	37	85	461	4	65	1	64	2	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None						None					
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	465			299			782	1013	149	926	1029	233
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	465			299			782	1013	149	926	1029	233
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			93			75	99	93	99	100	100
cM capacity (veh/h)	1092			1259			260	212	870	189	207	769
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	49	175	124	85	307	158	130	5				
Volume Left	49	0	0	85	0	0	65	2				
Volume Right	0	0	37	0	0	4	64	3				
cSH	1092	1700	1700	1259	1700	1700	395	345				
Volume to Capacity	0.04	0.10	0.07	0.07	0.18	0.09	0.33	0.02				
Queue Length (ft)	4	0	0	5	0	0	35	1				
Control Delay (s)	8.4	0.0	0.0	8.1	0.0	0.0	18.5	15.6				
Lane LOS	A			A			C	C				
Approach Delay (s)	1.2			1.2			18.5	15.6				
Approach LOS							C	C				
Intersection Summary												
Average Delay	3.5											
Intersection Capacity Utilization	40.5%			ICU Level of Service				A				

HCM Unsignalized Intersection Capacity Analysis
29: EW1 & Armstrong Blvd

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗	↗	↗
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	31	580	161	40	458
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	0	34	630	175	43	498
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			796		866	
pX, platoon unblocked						
vC, conflicting volume	1215	630			805	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1215	630			805	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			95	
cM capacity (veh/h)	190	481			819	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	630	175	43	498	
Volume Left	0	0	0	43	0	
Volume Right	34	0	175	0	0	
cSH	481	1700	1700	819	1700	
Volume to Capacity	0.07	0.37	0.10	0.05	0.29	
Queue Length (ft)	6	0	0	4	0	
Control Delay (s)	13.0	0.0	0.0	9.6	0.0	
Lane LOS	B			A		
Approach Delay (s)	13.0	0.0		0.8		
Approach LOS	B					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			43.2%		ICU Level of Service	A

HCM Unsignalized Intersection Capacity Analysis
36: Industry Ave & NS5

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	404	19	82	562	0	19	0	159	0	0	0
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
Hourly flow rate (veh/h)	0	439	21	89	611	0	21	0	173	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (ft)	950			1302								
pX, platoon unblocked												
vC, conflicting volume	611			460			933	1239	230	1182	1249	305
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	611			460			933	1239	230	1182	1249	305
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			92			90	100	78	100	100	100
cM capacity (veh/h)	964			1098			207	160	773	106	158	691
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	293	167	89	305	305	193	0					
Volume Left	0	0	89	0	0	21	0					
Volume Right	0	21	0	0	0	173	0					
cSH	1700	1700	1098	1700	1700	598	1700					
Volume to Capacity	0.17	0.10	0.08	0.18	0.18	0.32	0.00					
Queue Length (ft)	0	0	7	0	0	35	0					
Control Delay (s)	0.0	0.0	8.6	0.0	0.0	13.9	0.0					
Lane LOS			A			B	A					
Approach Delay (s)	0.0		1.1			13.9	0.0					
Approach LOS						B	A					
Intersection Summary												
Average Delay			2.5									
Intersection Capacity Utilization			39.6%	ICU Level of Service				A				

HCM Unsignalized Intersection Capacity Analysis
40: EW1 & Ramsey Blvd

Scenario: PM Future w Proj (Mitigated)
Timing Plan: PM Peak

							
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Volume (veh/h)	0	310	345	636	411	96	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (veh/h)	0	337	375	691	447	104	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)				910	918		
pX, platoon unblocked	0.95						
vC, conflicting volume	1542	223	551				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1517	223	551				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	100	57	63				
cM capacity (veh/h)	66	780	1015				
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	337	375	346	346	223	223	104
Volume Left	0	375	0	0	0	0	0
Volume Right	337	0	0	0	0	0	104
cSH	780	1015	1700	1700	1700	1700	1700
Volume to Capacity	0.43	0.37	0.20	0.20	0.13	0.13	0.06
Queue Length (ft)	55	43	0	0	0	0	0
Control Delay (s)	13.1	10.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B					
Approach Delay (s)	13.1	3.7			0.0		
Approach LOS	B						
Intersection Summary							
Average Delay		4.3					
Intersection Capacity Utilization		39.9%			ICU Level of Service		A

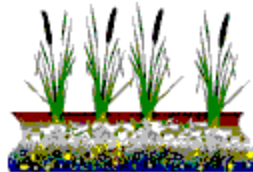
RAMSEY STATION WETLAND DELINEATION REPORT

ORIGINAL ISSUE DATE - NOVEMBER 25, 2002

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WETLAND DELINEATION REPORT

Ramsey Station
Anoka County, Minnesota
November 25, 2002
Revised March 14, 2003

SITE DESCRIPTION:

North American Wetland Engineering, P.A. (NAWE) at the request of Ramsey Station performed a wetland delineation of approximately 275 acres of property located in Ramsey, Minnesota. The project site is located in Section 28, Township 32N and Range 25W. See Appendix A for the limits of the project area. The delineation was performed October 29-31, 2002.

WETLAND DELINEATION PROCEDURES AND METHODS:

The presence of wetlands was determined with a procedure consistent with the definitions and methods outlined in the Corps of Engineers (COE) 1987 Wetlands Delineation Manual.

The wetland indicator status of observed plant species was determined using the National List of Plant Species that Occur in Wetlands for US Fish and Wildlife Service Region 3. Soil conditions were documented with the aid of Munsell color charts. Wetland types were classified according to the methodologies in Wetlands of the United States (FWS Circular No. 39; Shaw and Fredin 1971).

To determine the upland/wetland boundary, a modification of the Routine Onsite Determination method was used. This procedure involved establishing multiple transects throughout the project area. Team members walked 75 to 125-foot transects using compasses from property line to property line. When potential wetlands were encountered, a soil pit was dug and soils and hydrology were classified. Vegetation was classified and wetland delineation flagging hung or pin flags inserted, depicting the delineation line based upon the upland/wetland vegetation break.

Vegetation was primarily documented through the use of the COE's 50:20 rule. Dominant wetland/upland vegetation was logged on the datasheets for the four strata present (tree, shrub, forb and vine).

Soils were classified through the use of the Munsell soil color charts. A 4-6 inch diameter soil pit was dug to a depth of 18-24 inches, when possible. The presence or absences of hydrological characteristics were noted as observed.

Wetland boundaries were flagged with pink survey ribbon/pin flags with the words "WETLAND DELINEATION" printed on it. Each flag is labeled with a letter, which indicates the name of the wetland in this report. A site map of the surveyed wetlands is available in Appendix B.

LAND USES AND EXISTING SOIL CONDITIONS:

The site consists of two different types of land uses: 1) agricultural production, and 2) wetlands. Table 1 outlines an estimated acreage of the land types observed in the field:

Table 1: Estimated Acreage of Project Site

Land Use	Approximate Acreage	Percentage
Agricultural Production	270.67 acres	95.5 %
Wetlands	8.13 acres	4.5 %
TOTAL	275 acres	100%

Below is a description of the land types during 2002.

AGRICULTURAL PRODUCTION – The property is currently in soybean and corn row crops. Crops were harvested in October and November of 2002. Corn and soybeans have been rotated throughout the years.

WETLANDS – Four wetlands were located on the site. The wetlands are Types 2 (wet meadow), Type 3 (shallow marsh) and Type 4 (shallow open water). Hydrology from the area has been modified in the past leading to wetland conditions observed in 2002. Wetland hydrology is supplied through natural drainage patterns creating isolated wetland basins. Refer to Appendix C for photos of wetland areas. Below are brief descriptions of the wetlands delineated on-site.

Wetland A – Wetland A is an isolated wetland basin that consists of type 2 and Type 3 wetland vegetation. The open water in Wetland A existed in 1981 and a ditch was dug in 1982 to facilitate drainage. Spoil was cast on the south side of the wetland and is visible in the aerial photos. Dominant wetland vegetation includes *Typha angustifolia* (narrow leaved cattail), *Scirpus fluviatilis* (river bulrush), *Phalaris arundinacea* (reedcanary grass), *Verbena hastata* (Blue vervain) and *Solidago gigantea* (Giant goldenrod).

Wetland B – Wetland B is an isolated wetland basin excavated in 1999 for the County Road 116 road project. The wetland consists of Types 2, 3, and 4 wetland vegetation. Wetland B was created as a mitigation site for the construction of the County Road 116 extension project completed in 1999. Dominant wetland vegetation includes *Typha angustifolia* (narrow leaved cattail), *Scirpus fluviatilis* (river bulrush), *Scirpus validus* (hardstem bulrush), *Carex* sp. (sedge) and *Verbena hastata* (Blue vervain).

Wetland C – Wetland C is an isolated wetland basin that was likely connected hydrologically to other wetland complexes prior to County Road 83 and County Road 116 construction. Road construction bisected the wetland and may have disrupted the historical flow of hydrology.

Dominant wetland vegetation includes *Typha angustifolia* (narrow leaved cattail), *Scirpus fluviatilis* (river bulrush), *Scirpus acutus* (hardstem bulrush), *Carex sp.* (sedge) and *Verbena hastata* (Blue vervain).

Wetland D – Wetland D is an isolated wetland basin that abuts the north property line. Dominant wetland vegetation includes *Phalaris arundinacea* (reedcanary grass) and *Urtica dioica* (stinging nettle). This wetland is identified as a DNR Protected Water (Inventory No. 2-670W).

Wetland E – Wetland E was identified through aerial photo interpretation with TEP members. This area has no wetland vegetation since it was in agricultural production. Based upon recent aerial photos (1996-present) Wetland E is defined as a Type 1 wetland.

The project site is located within the Anoka sand plain. According to the Anoka County Soil Survey, the project site consists of the Hubbard-Nymore association. These soils are nearly level to gently sloping, are excessively drained and are sandy throughout. Depressional areas on-site are consisted of the Isan sandy loam, a hydric component within the association. A list of the Anoka County Hydric Soils List is available in Appendix D. Soils on site consist of the following soil types.

Table 2: Summaries of Soils Within Project Area

Series No.	Series Name	Hydric Soil Status
HuA	Hubbard coarse sand	Non-Hydric*
Dp	Duelm loamy coarse sand	Non-Hydric*
DnA	Dickman sandy loam	Non-Hydric*
IS	Isan sandy loam	Hydric
Mc	Marsh	Hydric

* - Has hydric components (Isan soil unit is the hydric component).

AERIAL PHOTO INTERPRETATION:

Aerial photos were collected in order to assess wetland conditions prior to the project. Below is a summary of significant changes in landforms or hydrology based upon the aerial photo interpretation. Aerial photos are appended in Appendix E.

The Anoka/Sherburne County Farm Services Agency and Natural Resources Conservation Service summarized precipitation totals from 1979-2001. The summary calculates a monthly wetness evaluation to determine if the year is classified as a dry, normal or wet year. The results are used to assess wetland conditions observed in the aerial photos and are summarized in the following table and appended in Appendix F.

Table 3: Aerial Photo Summary

Year	Change in Landform	Aerial Photo Interpretation Description	USDA Determination for Wet/Dry/Normal Year for Precipitation
1981	N/a	First year of aerial photos. County Road 116 not constructed. Land in agricultural use. Major swale appears to bisect northwest portion of the property, which was too wet for agricultural production.	Normal
1982	Portions of swale farmed	Eighty percent of swale area in 1982 farmed and cultivated.	Normal
1983	Ditch excavated	Ditch excavated adjacent to Wetland A. Portions of Wetland A and Wetland B connected hydrologically.	Normal
1984	Swale visible	Swale visible and was not farmed.	Wet
1985	Swale visible	Swale visible and was not farmed.	Wet
1986	Swale visible	Swale visible and was not farmed. Swale area noticeably larger in size from previous years.	Normal
1987	Swale visible	Swale visible and was farmed to a greater extent than 1986.	Dry
1988	Swale visible	Swale visible and was not farmed.	Dry
1989	Swale visible	Swale visible and was not farmed.	Normal
1990	Portions of swale farmed	Seventy percent of swale area in 1990 farmed and cultivated.	Wet
1991	Swale visible	Swale visible and was not farmed.	Wet
1992	Swale visible	Swale visible and was not farmed.	Normal
1993	Swale visible	Swale visible and was not farmed.	Wet
1994	Swale visible	Swale visible and was not farmed. Swale area noticeably larger in size from previous years.	Normal
1995	Swale visible	Swale visible and was not farmed. Swale is approximately the same size as in 1994.	Normal
1996	Swale visible	Swale visible and was not farmed. Swale is approximately the same size as in 1995.	Normal
1997	CR 116 constructed	County Road 116 constructed. A mitigation wetland was constructed on the northwest corner of the property in swale area. Swale size noticeably smaller than in 1996.	Dry
1998	N/a	Aerial photo not available.	Wet
1999	Swale visible	Swale visible but noticeably smaller than 1996.	Wet
2000	Swale modified	Swale appears to have been modified – perhaps re-graded with spoil from mitigation project.	Normal
2001	N/a	Aerial photo not available.	Wet
2002	Site Visit	Site walkthrough showed no evidence of a swale and topography does not support the evidence of a flow-through wetland.	Unknown

Summary of Aerial Interpretation and Site Visit – The swale visible on the aerial photos correspond to the Isan sandy loam, a hydric soil unit. From 1981-1996, the swale area had limited agricultural production due to wetness (as indicated by aerial photo interpretation).

During an interview with the land lessee, the swale area was used as pasture over the past 20 years. The swale was not maintained in order for cattle to utilize the area because pasture grass did not grow well on the excessively drained soils of the site. Although this

may be true, results of the aerial photo interpretation suggests portions of the swale historically had water ponded at or above the surface, especially in wet years. This indicates portions of the swale area were likely jurisdictional wetlands (farmed wetlands). The size of the wetlands depended upon the amount of precipitation received during the calendar year. During 1997 it appears hydrology was modified at the site and affected the swale and wetland areas. In October 1997, Halranson Anderson Associates performed a wetland-banking plan for impacts on construction of the County Road 116 extension project. The plan delineated a wetland on the subject property and proposed a wetland excavation (i.e. Wetland B) to compensate for existing wetland losses from the road project.

Construction of County Road 116 occurred in 1997. The new road bisected Wetland C (as delineated in this report) and appears to have modified the natural drainage of the larger wetland complex. Wetland C has also been reduced in size through construction of the road and by right of way ditches located in County Road 116.

The spoil from the mitigation wetland may have been used to raise the elevation around the banking project. It appears that water does not flow through the property as it did prior to 1997. Construction of the project and/or other recent man-made alterations have converted the classification of the wetland from a flow-through wetland from 1981-1997 to isolated wetland basins in 2002. Currently the entire swale area as shown in the aerial photos is now in agricultural production. Hydric soils exist in portions of the swale, but primary and secondary hydrologic indicators are lacking. Visible crop stress of the soybeans due to wetness was minimal.

Results of the aerial photo interpretation and the site visit indicate portions of the former swale area currently in agricultural production are not jurisdictional wetland areas. Therefore, these areas were not delineated as wetland areas based upon the following reasons: 1) lack of wetland hydrology; 2) lack of wetland vegetation; 3) elevation modifications around Wetland B; 4) no visible signs of crop stress; 5) construction of County Road 116 with designed drainage modifications; and 6) aerial photo interpretation.

SUMMARY OF DISPUTED WETLAND CONDITIONS

For the time period of 1981 – 1996 aerial photos indicated a flow through wetland existed, transecting the western half of the project site in a northwest to northeast direction. Interpretation during this time period suggested a predominance of type 2 (wet meadow) and type 3 (shallow marsh) wetland existed on the site.

Changes in wetland hydrology were observed in the aerial photos beginning in 1997. Wetland hydrology for the following four years is progressively less with each year. Based upon the 2002 aerial photo for the project and field observations of the 2002 delineation, no indications of a flow through wetland existed at the site. Rather, the delineation fieldwork concluded the wetlands at the site were isolated wetland basins.

Based upon fieldwork conducted by Emmons and Olivier Resources, a groundwater elevation study was conducted to evaluate if the wetlands were influenced by

groundwater interaction. Results of the study indicated the wetlands at and adjacent to the site were groundwater fed. From 1997 to present, aerial photo interpretation indicate these wetlands on and adjacent to the RTC site were consistently losing hydrology and eventually, open water features and wetland areas previously observed prior to 1996 could not be observed to the same extent in 2000 aerial photos or in the 2002 field delineation study. The changes in the site hydrology are complex and resulted in a dispute over whether conditions existed to identify Wetland E as a jurisdictional wetland. In order to resolve this issue, a meeting with the Technical Evaluation Panel (TEP) was held to discuss alternative methodologies to determine if wetland hydrology existed.

The TEP approved a methodology to delineate wetland conditions based upon the historical aerial record. Although wetland conditions have appeared to significantly change after 1996, the TEP's methodology included aerial photo interpretation including the photos prior to 1996 during normal years of precipitation. Based upon this data it is likely that the TEP's delineation methodology of Wetland E identified in this report may not be observed in the field since the hydrologic record has been modified post 1997. Due to the changed hydrologic conditions observed after 1997, the wetland is identified as a Type 1 seasonal flooded wetland.

WETLAND TYPE CLASSIFICATION (USFWS Circular 39 Classification System):

Table 4 provides a listing of wetland types encountered in the field. Wetland types are classified in accordance with the US Fish and Wildlife Services publication *Wetlands of the United States, FWS Circular 39*.

Table 4: FWS Circular 39 Classification of Wetlands

Wetland	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Type 8	Acreage*
A		40%	60%						0.72 acres
B		5%	15%	80%					1.18 acres
C		50%	50%						0.20 acres
D		90%	10%						2.23 acres
E	100%								8.13 acres
Total									12.46 acres

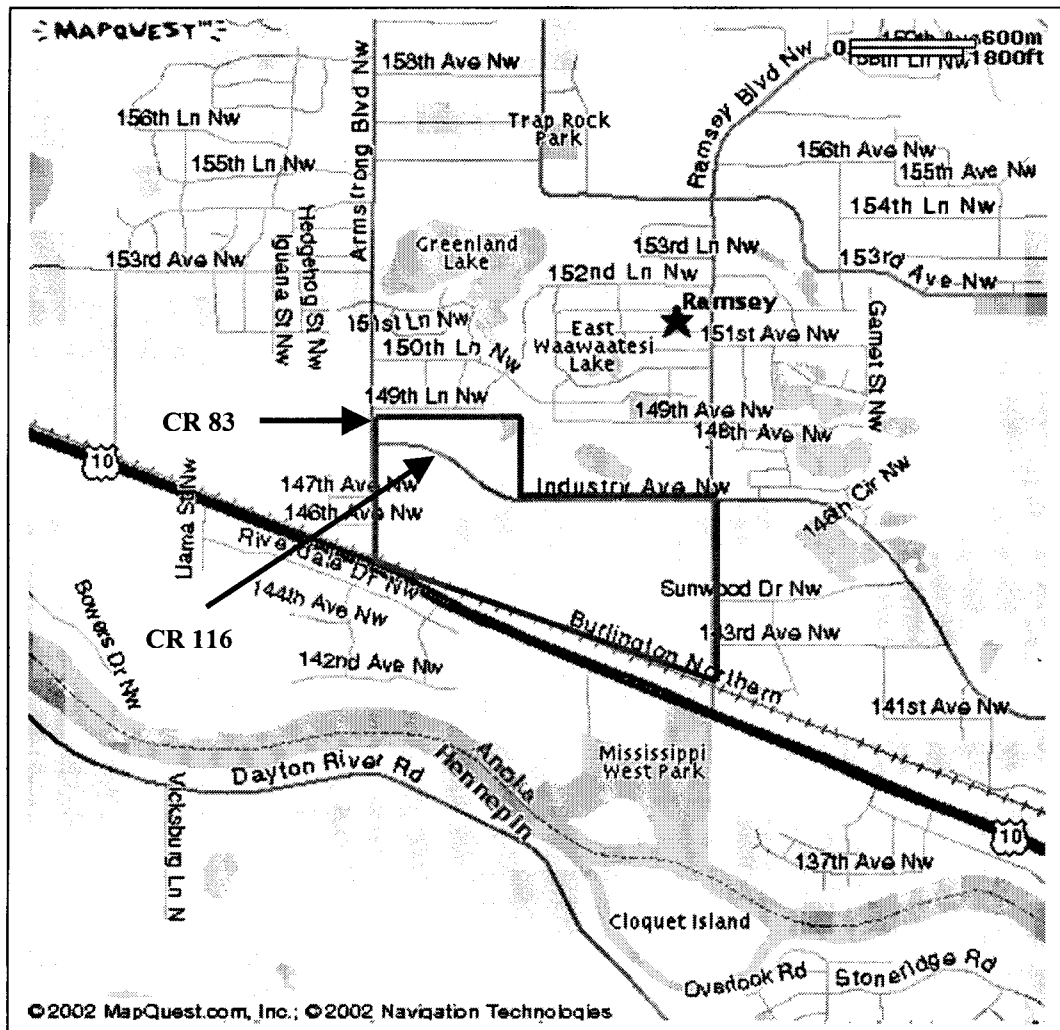
* - Calculated by Global Positioning System.

Wetland and upland datasheets are provided in Appendix G (except for Wetland E, which utilized an alternative methodology). Acreage estimates are based upon closed wetland loops. When a wetland crosses a property line without closing the loop, the wetland is calculated to the property line, even though the wetland may be larger in area.

Any questions associated with this wetland delineation report can be directed to North American Wetland Engineering at (651)-433-2115.

Appendix A

Site Location



Appendix B

Map of Wetland Areas



Appendix C

Photos of Wetlands and Other Features



Figure 0 - Wetland A - Looking West



Figure 2 - Wetland B - Looking West



Figure 3 - Wetland C - Looking East. Note lack of crop stress.



Figure 4 - Wetland D - Looking North



Figure 5 – Wetland E in October 2003.



Figure 6 – Hydric soil at Wetland C.

Appendix D

Anoka County Soils Map and Hydric Soils List



Soils Within Project Area

Series No.	Series Name	Hydric Soil Status
HuA	Hubbard coarse sand	Non-Hydric*
Dp	Duelm loamy coarse sand	Non-Hydric*
DnA	Dickman sandy loam	Non-Hydric*
IS	Isan sandy loam	Hydric
Mc	Marsh	Hydric

* - Has hydric components (Isan soil unit is the hydric component).

HYDRIC SOILS MAP UNIT LIST
ANOKA COUNTY
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MAP SYMBOL	MAP UNIT NAME	HYDRIC COMPONENT	LOCATION CODE	HYDRIC CRITERIA	NATURAL WOODLAND
HUB	HUBBARD COARSE SAND, 2 TO 6 PERCENT SLOPES	Isan (I)	FL,DP	2B3,3	No
HUC	HUBBARD COARSE SAND, 6 TO 12 PERCENT SLOPES	Isan (I)	FL,DP	2B3,3	No
Is	ISAN SANDY LOAM	Whole Unit	FL,DP	2B3,3	No
Iw	ISANTI FINE SANDY LOAM	Nowen (I)	DQ	2B3	Yes
KMB	KINGSLEY FINE SANDY LOAM, 2 TO 6 PERCENT SLOPES	Cathro (I)	DP	1,3	No
KMB	KINGSLEY FINE SANDY LOAM, 2 TO 6 PERCENT SLOPES	Cathro (I)	DQ	2B3	Yes
KmC2	KINGSLEY FINE SANDY LOAM, 6 TO 12 PERCENT SLOPES, ERODED	Nowen (I)	DP	1,3	No
KmC2	KINGSLEY FINE SANDY LOAM, 6 TO 12 PERCENT SLOPES, ERODED	Cathro (I)	DQ	2B3	Yes
KMD	KINGSLEY FINE SANDY LOAM, 12 TO 18 PERCENT SLOPES	Nowen (I)	DP	2B3	No
KME	KINGSLEY FINE SANDY LOAM, 12 TO 18 PERCENT SLOPES	Cathro (I)	DP	1,3	Yes
KME	KINGSLEY FINE SANDY LOAM, 18 TO 30 PERCENT SLOPES	Cathro (I)	DP	2B3	No
Kt	KRATKA LOAMY FINE SAND, DEPRESSIONAL	Whole Unit	DP	1,3	No
Lb	LAKE BEACHES	Isan (C)	DP	2B2,3	No
LGB	LANGOLA LOAMY SAND, 0 TO 6 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No
Lna	LINO LOAMY FINE SAND, 0 TO 4 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No
Lw	LOAMY WET LAND	Whole Unit	DP	2B3,3	No
Lx	LOFTON MUCK	Whole Unit	DP	1,3	No
Ma	MARKEY MUCK	Whole Unit	DP	1,3	No
Mc	MARSH	Isan (I)	FL,DP	2B3,3	No
Me	MEEHAN SAND	Whole Unit	DP	1,3	No
Mk	MILLERVILLE MUCKY PEAT	Preblish (I)	DP	2B3,3	No
MOA	MORA FINE SANDY LOAM, 1 TO 4 PERCENT SLOPES	Talmoon (I)	DQ	2B3	Yes
Nea	NESSSEL FINE SANDY LOAM, 1 TO 4 PERCENT SLOPES	Bluffton (I)	DP	2B3,3	No
Nea	NESSSEL FINE SANDY LOAM, 1 TO 4 PERCENT SLOPES	Whole Unit	DQ,FL	2B3	Yes
No	NOWEN SANDY LOAM	Isan (I)	DP,FL	2B3,3	No
NtD	NIMORE LOAMY COARSE SAND, 12 TO 25 PERCENT SLOPES	Isan (I)	FL,DP	2B3,3	No
NYA	NYMORE LOAMY SAND, 0 TO 2 PERCENT SLOPES	Isan (I)	FL,DP	2B3,3	No
NYB	NYMORE LOAMY SAND, 2 TO 6 PERCENT SLOPES	Isan (I)	FL,DP	2B3,3	No
NYC	NYMORE LOAMY SAND, 6 TO 12 PERCENT SLOPES	Isan (I)	FL,DP	2B3,3	No
Rf	RIFLE MUCKY PEAT	Whole Unit	DP	1,3	No
Rg	RIFLE MUCK, WOODY	Whole Unit	DP	1,3	No
Rh	RIFLE SOTLS, PONDED	Whole Unit	DP	1,3	No
Ru	RONDEAU MUCK	Whole Unit	DP	1,3	No
Ry	RONNEBY FINE SANDY LOAM	Preblish (I)	DP	2B3,3	No
SBB	SARTELL FINE SAND, 2 TO 6 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No
SBC	SARTELL FINE SAND, 6 TO 12 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No
SbC2	SARTELL FINE SAND, 6 TO 12 PERCENT SLOPES, ERODED	Isanti (I)	FL,DP	2B3,3	No
SbD2	SARTELL FINE SAND, 12 TO 24 PERCENT SLOPES, ERODED	Isanti (I)	FL,DP	2B3,3	No
Se	SEELYVILLE MUCK	Whole Unit	DP	1,3	No
SoA	SOERVILLE FINE SAND, 0 TO 4 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No
Wb	WEBSTER LOAM	Whole Unit	DP	2B3,3	No
ZmA	ZIMMERMAN FINE SAND, 0 TO 2 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No
ZmB	ZIMMERMAN FINE SAND, 2 TO 6 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No
ZmC	ZIMMERMAN FINE SAND, 6 TO 12 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No
ZmD	ZIMMERMAN FINE SAND, 12 TO 24 PERCENT SLOPES	Isanti (I)	FL,DP	2B3,3	No

Appendix E

Historical Aerial Photos (1981-2000)

Aerial Photo from 1981



North

Aerial Photo from 1982



Aerial Photo from 1983



Aerial Photo from 1984



Aerial Photo from 1985



Aerial Photo from 1986



Aerial Photo from 1987



Aerial Photo from 1988



Aerial Photo from 1989



Aerial Photo from 1990



Aerial Photo from 1991



Aerial Photo from 1992



Aerial Photo from 1993



Aerial Photo from 1994



Aerial Photo from 1995



Aerial Photo from 1996



Aerial Photo from 1997



Aerial Photo from 1999

(Note: Aerial Photo from 1998 not available)



Aerial Photo from 2000



Appendix F

Sherburne County Wet/Dry Year Tabulation

Appendix G

Wetland and Upland Datasheets

DATA FORM
 Routine Wetland Determination
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Ramsey Town Station</u> Applicant/Owner: <u>Ramsey Town Station, LLC</u> Investigator: <u>R. Brandt, North American Wetland Engineering, P.A.</u>	Date: <u>10/29 to 10/31/02</u> County: <u>Anoka</u> State: <u>Minnesota</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse)	Community ID: <u>Wetland A</u> Transect ID: _____ Plot ID: _____

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha angustifolia (Narrow leaved cattail)	F	OBL	9.		
2. Scirpus fluviatilis (River bulrush)	F	OBL	10.		
3. Phalaris arundinacea (Reedcanary grass)	F	FACW+	11.		
4. Verbena hastata (Blue vervain)	F	FACW+	12.		
5. Solidago gigantea (Giant goldenrod)	F	FACW	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). >50%

Remarks:

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☒ Inundated ☒ Saturated in Upper 12 inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators: ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Describe in Remarks)
Field Observations: Depth of Surface Water: <u>3</u> (in.) Depth to Free Water in Pit: <u>0</u> (in.) Depth to Saturated Soil: <u>0</u> (in.)	
Remarks: Surface water observed in wetland.	

SOILS

Map Unit Name (Series and Phase): <u>Isan Sandy Loam</u>		Drainage Class: <u>Very Poorly Drained</u>			
Taxonomy (Subgroup): <u>Typic Haplaquolls</u>		Field Observations Confirm Mapped Type? ☒ Yes ☐ No			
Profile	Description				
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contast	Texture, Concretions, Structure, etc.
0-8	A	10YR 2/1	-	-	Sandy loam/peat
8-16	B	2.5Y 6/2	-	-	Coarse sand

Hydric Soil Indicators:	
☐ Histosol ☐ Histic Epipedon ☐ Sulfidic odor ☐ Aquic Moisture Regime ☐ Reducing Conditions ☒ Gleyed or Low-Chroma Colors	☐ Concretions ☐ High Organic Content in Surface Layer in Sandy Soils ☐ Organic Streaking in Sandy Soils ☒ Listed on Local Hydric Soils List ☒ Listed on National Hydric Soils List ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No
Wetland Hydrology Present? ☒ Yes ☐ No	
Hydric Soils Present? ☒ Yes ☐ No	
Remarks: Type 3 – 60%; Type 2 – 40%	

Wet/Up Identification: Wetland A

DATA FORM
 Routine Wetland Determination
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Ramsey Town Station</u> Applicant/Owner: <u>Ramsey Town Station, LLC</u> Investigator: <u>R. Brandt, North American Wetland Engineering, P.A.</u>	Date: <u>10/29 to 10/31/02</u> County: <u>Anoka</u> State: <u>Minnesota</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse)	Community ID: <u>Upland By Wetland A</u> Transect ID: <u>-</u> Plot ID: <u>-</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Ulmus Americana (American Elm)	T	FACW-	9.		
2. Bromus inermis (Brome grass)	F	UPL	10.		
3. Ribes hirtellum (Gooseberry)	S	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). >50%

Remarks:

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Guage ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in Upper 12 inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators: ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Describe in Remarks)
Field Observations: Depth of Surface Water: <u>none</u> (in.) Depth to Free Water in Pit: <u>none</u> (in.) Depth to Saturated Soil: <u>none</u> (in.)	
Remarks: No hydrologic indicators observed.	

SOILS

Map Unit Name (Series and Phase): <u>Hubbard Coarse Sand</u>		Drainage Class: <u>Excessively drained</u>			
Taxonomy (Subgroup): <u>Udorthentic Haploborolls</u>		Field Observations Confirm Mapped Type? ☒ Yes ☐ No			
Profile	Description				
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contast	Texture, Concretions, Structure, etc.
0-8	A	10YR 3/2	-	-	Fine sandy loam
8-16	B	2.5Y 3/3	-	-	Fine sandy loam

Hydric Soil Indicators:	
☐ Histosol ☐ Histic Epipedon ☐ Sulfidic odor ☐ Aquic Moisture Regime ☐ Reducing Conditions ☐ Gleyed or Low-Chroma Colors	☐ Concretions ☐ High Organic Content in Surface Layer in Sandy Soils ☐ Organic Streaking in Sandy Soils ☐ Listed on Local Hydric Soils List ☐ Listed on National Hydric Soils List ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☐ Yes ☒ No
Wetland Hydrology Present? ☐ Yes ☒ No	
Hydric Soils Present? ☐ Yes ☒ No	
Remarks:	

Wet/Up Identification: Upland By Wetland A

DATA FORM
 Routine Wetland Determination
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Ramsey Town Station</u> Applicant/Owner: <u>Ramsey Town Station, LLC</u> Investigator: <u>R. Brandt, North American Wetland Engineering, P.A.</u>	Date: <u>10/29 to 10/31/02</u> County: <u>Anoka</u> State: <u>Minnesota</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☒ Yes ☐ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse)	Community ID: <u>Swale</u> Transect ID: <u>-</u> Plot ID: <u>=</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. None.			9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks: No vegetation in field. Land currently in agricultural production. Vegetation significantly different from historical aerial photos.

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Guage ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in Upper 12 inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators: ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Describe in Remarks)
Field Observations: Depth of Surface Water: <u>none</u> (in.) Depth to Free Water in Pit: <u>none</u> (in.) Depth to Saturated Soil: <u>none</u> (in.)	
Remarks: No hydrologic indicators observed.	

SOILS

Map Unit Name (Series and Phase): <u>Isan Sandy Loam</u>		Drainage Class: <u>Very Poorly Drained</u>			
Taxonomy (Subgroup): <u>Typic Haplaquolls</u>		Field Observations Confirm Mapped Type? ☒ Yes ☐ No			
Profile	Description				
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contast	Texture, Concretions, Structure, etc.
0-14	A	10YR 2/1	-	-	Sandy loam/peat
14-26	B	2.5Y 5/3	10YR 4/6	Few-med- prom	Coarse sand

Hydric Soil Indicators:	
☐ Histosol ☐ Histic Epipedon ☐ Sulfidic odor ☐ Aquic Moisture Regime ☐ Reducing Conditions ☒ Gleyed or Low-Chroma Colors	☐ Concretions ☐ High Organic Content in Surface Layer in Sandy Soils ☐ Organic Streaking in Sandy Soils ☒ Listed on Local Hydric Soils List ☒ Listed on National Hydric Soils List ☐ Other (Explain in Remarks)
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ No Wetland Hydrology Present? ☐ Yes ☒ No Hydric Soils Present? ☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☐ Yes ☒ No
Remarks: Vegetation significantly different from historical aerial photos. Wetland hydrology lacking in sample area.	

Wet/Up Identification: Swale Sampling Plot

DATA FORM

Routine Wetland Determination
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Ramsey Town Station</u> Applicant/Owner: <u>Ramsey Town Station, LLC</u> Investigator: <u>R. Brandt, North American Wetland Engineering, P.A.</u>	Date: <u>10/29 to 10/31/02</u> County: <u>Anoka</u> State: <u>Minnesota</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse)	Community ID: <u>Wetland B</u> Transect ID: _____ Plot ID: _____

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha angustifolia (Narrow leaved cattail)	F	OBL	9.		
2. Scirpus fluviatilis (River bulrush)	F	OBL	10.		
3. Scirpus acutus (Hardstem bulrush)	F	OBL	11.		
4. Verbena hastata (Blue vervain)	F	FACW +	12.		
5. Carex sp. (Sedge)	F	FAC*	13.		
6. Potamogeton pectinatus (Sago pondweed)	F	OBL	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). >50%

Remarks: * - No seed head available to classify. Assumed to be FAC or wetter.

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☒ Inundated ☒ Saturated in Upper 12 inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators: ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Describe in Remarks)
Field Observations: Depth of Surface Water: <u>8</u> (in.) Depth to Free Water in Pit: <u>0</u> (in.) Depth to Saturated Soil: <u>0</u> (in.)	
Remarks: Surface water observed in wetland.	

SOILS

Map Unit Name (Series and Phase): <u>Isan Sandy Loam</u>		Drainage Class: <u>Very Poorly Drained</u>			
Taxonomy (Subgroup): <u>Typic Haplaquolls</u>		Field Observations Confirm Mapped Type? ☐ Yes ☐ No			
Profile	Description				
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:	
☐ Histosol ☐ Histic Epipedon ☐ Sulfidic odor ☐ Aquic Moisture Regime ☐ Reducing Conditions ☐ Gleyed or Low-Chroma Colors	☐ Concretions ☐ High Organic Content in Surface Layer in Sandy Soils ☐ Organic Streaking in Sandy Soils ☒ Listed on Local Hydric Soils List ☒ Listed on National Hydric Soils List ☐ Other (Explain in Remarks)
Remarks: No soil pit dug due to inundation of surface water.	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No
Wetland Hydrology Present? ☒ Yes ☐ No	
Hydric Soils Present? ☒ Yes ☐ No	
Remarks: Type 2 – 5%; Type 3 – 15%; Type 4 – 80%	

Wet/Up Identification: Wetland B

DATA FORM
 Routine Wetland Determination
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Ramsey Town Station</u> Applicant/Owner: <u>Ramsey Town Station, LLC</u> Investigator: <u>R. Brandt, North American Wetland Engineering, P.A.</u>	Date: <u>10/29 to 10/31/02</u> County: <u>Anoka</u> State: <u>Minnesota</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse)	Community ID: <u>Wetland C</u> Transect ID: _____ Plot ID: _____

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha angustifolia (Narrow leaved cattail)	F	OBL	9.		
2. Allisma plantago aquaticus (Water plantain)	F	OBL	10.		
3. Scirpus acutus (Hardstem bulrush)	F	OBL	11.		
4. Verbena hastata (Blue vervain)	F	FACW +	12.		
5. Carex sp. (Sedge)	F	FAC*	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). >50%

Remarks: * - No seed head available to classify. Assumed to be FAC or wetter.

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☒ Inundated ☒ Saturated in Upper 12 inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators: ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Describe in Remarks)
Field Observations: Depth of Surface Water: <u>4</u> (in.) Depth to Free Water in Pit: <u>0</u> (in.) Depth to Saturated Soil: <u>0</u> (in.)	
Remarks: Hydrology still exists in Wetland C despite construction of County Road 116 and County Road 83. Wetland bisected by County Road 116.	

SOILS

Map Unit Name (Series and Phase): <u>Isan Sandy Loam</u>			Drainage Class: <u>Very Poorly Drained</u>		
Taxonomy (Subgroup): <u>Typic Haplaquolls</u>			Field Observations Confirm Mapped Type? ☒ Yes ☐ No		
Profile	Description				
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contast	Texture, Concretions, Structure, etc.
0-15	A	10YR 2/1			Peat
15-20	B	10YR 3/1			Coarse sandy clay

Hydric Soil Indicators:	
☐ Histosol ☐ Histic Epipedon ☐ Sulfidic odor ☐ Aquic Moisture Regime ☐ Reducing Conditions ☐ Gleyed or Low-Chroma Colors	☐ Concretions ☒ High Organic Content in Surface Layer in Sandy Soils ☐ Organic Streaking in Sandy Soils ☒ Listed on Local Hydric Soils List ☐ Listed on National Hydric Soils List ☐ Other (Explain in Remarks)

Remarks: Some wood chip fill placed in right-of-way. High amount of organic material opbserved in surface layer.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No Wetland Hydrology Present? ☒ Yes ☐ No Hydric Soils Present? ☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No
Remarks: Type 2 – 50%; Type 3 – 50%	

Wet/Up Identification: Wetland C

DATA FORM
 Routine Wetland Determination
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Ramsey Town Station</u> Applicant/Owner: <u>Ramsey Town Station, LLC</u> Investigator: <u>R. Brandt, North American Wetland Engineering, P.A.</u>	Date: <u>10/29 to 10/31/02</u> County: <u>Anoka</u> State: <u>Minnesota</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☒ Yes ☐ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse)	Community ID: <u>Upland by Wetland C</u> Transect ID: <u>-</u> Plot ID: <u>-</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Soybeans			9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

Remarks: Vegetation consists entirely of soybeans. Majority of crops do not show signs of crop stress due to wetness. Land currently in agricultural production. Vegetation significantly different from historical aerial photos.

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Guage ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in Upper 12 inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators: ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Describe in Remarks)
Field Observations: Depth of Surface Water: <u>none</u> (in.) Depth to Free Water in Pit: <u>none</u> (in.) Depth to Saturated Soil: <u>none</u> (in.)	
Remarks: No hydrologic indicators observed. Ditch holds majority of water.	

SOILS

Map Unit Name (Series and Phase): <u>Isan Sandy Loam</u>			Drainage Class: <u>Very Poorly Drained</u>		
Taxonomy (Subgroup): <u>Typic Haplaquolls</u>			Field Observations Confirm Mapped Type? ☒ Yes ☐ No		

Profile	Description	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contast	Texture, Concretions, Structure, etc.
0-12	A	10YR 2/1	-	-	Sandy loam/peat
12-18	B	2.5Y 5/3	10YR 4/6	Few-med-prom	Coarse sand

Hydric Soil Indicators:

☐ Histosol ☐ Histic Epipedon ☐ Sulfidic odor ☐ Aquic Moisture Regime ☐ Reducing Conditions ☒ Gleyed or Low-Chroma Colors	☐ Concretions ☐ High Organic Content in Surface Layer in Sandy Soils ☐ Organic Streaking in Sandy Soils ☒ Listed on Local Hydric Soils List ☒ Listed on National Hydric Soils List ☐ Other (Explain in Remarks)

Remarks: Surface soils of lower elevations are dark.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐ Yes ☒ No Wetland Hydrology Present? ☐ Yes ☒ No Hydric Soils Present? ☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☐ Yes ☒ No

Remarks: Vegetation significantly different from historical aerial photos. Wetland hydrology lacking in sample area.

Wet/Up Identification: Upland by Wetland C

DATA FORM
 Routine Wetland Determination
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Ramsey Town Station</u> Applicant/Owner: <u>Ramsey Town Station, LLC</u> Investigator: <u>R. Brandt, North American Wetland Engineering, P.A.</u>	Date: <u>10/29 to 10/31/02</u> County: <u>Anoka</u> State: <u>Minnesota</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse)	Community ID: <u>Wetland D</u> Transect ID: _____ Plot ID: _____

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea (Reedcanary grass)	F	FACW+	9.		
2. Urtica dioica (Stinging nettle)	F	FAC+	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). >50%

Remarks:

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Guage ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☒ Inundated ☒ Saturated in Upper 12 inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators: ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Describe in Remarks)
Field Observations: Depth of Surface Water: <u>6</u> (in.) Depth to Free Water in Pit: <u>2</u> (in.) Depth to Saturated Soil: <u>0</u> (in.)	
Remarks: Reedcanary grass matted down due to fluctuating water levels.	

SOILS

Map Unit Name (Series and Phase): <u>Marsh</u>			Drainage Class: <u>Very Poorly Drained</u>		
Taxonomy (Subgroup): <u>N/a</u>			Field Observations Confirm Mapped Type? ☒ Yes ☐ No		
Profile	Description				
Depth	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contast	Texture, Concretions, Structure, etc.
0-12	A	10YR 2/1			Peat/sandy loam

Hydric Soil Indicators:	
☐ Histosol ☐ Histic Epipedon ☐ Sulfidic odor ☐ Aquic Moisture Regime ☐ Reducing Conditions ☒ Gleyed or Low-Chroma Colors	☐ Concretions ☐ High Organic Content in Surface Layer in Sandy Soils ☐ Organic Streaking in Sandy Soils ☒ Listed on Local Hydric Soils List ☐ Listed on National Hydric Soils List ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No Wetland Hydrology Present? ☒ Yes ☐ No Hydric Soils Present? ☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No
Remarks: Type 2 – 90%; Type 3 – 10% - Identified as DNR Protected Water 2-670W.	

Wet/Up Identification: Wetland D

STEPS & TIMELINE: ALTERNATIVE URBAN AREAWIDE REVIEW PROCESS

0. **Informal preparations for AUAR by RGU.** (May include optional “scoping-like” orientation meetings with reviewing agencies if complex or controversial issues may arise.)
1. Only if AUAR will include a specific project that meets a mandatory EIS requirement or covers at least 50% of AUAR area: **RGU issues notice of draft AUAR order and receives public comment** as per EAW process. Commenters address development scenarios and alternatives to be considered and issues to be addressed. RGU considers comments and whether additional scenarios and issues should be covered (must be documented in a record of decision).
2. **RGU orders AUAR** (done by the governing body of RGU). The order for the AUAR establishes the study area & scenarios to be addressed, and starts the 120 day period for completion.
3. Informal process occurs during which RGU, consultants and sometimes project proposers conduct studies and **prepare draft AUAR document**, following content and format guidance issued by EQB. RGU decides when draft AUAR document is ready for public release (this decision is often made by the RGU governing body, but sometimes by staff). (There is no set time limit for this step, except that it must conform to the overall time limit as noted in step 11.) **Note:** Technical tasks to conduct studies, gather data, prepare reports, or write sections to support preparation of the draft AUAR may be done before the AUAR is actually ordered – to the extent allowed by the policies and procedures of the RGU.
4. **RGU distributes Draft AUAR document** (to EQB EAW distribution list) and sends notice to EQB for publication in *EQB Monitor*
5. RGU provides **press release** about AUAR availability to at least one newspaper of general circulation in project area (within 5 business days of submission of notice to EQB)
6. **Notice appears in EQB Monitor** (varies between 7 and 20 days from receipt of notice at EQB, but usually is 7 days). The notice may include the time and place of any (optional) information meeting(s). Such meetings are not required, but would need to occur during the comment period if held.
7. **Public comment period** (ends 30 days after *Monitor* notice, except governmental units have right to 15 business day extension upon request)
8. Informal process occurs during which RGU, consultants and sometimes proposers respond to comments, obtain additional information if needed, and **prepare Final AUAR document**. RGU decides when Final AUAR is ready for

public release. (There is no set time limit for this step, except that it must conform to the overall time limit as noted in step 11.)

9. **RGU distributes Final AUAR document.** (Note: there is no *EQB Monitor* notice or press release required at this step.)
10. **Review of Final AUAR documents.** Reviewers have 10 business days from *receipt* to submit comments or “object” (only state agencies or Metropolitan Council may object)
 - a. If no objections filed, review proceeds to step 11.
 - b. If any objections filed, review proceeds to step 12

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11. **RGU formally adopts AUAR** (after making any final corrections based on any comments received) (must wait until at least 15 business days after distribution of Final AUAR documents) There is an overall time limit between the AUAR order (step 2) and this step: adoption is to occur at first meeting held more than 120 days after the AUAR ordered.

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12. **RGU and objecting agency negotiate resolution** of issues as per 4410.3610, subpart 5, items F & G.
 13. If RGU and objecting agency cannot work out resolution, **EQB determines** whether AUAR is adequate, conditionally adequate, or inadequate.
 14. Once issues worked out, or AUAR revised per EQB instructions, **RGU formally adopts AUAR.**

CC Regular Session

7. 4.

Meeting Date: 04/23/2013

By: Kathy Schmitz, Administrative Services

Information

Title:

Consider Memorandum of Understanding (MOU) for the Armstrong Interchange Project - added at meeting

Background:

Funding Source:

Council Action:

Form Review

Form Started By: Kathy Schmitz

Started On: 06/18/2013 02:33 PM

Final Approval Date: 06/18/2013

CC Regular Session

7. 5.

Meeting Date: 04/23/2013

By: Kathy Schmitz, Administrative Services

Information

Title:

Consider Scheduling Special Council Meeting - added at meeting

Background:

Funding Source:

Council Action:

Form Review

Form Started By: Kathy Schmitz

Started On: 06/18/2013 02:35 PM

Final Approval Date: 06/18/2013