City of Ramsey
Agenda
Regular City Council
Tuesday, March 27, 2018
7:00 pm
Council Chambers, 7550 Sunwood Drive NW

1. Call to Order

2. Presentation

3. Citizen Input

4. Consent Agenda

1. Receive February 2018 Financial Reports - General Fund and Enterprise Funds

2. Note the Following Boards and Commissions Meeting Minutes:
- Environmental Policy Board Meeting Minutes Dated January 26, 2018
- Planning Commission Meeting Minutes Dated February 1, 2018
- Park & Recreation Commission Meeting Minutes Dated February 8, 2018

3. Approve the Following Meeting Minutes:
1. City Council Work Session dated 3/13/2018
2. City Council Regular dated 3/13/2018

4. Approve Licenses

5. Approve Rental Licenses

6. Approve Lease Agreement: 6745 Highway 10, Independent Auto

7. Adopt Resolution # 18-064 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of March 8, 2018 through March 21, 2018

8. Adopt Resolution #18-055 Appointing Election Judges for the Special General Election on April 10, 2018

5. Approve Agenda

6. Public Hearing

7. Council Business

1. Adopt Ordinances #18-07 and #18-08 Granting a Zoning Amendment and Easement Vacation as Part of ACE Addition (Project No. 18-100); Case of ACE Solid Waste, Inc.

2. Review Draft Comprehensive Plan Update

3. Update on Zoning Verification for Baker White at 6111 Highway 10 NW

4. Adopt Resolution #18-057 Approving Plans and Specifications and Authorizing Advertisements for Bids for 2018 Street Overlay Improvements, Improvement Project #18-03

5. Adopt Resolution #18-058 Accepting Bids and Awarding Contract for River's Bend Streets Reconstruction, Improvement Project #17-02

6. Adopt Resolution #18-059 Accepting Bids and Awarding Contract for Stanhope Terrace Streets Reconstruction, Improvement Project #18-00

7. Adopt Resolution #18-056 Authorizing Preparation of Feasibility Study for COR Infiltration Basin Improvements, Improvement Project #18-09

8. Adopt Resolution #18-065 Appointing and Re-appointing Board and Commission Members

8. Mayor/Council/Staff Input

9. Adjournment

CC Regular Session **4. 1.**

Meeting Date: 03/27/2018

By: Diana Lund, Finance

Information

Title

Receive February 2018 Financial Reports - General Fund and Enterprise Funds

Purpose/Background:

Purpose: Receive February monthly financial reports for the funds of: General, Water, Sewer, Street Lighting, Recycling and Storm Drainage.

Brief summary of actual revenues and expenditures-to-date in comparison to adopted budget for the respective funds.

Action:

No action required. Informational only.

Attachments

February 2018 General Fund Financial Report - Budget to Actual

February 2018 Enterprise Funds Financial Reports - Budget to Actual

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/22/2018 11:14 AM
Form Started By: Diana Lund		Started On: 03/16/2018 09:53 AM
Final Approval Date: 03/22/2018		

CITY OF RAMSEY
FINANCIAL STATEMENT

JANUARY 1, 2018 THROUGH PERIOD ENDING: February 28, 2018

GENERAL FUND EXPENDITURES - BY DEPARTMENT -

Dept	-CURRENT YEAR ADOPTED BUDGET-	CURRENT YTD GENERAL LEDGER
Admin	2,077,782.00	228,369.63
Com Dev	928,529.00	103,303.31
Contingency	176,455.00	-
Council	151,651.00	39,668.37
Finance	492,154.00	67,474.61
Fire	1,005,890.00	94,540.89
Legal	128,400.00	8,664.16
Police	3,517,438.00	425,270.66
Public Works	3,644,985.00	330,266.68
Grand Total	**12,123,284.00**	**1,297,558.31**

GENERAL FUND EXPENDITURES - BY CATEGORY -

Category	-CURRENT YEAR ADOPTED BUDGET-	-CURRENT YTD GENERAL LEDGER-
Capital Outlay	710,510.00	-
Debt Service	119,455.00	-
Other Services & Charges	2,716,162.00	164,421.74
Personal Services	7,728,382.00	1,037,251.02
Supplies	848,775.00	95,820.55
Grand Total	**12,123,284.00**	**1,297,493.31**

GENERAL FUND REVENUES - BY CATEGORY -

Category	-CURRENT YEAR ADOPTED BUDGET-	-CURRENT YTD GENERAL LEDGER-
Taxes	9,400,242.00	-
Charges for Services	710,244.00	72,623.31
Business Licenses/Permits	33,750.00	4,715.47
Fines and Forfeits	68,700.00	3,271.40
Federal Intergovernmental	8,000.00	-
State Intergovernmental	351,750.00	70,000.00
Interest	70,000.00	-
Miscellaneous	31,000.00	7,120.42
Non-Business Licenses/Permits	479,000.00	78,488.40
Transfers in	970,598.00	-
Grand Total	**12,123,284.00**	**236,219.00**

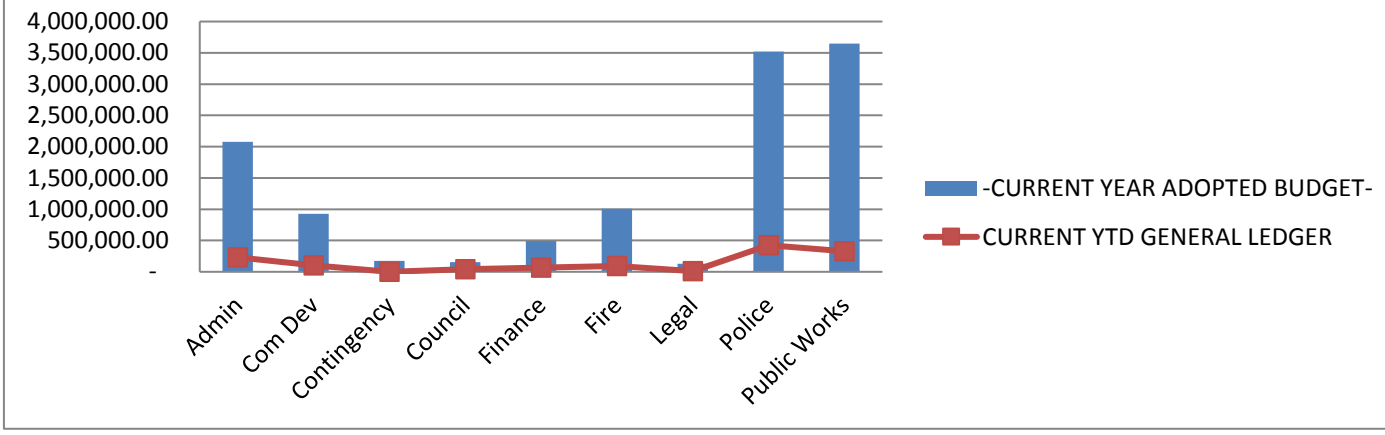
This report reflects year to date revenue and expenditures as compared to annual budget.
It does not reflect fund balance.

PREPARED BY: FINANCE DEPARTMENT

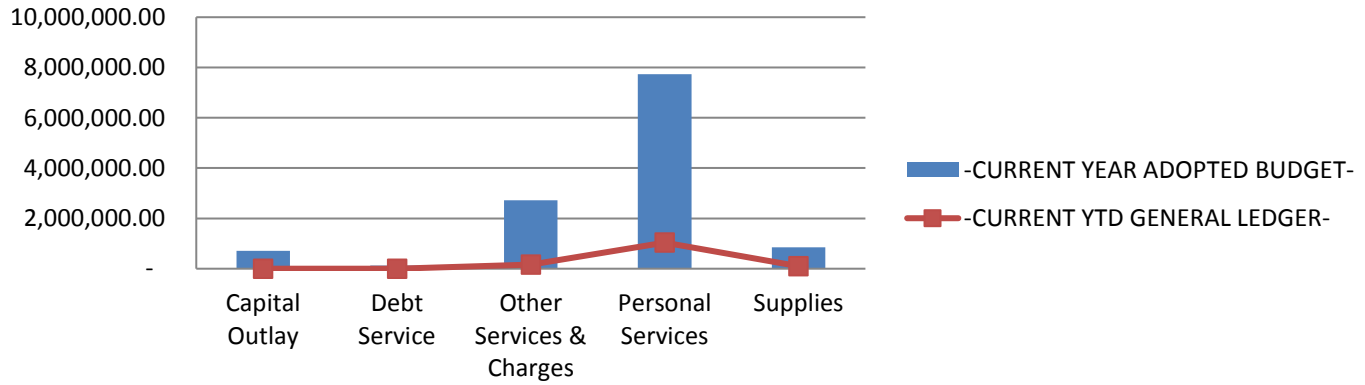
CITY OF RAMSEY
FINANCIAL STATEMENT

JANUARY 1, 2018 THROUGH PERIOD ENDING: February 28, 2018

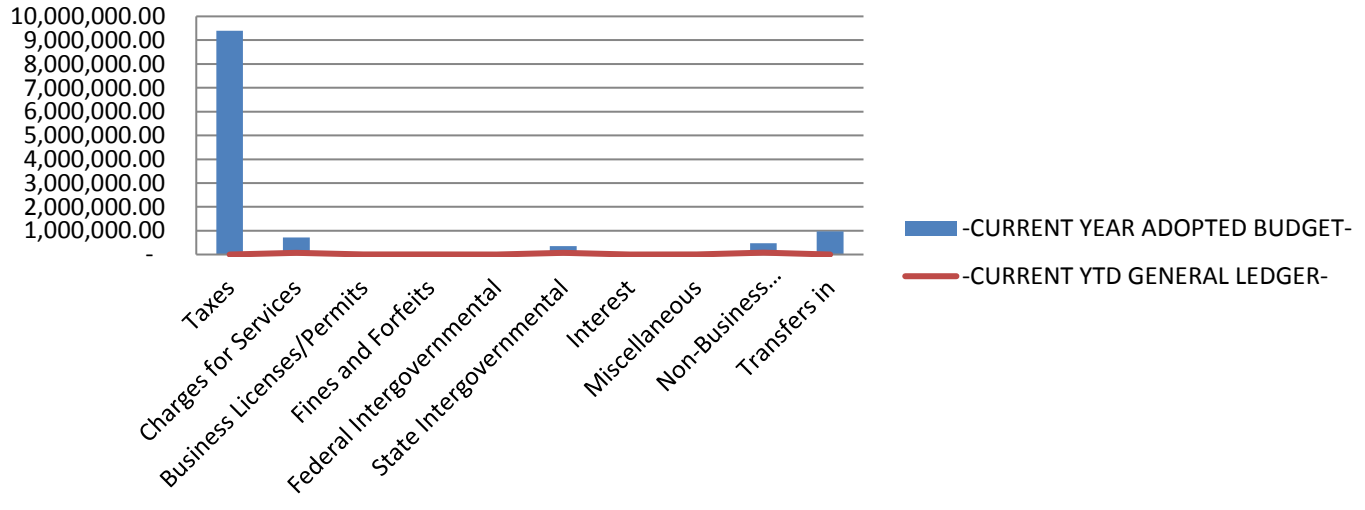
GENERAL FUND EXPENDITURES - BY DEPARTMENT



GENERAL FUND EXPENDITURES - BY CATEGORY



GENERAL FUND REVENUES



This report reflects year to date revenue and expenditures as compared to annual budget.
It does not reflect fund balance.

PREPARED BY: FINANCE DEPARTMENT

CITY OF RAMSEY
FINANCIAL STATEMENT

JANUARY 1, 2018 THROUGH PERIOD ENDING: February 28, 2018

REVENUES

BUSINESS UNIT	9601	WATER UTILITY		
GENERAL LEDGER ACCOUNT		CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-
4140	CREDIT CARD PROCESSING FEES	(12,000.00)	(772.35)	6.44%
4609	OTHER MISCELLANEOUS REVENUES	62,000.00	1.44	0.00%
4651	WATER REVENUE		4,256.53	0.00%
4652	WATER SALES - RESIDENTIAL	1,120,202.00	(244.12)	-0.02%
4653	WATER SALES-COMMERCIAL	653,131.00	10.34	0.00%
4654	WATER PENALTIES	35,859.00	(876.95)	-2.45%
4655	WATER METER INSTALLATION	15,000.00	2,800.00	18.67%
4656	WATER METERS	32,000.00	6,956.00	21.74%
4657	CONNECTION/RECONNECTION FEES	500.00	(100.00)	-20.00%
4701	INTEREST ON INVESTMENTS	120,000.00	-	0.00%
4606	DEVELOPER FEES (WAC)		36,184.00	0.00%
4601	MISCELLANEOUS REVENUE		594.89	0.00%
Grand Total		**2,026,692.00**	**48,809.78**	

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	236,198.00	24,994.06	10.58%
6103	FULL TIME-REGULAR-OVERTIME	13,500.00	2,210.77	16.38%
6105	TEMPORARY-WAGES & SALARIES	17,066.00	-	0.00%
6121	PERA CONTRIBUTIONS	47,422.00	2,382.15	5.02%
6122	FICA/MEDICARE CONTRIBUTIONS	19,523.00	2,560.08	13.11%
6131	GROUP INSURANCE	33,177.00	4,022.60	12.12%
6133	WORKERS COMP INSURANCE PREMIUM	9,160.00	-	0.00%
6208	MISCELLANEOUS OFFICE SUPPLIES	600.00	22.48	3.75%
6223	GASOLINE	2,500.00	582.42	23.30%
6225	DIESEL FUEL	4,000.00	623.52	15.59%
6229	SHOP MATERIALS	500.00	12.19	2.44%
6231	UNIFORMS & TURN-OUT GEAR	2,900.00	428.00	14.76%
6249	MISCELLANEOUS OPERATING SUPPLY	18,000.00	3,962.75	22.02%
6257	OTHER VEHICLE PARTS	7,000.00	78.42	1.12%
6273	UTILITY SYSTEM MAINT SUPPLIES	75,000.00	7,832.76	10.44%
6281	SMALL TOOLS & MINOR EQUIPMENT	6,000.00	537.40	8.96%
6292	WATER METERS FOR RESALE	55,000.00	1,442.01	2.62%
6315	MISCELLANEOUS PROFESSIONAL SER	150,000.00	10,451.20	6.97%
6322	POSTAGE	2,600.00	49.69	1.91%
6323	CELLULAR PHONES	2,900.00	239.16	8.25%
6335	TRAINING	1,500.00	722.00	48.13%
6352	GENERAL NOTICE & PUBLIC INFOR	300.00	-	0.00%
6361	GENERAL LIABILITY/PROPERTY INS	28,000.00	-	0.00%
6371	ELECTRIC UTILITIES	125,000.00	7,670.85	6.14%
6373	GAS	3,000.00	196.29	6.54%
6374	REFUSE/RECYCLING	700.00	97.30	13.90%
6381	BUILDING & STRUCTURE REPAIR	3,000.00	2,290.00	76.33%
6439	OTHER MISCELLANEOUS	58,000.00	-	0.00%
6451	MEMBERSHIP DUES	500.00	-	0.00%
6489	OTHER CONTRACTED SERVICES	74,000.00	2,604.51	3.52%
6722	DEPRECIATION	750,000.00	-	0.00%
6820	OPERATING TRANSFERS TO OTHER F	41,000.00	-	0.00%
Grand Total		**1,788,046.00**	**76,012.61**	

This report reflects year to date revenue and expenditures as compared to annual budget.
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CITY OF RAMSEY
FINANCIAL STATEMENT

JANUARY 1, 2018 THROUGH PERIOD ENDING: February 28, 2018

REVENUES			
BUSINESS UNIT	**9601**	**WATER UTILITY**	
GENERAL LEDGER ACCOUNT	**CURRENT YEAR REQUESTED BUDGET**	**CURRENT YTD GENERAL LEDGER**	**-% of Budget-**

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, 2018 THROUGH PERIOD ENDING: **February 28, 2018**

REVENUES

BUSINESS UNIT	9602	SEWER UTILITY		
GENERAL LEDGER ACCOUNT		CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-
4140	CREDIT CARD PROCESSING FEES	(11,000.00)	(517.70)	4.71%
4356	SEWER AVAILABILITY CHARGE-ADM	3,000.00	124.25	4.14%
4609	OTHER MISCELLANEOUS REVENUES	5,000.00	-	0.00%
4661	RESIDENTIAL-SEWER CHARGES	1,161,216.00	544.59	0.05%
4662	COMMERCIAL-SEWER CHARGES	360,000.00	19.00	0.01%
4663	SEWER PENALTIES	42,030.00	(53.84)	-0.13%
4701	INTEREST ON INVESTMENTS	80,000.00	-	0.00%
4702	MISCELLANEOUS INTEREST	15,581.00	-	0.00%
4606	DEVELOPER FEES (WAC)	2,000.00	40,163.00	2008.15%
4601	MISCELLANEOUS REVENUE		594.89	0.00%
Grand Total		**1,657,827.00**	**40,874.19**	

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	155,382.00	6,752.60	4.35%
6121	PERA CONTRIBUTIONS	24,361.00	548.63	2.25%
6122	FICA/MEDICARE CONTRIBUTIONS	11,988.00	571.56	4.77%
6131	GROUP INSURANCE	11,396.00	-	0.00%
6133	WORKERS COMP INSURANCE PREMIUM	5,013.00	-	0.00%
6223	GASOLINE	3,500.00	253.14	7.23%
6225	DIESEL FUEL	2,500.00	-	0.00%
6249	MISCELLANEOUS OPERATING SUPPLY	17,000.00	48.66	0.29%
6275	OTHER EQUIPMENT PARTS	5,000.00	344.28	6.89%
6315	MISCELLANEOUS PROFESSIONAL SER	70,000.00	-	0.00%
6335	TRAINING	1,500.00	1,193.00	79.53%
6361	GENERAL LIABILITY/PROPERTY INS	18,540.00	-	0.00%
6371	ELECTRIC UTILITIES	17,000.00	937.85	5.52%
6373	GAS	3,000.00	-	0.00%
6374	REFUSE/RECYCLING	700.00	97.30	13.90%
6377	SEWER SERVICE CHARGE	757,216.00	189,303.87	25.00%
6489	OTHER CONTRACTED SERVICES	24,000.00	87.86	0.37%
6722	DEPRECIATION	510,000.00	-	0.00%
6820	OPERATING TRANSFERS TO OTHER F	35,000.00	-	0.00%
Grand Total		**1,673,096.00**	**200,138.75**	

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CITY OF RAMSEY
FINANCIAL STATEMENT

JANUARY 1, 2018 THROUGH PERIOD ENDING: February 28, 2018

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	(2,500.00)	(211.41)	8.46%
4681 CHARGES FOR STREET LIGHTS	146,800.00	69.81	0.05%
4683 STREET LIGHTING PENALTIES	6,968.00	(6.21)	-0.09%
4701 INTEREST ON INVESTMENTS	10,000.00	-	0.00%
4684 PRIORITY STREET LIGHT	50,680.00	13.94	0.03%
Grand Total	**211,948.00**	**(133.87)**	

EXPENSES

BUSINESS UNIT	9603	STREET LIGHT UTILITY	
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-
6371 ELECTRIC UTILITIES	130,000.00	9,844.19	7.57%
6489 OTHER CONTRACTED SERVICES	14,000.00	-	0.00%
6722 DEPRECIATION	46,000.00	-	0.00%
6820 OPERATING TRANSFERS TO OTHER F	20,000.00	-	0.00%
Grand Total	**210,000.00**	**9,844.19**	

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CITY OF RAMSEY
FINANCIAL STATEMENT

JANUARY 1, 2018 THROUGH PERIOD ENDING: **February 28, 2018**

REVENUES

BUSINESS UNIT	9604	RECYCLING UTILITY	
GENERAL LEDGER ACCOUNT	CURRENT YEAR REQUESTED BUDGET	CURRENT YTD GENERAL LEDGER	-% of Budget-
4140 CREDIT CARD PROCESSING FEES	(3,000.00)	(231.42)	7.71%
4287 OTHER LOCAL GOVERNMENT GRANTS	69,000.00	-	0.00%
4609 OTHER MISCELLANEOUS REVENUES	-	168.00	0.00%
4671 RECYCLING CHARGES	302,000.00	80.77	0.03%
4672 RECYCLING PENALTIES	8,000.00	(8.25)	-0.10%
4701 INTEREST ON INVESTMENTS	2,000.00	-	0.00%
Grand Total	**378,000.00**	**9.10**	

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	20,906.00	1,961.97	9.38%
6104 PART TIME-WAGES & SALARIES	7,280.00	-	0.00%
6121 PERA CONTRIBUTIONS	2,114.00	147.08	6.96%
6122 FICA/MEDICARE CONTRIBUTIONS	2,165.00	129.26	5.97%
6131 GROUP INSURANCE	2,359.00	-	0.00%
6133 WORKERS COMP INSURANCE PREMIUM	223.00	-	0.00%
6249 MISCELLANEOUS OPERATING SUPPLY	25,000.00	253.50	1.01%
6322 POSTAGE	400.00	27.88	6.97%
6489 OTHER CONTRACTED SERVICES	316,000.00	51,111.70	16.17%
6820 OPERATING TRANSFERS TO OTHER F	11,500.00	-	0.00%
Grand Total	**387,947.00**	**53,631.39**	

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CITY OF RAMSEY
FINANCIAL STATEMENT

JANUARY 1, 2018 THROUGH PERIOD ENDING: **February 28, 2018**

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	(4,200.00)	(283.38)	6.75%
4693 STORM WATER-RESIDENTIAL	511,920.00	150.09	0.03%
4694 STORM WATER-COMMERCIAL	503,064.00	68.42	0.01%
4695 STORM WATER-PENALTIES	18,427.00	(23.29)	-0.13%
4701 INTEREST ON INVESTMENTS	10,000.00	-	0.00%
Grand Total	**1,039,211.00**	**(88.16)**	

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	128,566.00	-	0.00%
6121 PERA CONTRIBUTIONS	24,350.00	-	0.00%
6122 FICA/MEDICARE CONTRIBUTIONS	9,863.00	-	0.00%
6131 GROUP INSURANCE	17,121.00	-	0.00%
6133 WORKERS COMP INSURANCE PREMIUM	4,146.00	-	0.00%
6223 GASOLINE	100.00	-	0.00%
6225 DIESEL FUEL	4,500.00	-	0.00%
6249 MISCELLANEOUS OPERATING SUPPLY	10,000.00	16.68	0.17%
6257 OTHER VEHICLE PARTS	9,000.00	45.80	0.51%
6315 MISCELLANEOUS PROFESSIONAL SER	60,000.00	400.00	0.67%
6361 GENERAL LIABILITY/PROPERTY INS	8,000.00	-	0.00%
6371 ELECTRIC UTILITIES	2,500.00	265.81	10.63%
6373 GAS	2,500.00	-	0.00%
6374 REFUSE/RECYCLING	700.00	97.30	13.90%
6451 MEMBERSHIP DUES	20,000.00	-	0.00%
6489 OTHER CONTRACTED SERVICES	40,000.00	-	0.00%
6722 DEPRECIATION	325,000.00	-	0.00%
6820 OPERATING TRANSFERS TO OTHER F	30,000.00	-	0.00%
Grand Total	**696,346.00**	**825.59**	

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. 2.**

Meeting Date: 03/27/2018

By: JoAnn Shaw, Community Development

Information

Title

Note the Following Boards and Commissions Meeting Minutes:

- Environmental Policy Board Meeting Minutes Dated January 26, 2018
- Planning Commission Meeting Minutes Dated February 1, 2018
- Park & Recreation Commission Meeting Minutes Dated February 8, 2018

Attachments

EPB 01 26 18

Planning 02 01 18

Park 02 08 18

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:48 PM
Form Started By: JoAnn Shaw		Started On: 03/21/2018 03:25 PM
Final Approval Date: 03/22/2018		

ENVIRONMENTAL POLICY BOARD
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

On Monday, February 26, 2018, the Environmental Policy Board (EPB) met in the Lake Itasca Room at the Ramsey Municipal Center, 7550 Sunwood Drive N.W., Ramsey, Minnesota.

Members Present: Chairperson Thomas Stodola
Board Member Colleen Anderson
Board Member Reid Bernard
Board Member Jane Covart
Board Member Michael Hiatt
Board Member Lucas Trossen
Board Member Michael Valentine

Members Absent: None

Also Present: City Planner Chris Anderson
City Council Liaison John LeTourneau

1. CALL TO ORDER

Chairperson Stodola called the meeting to order at 6:30 p.m.

2. CITIZEN INPUT

None.

3. APPROVE AGENDA

Motion by Board Member Valentine and seconded by Board Member Bernard to approve the agenda as submitted.

Motion carried. Voting Yes: Chairperson Stodola, Board Member Valentine, Bernard, Anderson, Covart, Hiatt, and Trossen. Voting No: None. Absent: None.

4. APPROVE MINUTES

4.01: Approve Meeting Minutes Dated December 18, 2017

Motion by Board Member Hiatt and seconded by Board Member Trossen to approve the regular meeting minutes dated December 18, 2017.

Motion carried. Voting Yes: Chairperson Stodola, Board Member Hiatt, Trossen, Anderson, Bernard, Covart, and Valentine. Voting No: None. Absent: None.

5. POLICY BOARD BUSINESS

5.01: Review Sketch Plan for Centra Homes

City Planner Anderson presented the staff report. He reported that the City has received an application for Sketch Plan review of a detached townhome project proposed by Centra Homes. He stated that the residential project is located at the southwest corner of Ramsey Boulevard and Bunker Lake Boulevard and proposed 40 detached townhome units. He noted that this is not an item that requires action and is simply an opportunity for the Board to provide input.

Board Member Anderson asked if the City has worked with Centra Homes previously.

City Planner Anderson stated that although Centra has experience in surrounding communities, he is not aware of any projects within Ramsey.

Board Member Hiatt asked if these will be multi-level townhomes and asked whether there would be attached parking provided.

City Planner Anderson stated that he is unsure whether all the townhomes would be single level or multi-level homes. He noted that each unit would have an attached garage and driveway for parking. He also identified proposed visitor parking stalls on the plan.

Chairperson Stodola agreed that the units are so narrow that he could not imagine that parking could be provided for the units without an attached garage.

Board Member Hiatt asked and received confirmation that access would only be provided by the internal roadway and would not be accessible directly from Bunker Lake Boulevard or Ramsey Boulevard. He asked if there would be sufficient space to require trees in some fashion.

City Planner Anderson replied that there will be space for shrubs and small ornamental trees along Ramsey Boulevard, noting that the plantings will occur on the private property outside of the right-of-way. He explained that staff will advise the applicant to look at the adjacent developments in attempt to match the overall aesthetic and continue that.

Councilmember LeTourneau referenced the existing stand of evergreen trees at the corner of Ramsey Boulevard and Bunker Lake Boulevard and asked if there is a possibility to preserve that stand of trees.

City Planner Anderson agreed that would be a preference as that tree stand would act as a great buffer for the end units. He stated that at this time he is not sure of the applicant's plans for the trees in that area.

Councilmember LeTourneau proposed that language be added requesting that the applicant consider preserving that tree stand as the project moves forward. He noted that perhaps the trees are within the right-of-way and would not then be able to be proposed.

City Planner Anderson noted that the right-of-way boundary shown on this sketch is an estimate. He noted that the trees would not have to be removed simply because they are within the right-of-

way and explained that the County simply does not want additional trees planted in the right-of-way.

Chairperson Stodola noted that there may be some impact to the roots upon construction.

Councilmember LeTourneau asked if there are additional trees on the property that could be preserved.

City Planner Anderson replied that he does not believe that there are additional trees on the property that would meet the City definition of significant trees. He stated that much of the land within The COR has a number of smaller Siberian Elm trees, which is an invasive species, and therefore he would not put the same emphasis on preservation of those trees. He stated that a tree inventory will be done as part of the initial submittal and then the Board will have a better understanding of the mature trees that exist. He explained that the removal of invasive species is excluded from the calculations done for the tree preservation plan.

Motion by Board Member Valentine and seconded by Board Member Hiatt to encourage the developer to preserve the existing stand of evergreen trees to the extent possible.

Motion carried. Voting Yes: Chairperson Stodola, Board Member Valentine, Hiatt, Anderson, Bernard, Covart, and Trossen. Voting No: None. Absent: None.

5.02: Consider Arbor Day Project(s)

City Planner Anderson presented the staff report. He stated that the City has yet to receive confirmation but noted that the necessary documentation was submitted to be recognized once again as a Tree City USA. He stated that this will be Ramsey's 26th consecutive year being recognized. He noted that one of the aspects of being a Tree City USA involves an observance of Arbor Day. He stated that when the City stopped hosting the Environmental Expo event, the Board expressed a desire to see a broader effort put toward observing and celebrating Arbor Day. He advised that there are a couple opportunities available to recognize and observe Arbor Day. He noted that the purpose of this case is to summarize the opportunities to the Board and gauge the interest of the Board in participating.

Board Member Bernard stated that he likes both ideas, specifically mentioning the pollinator packet idea.

City Planner Anderson stated that there was a small-scale planting event along the Lake Itasca Trail as part of the Mayors for Monarchs program which included removal of invasive species, a prescribed burn, and will conclude with pollinator friendly plantings.

Chairperson Stodola asked if both projects would be an option or whether a decision would have to be made.

City Planner Anderson clarified that this would not be an either/or decision and advised that both projects could occur. He noted that he would also welcome additional activities. He advised that the City could obtain the packets at no cost to the City. He provided additional details on a previous planting event that took place two years ago. He noted that the event was scheduled on a night of

the regular Park and Recreation Commission meeting with a back up date set for the date of the regular EPB meeting.

Board Member Bernard stated that he is involved in youth athletics and could find a baseball team or two that could volunteer their services in planting.

Board Member Hiatt stated that the Anoka High School football team is always looking for projects and perhaps that would be an option.

City Planner Anderson confirmed that the parks department already works in collaboration with the football team on spring volunteer projects. He commented that it would be great to have the involvement of the youth athletics. He noted that ideally, he would also like participation from the Board, especially if there will be a number of children assisting in the plantings.

Chairperson Stodola stated to his recollection the Board has not officially been involved in a project in a while.

City Planner Anderson replied that the Board was invited to the planting event that took place in 2016 and advised of some smaller projects that the Board was invited to be a part of going back further into the past. He stated that with the addition of a new city planner in the planning department, he should have additional time to assist with these types of events and to put more effort towards the Board's workplan.

Councilmember LeTourneau asked the scale of the distance and width of plantings and asked if one packet would be enough. He stated that he would want to ensure that the density is sufficient to cover factors like loss.

City Planner Anderson stated that there is sufficient width to make this work, even as the plants grow, without encroaching on private property. He agreed that there will be some mortality due to lack of precipitation and deer. He stated that the pollinator packet is 500 while the seedlings come in packets of 100. He stated that if the Board is in agreement with this, he would work more on the calculations to ensure the proper amount is gained.

Councilmember LeTourneau asked if there is some commitment from City staff to ensure maintenance of the plantings for perhaps a period of one year.

City Planner Anderson stated that he would feel safe stating that the parks staff could water if the conditions are dry. He noted that while the watering would not be a daily activity, he was hopeful he could ensure some level of commitment.

Councilmember LeTourneau stated that a level of commitment from the parks staff for ongoing maintenance would help to secure a buy-in from the community in this project.

City Planner Anderson noted that he will have a conversation with the parks staff. He stated that staff would not want this to turn into an eyesore either with dead plantings lining the trail.

Councilmember LeTourneau stated that if this project is a success, it would be nice to continue the effort along other trails in the City in the future.

City Planner Anderson asked if there are any other ideas for events for this year or future years. He clarified that this would not become like the previous expo, where that is the main focus of the Board, but is simply looking for events that would promote the work and ambition of the Board.

Board Member Valentine stated that he likes the idea of doing plantings, whether that is trees or pollinator plantings. He stated that there are so many variations that could be built upon. He asked for additional details on the scale of 500 plants and whether that would be enough plants. He believed that plantings would be a great place to start and could evolve into other planting projects, like raingardens, in the future.

City Planner Anderson provided additional details on the seedlings that have been supplied in the past. He stated that if properly planted, the seedlings will grow and need room to grow.

6. BOARD / STAFF INPUT

- **Select Winning 2017 Photo – Nature of Ramsey Category**

City Planner Anderson thanked the Board Members that submitted votes for the photo contest. He provided background information on the photo contest which was implemented in 2017, noting that the EPB was chosen to vote on the category of Nature in Ramsey. He displayed the photographs from the category and identified the top three photographs that garnered the most votes. He noted that while he did not have the final tally, the parks department staff will determine the winning photo per the votes submitted by the Board.

- **Staff Updates**

City Planner Anderson provided background information on wetland banking and credits that City staff received. He stated that the City will once again host three recycling events this year. He noted that a pilot was done last year adding a third event and because that third event did not impact the materials received at the other events, they will continue to host spring, summer, and fall recycling events.

Councilmember LeTourneau asked if the summer event was as well attended as the spring and fall events.

City Planner Anderson stated that he did not have the calculations off-hand but agreed that there was less traffic at the summer event. He stated that even though there was less traffic at the summer event, the tonnage of materials received was equal to the fall event. He stated that because this last summer was the first time the summer recycling event was held, participation may increase as residents become more aware of the event. He noted that the Board will begin meeting in the Council Chambers beginning in March and the meetings will now be televised. He explained that the EPB and EDA were the only two groups that were not televised and therefore the Council made the decision to televise the meetings for those groups to provide additional transparency to the residents.

City Planner Anderson stated that the City has currently partnered with the University of Minnesota Resilient Communities Program. He noted that the fall semester projects have been

completed and the spring courses have now been matched up with projects. He noted that the projects that matched with classes included organics recycling, sustainable initiatives, and recognition of businesses that lead the way in recycling. He noted that Coborn's received an award from Anoka County for their efforts in recycling the previous year. He advised that PACT Charter School was also recognized the previous year for their efforts with organics recycling. He stated that there is another project matched with an urban forestry class to complete a public tree survey. He noted that this is something he has wanted to accomplish in the City for the past several years, especially as it would assist with planning for potential impacts from Emerald Ash Borer. He stated that he would be looking for volunteers to assist in collection of the data. He explained that the students would provide the necessary training so that volunteers could get out on the ground to collect data. He noted that the training is tentatively scheduled for April and would include classroom time on the initial date and then some field training on a second date. He stated that the data collection would presumably occur in May, as long as conditions allow.

Councilmember LeTourneau asked if the students would also include recommendations for planning with the knowledge that is gained.

City Planner Anderson stated that once he is given the data from the students, he would then take that information and prepare other planning documents with more accurate information. He welcomed interested Board Members to participate. He noted that the students will also be reaching out to other community groups such as the Master Gardeners and Master Naturalists, Parks Commission and City Council.

Councilmember LeTourneau suggested reaching out to the Ramsey Garden Club.

Board Member Valentine stated that for the past six weeks he has been working with a metro wide steering committee working on the Metro Environmental Commissioners Conference, which is an effort to get groups like the EPB together to talk about common interests. He stated that a program has been scheduled for April 7th and noted that as more information is available, City Planner Anderson will provide that information to the Board. He stated that it seems like this would be a good opportunity for the Board to participate in and will feature topics that the Board has been discussing. He stated that the event will be held at the Hennepin Methodist Church in Minneapolis and will have free parking and no admission fee. He noted that there are other larger communities in the metro area and it will be a good opportunity for the Board to gain that shared input.

Chairperson Stodola asked for an update on the organics recycling program and whether participation has declined in the winter months.

City Planner Anderson provided an update on the organics recycling program. He stated that the last calculation that he had measured about three tons of material that has been diverted from garbage to the organics recycling. He noted that is a pretty amazing figure considering the small amount of publicity the program has had thus far. He noted that the locks were removed during the winter because the locks were freezing in the colder temperatures. He stated that to his knowledge there has not been any contamination.

Chairperson Stodola stated that he makes deliveries maybe every other week and has not noticed any materials that would not be eligible for the organics recycling.

City Planner Anderson provided updates on other recycling activity including cardboard recycling that was done and the annual holiday lights recycling.

7. ADJOURNMENT

Motion by Board Member Valentine and seconded by Chairperson Stodola to adjourn the meeting.

The meeting adjourned at 7:58 p.m.

Respectfully submitted,

_____
Chris Anderson
City Planner

ATTEST:

_____
JoAnn Shaw
Community Development Secretary

Drafted by Amanda Staple
TimeSaver Off Site Secretarial, Inc.

PLANNING COMMISSION
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

The Ramsey Planning Commission conducted a regular meeting on Thursday, February 1, 2018, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present:	Commissioner Bruce Anderson Commissioner Cheri Gengler Commissioner Patrick Surma Commissioner Gary VanScoy
Members Absent:	Chairperson Randy Bauer Commissioner Cindy Nosan
Also Present:	Community Development Director Timothy Gladhill City Planner Chris Anderson City Planner Chloe McGuire Brigl

1. CALL TO ORDER

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

2. CITIZEN INPUT

None.

3. APPROVAL OF AGENDA

Motion by Commissioner Anderson, seconded by Commissioner Gengler, to approve the agenda as presented.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Gengler, and Surma. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

4. APPROVE PLANNING COMMISSION MINUTES

4.01: Approve the Following Planning Commission Minutes:

4.01.1: Planning Commission Meeting Minutes Dated January 4, 2018

Vice Chairperson VanScoy noted a spelling correction within the minutes.

Motion by Commissioner Anderson, seconded by Commissioner Surma, to approve the following minutes as presented: Planning Commission Meeting Minutes dated January 4, 2018.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Surma, and Gengler. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

5. PUBLIC HEARINGS/COMMISSION BUSINESS

5.01: Public Hearing: Consider Sketch Plan and Zoning Amendment for a Proposed Lot Combination; Case of ACE Solid Waste, Inc.

Public Hearing

Vice Chairperson VanScoy called the public hearing to order at 7:02 p.m.

Presentation

City Planner Anderson presented the staff report stating the City has received an Application for a Sketch Plan and Zoning Amendment related to two parcels owned by ACE Solid Waste, Inc. The two properties include 6601 McKinley Street (ACE's headquarters) and 14050 Basalt Street (together referred to as the "Subject Properties"). While no site improvements are proposed at this time, ACE Solid Waste is anticipating a potential future expansion of their transfer station building, which would extend across an existing property boundary between the Subject Properties, and additional parking/storage area, prompting the requested actions. Staff provided further comment on the request and recommended approval of the proposed lot combination.

Citizen Input

Dave Wiggins, Division President for ACE Solid Waste, thanked the Commission for their consideration and stated the request would allow for future expansion at this location.

Vice Chairperson VanScoy questioned how the expansion site would be accessed.

Mr. Wiggins reported the site would be accessed from the northwest corner of the current site off of 141st Avenue.

Vice Chairperson VanScoy asked if staff had addressed access issues with the applicant.

City Planner Anderson reported this matter was discussed by the engineering department and there were no concerns.

Motion by Commissioner Anderson, seconded by Commissioner Gengler, to close the public hearing.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Gengler, and Surma. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

Vice Chairperson VanScoy closed the public hearing closed at 7:09 p.m.

Commission Business

Motion by Commissioner Surma, seconded by Commissioner Gengler, to recommend that City Council adopt Ordinance #18-07 rezoning 14050 Basalt Street to E-2 Employment District.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Surma, Gengler and Anderson. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

5.02: Public Hearing: Consider Preliminary Plat and Variance Request for Rum River Prairie (Project #17-149); Case of Eric Thomsen

Public Hearing

Vice Chairperson VanScoy called the public hearing to order at 7:10 p.m.

Presentation

City Planner Anderson presented the staff report stating the purpose of this case is to review the Preliminary Plat for a proposed twenty-five (25) lot, detached single family residential subdivision located at the intersection of Armstrong Blvd and Tiger Street (PIDs 07-32-25-14-0001 and 07-32-25-13-0001, together, the "Subject Property"). The Subject Property is zoned R-1 Residential (Rural Developing) and the subject lots would be serviced by private well and septic services. Staff discussed the request in detail with the Commission and recommended approval of the Variance and Preliminary Plat.

Citizen Input

Vice Chairperson VanScoy asked if 169th was put in this neighborhood to be a through street to Tiger Street.

City Planner Anderson stated this was an interesting scenario as there was a sliver of land remaining that was still needed in order to complete the through street. He explained there was no dedicated easement or right-of-way over the unplatted sliver of land. He indicated this issue has been discussed with the developer and he was aware of this concern. He reported the adjacent property owner would be contacted to have a discussion with City staff.

Eric Thomsen, 6210 Green Valley Road, thanked the Commission for their consideration. He stated if a cul-de-sac were added, he would need another variance for lot sizes. While he was sympathetic to the through street situation, he stated this was a prior situation created by City.

Vice Chairperson VanScoy commented a cul-de-sac or a through street would improve this development. He questioned which outcome the applicant preferred.

Mr. Thomsen indicated he would like to see the development remain as is but noted he would be willing to work with the City if a cul-de-sac had to be added.

Commissioner Surma explained he supported the roadway remaining as is. He did not want to see the property rights of the adjacent property owners impacted given the fact this road only serviced one person.

Vice Chairperson VanScoy noted that this roadway serviced three homes.

Commissioner Anderson commended the applicant on his creative use of this space.

Motion by Commissioner Gengler, seconded by Commissioner Surma, to close the public hearing.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Gengler, Surma, and Anderson. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

Vice Chairperson VanScoy closed the public hearing closed at 7:28 p.m.

Commission Business

Motion by Commissioner Anderson, seconded by Commissioner Surma, to adopt Resolution #18-022 approving a Variance to lot size for Rum River Prairie including the favorable Findings of Fact.

Further discussion

Vice Chairperson VanScoy offered a friendly amendment to the motion stating the roadway situation was not the result or action of the applicant, but rather this was a unique landlocked parcel.

Commissioner Anderson and Commissioner Surma accepted the friendly amendment.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Surma, and Gengler. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

Motion by Commissioner Anderson, seconded by Commissioner Surma, to recommend City Council adopt Resolution #18-023 approving the Preliminary Plat approval of Rum River Prairie.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Surma, and Gengler. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

5.03: Public Hearing: Consider Preliminary Plat of Affinity at Ramsey (Project No. 17-142); Case of Inland Group

Public Hearing

Vice Chairperson VanScoy called the public hearing to order at 7:32 p.m.

Presentation

Community Development Director Gladhill presented the staff report stating the purpose of this case is to review an application for preliminary plat and site plan approval of Affinity at Ramsey, a one hundred and seventy-five (175) unit apartment development on the property generally located at the southwest corner of Center Street and Ramsey Parkway. The Developer, Inland Group of Spokane, Washington, is focusing this development on ages 55+. The parcel is legally described as Outlot Q, Ramsey Town Center Addition, Anoka County, Minnesota. Staff provided further comment on the proposed project and recommended approval of the Preliminary Plat and Site Plan.

Citizen Input

Keith James, Inland Group, thanked the Commission for their time. He stated this was his fourth time before the Commission and indicated he was available to answer questions.

Commissioner Anderson stated he appreciated the fact the applicant had adopted the recommendations from the City Council. He commented he was very pleased with the proposed building.

Vice Chairperson VanScoy agreed and stated this was a great project to be coming to the City of Ramsey and The COR. He requested further information on the landscaping plan.

Mr. James commented on the landscaping plan and noted all trees and shrubs would meet the City's size requirements.

Motion by Commissioner Anderson, seconded by Commissioner Surma, to close the public hearing.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Surma, and Gengler. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

Vice Chairperson VanScoy closed the public hearing closed at 7:44 p.m.

Commission Business

Motion by Commissioner Surma, seconded by Commissioner Gengler, to recommend that City Council adopt Resolution #18-032 granting Preliminary Plat approval of Affinity at Ramsey and recommend adoption of Resolution #18-033 granting Site Plan approval of Affinity at Ramsey.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Surma, Gengler, and Anderson. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

5.04: Public Hearing: Ordinance #18-001 Amending Lot Width Requirements for Cul-De-Sac lots in the R-1 Rural Developing District

Public Hearing

Vice Chairperson VanScoy called the public hearing to order at 7:46 p.m.

Presentation

City Planner Anderson presented the staff report stating the purpose of this case is for the Planning Commission to review and consider a proposed amendment to reduce the required lot width standards from 200 feet to 100 feet for lots zoned R-1 Rural Developing and located on a Cul-De-Sac. Staff discussed the proposed Ordinance in detail and noted a language change stating the lot width shall be 100 feet at the front yard setback.

Citizen Input

Motion by Commissioner Anderson, seconded by Commissioner Gengler, to close the public hearing.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Gengler, and Surma. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

Vice Chairperson VanScoy closed the public hearing closed at 7:50 p.m.

Commission Business

Motion by Commissioner Anderson, seconded by Commissioner Gengler, to recommend the City Council adopt Ordinance #18-01 Amending the Lot Width Requirement for Cul-De-Sac lots in the R-1 Rural Developing District with the language as recommended by staff.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Gengler, and Surma. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

6. COMMISSION BUSINESS

6.01: Receive Update on Home Occupation at 5751 177th Avenue NW; Case of Tracer Landscaping LLC

Presentation

Community Development Director Gladhill presented the Staff Report stating the purpose of this case is to gather feedback from the Planning Commission as it relates to an existing home occupation located at 5751 177th Ave NW. The Applicant has not at this time submitted an official application for a home occupation permit as it is Staff's request that the Planning Commission consider the home occupation prior to a formal application being made.

Commission Business

Commissioner Anderson asked how staff defined home occupation.

Community Development Director Gladhill stated this was defined as any business or commercial activity that is conducted or petitioned to be conducted from the principle or accessory structure on the property that is zoned for residential use by persons residing on the property.

Travis Longfield, 5751 177th Avenue NW, stated he wanted to use his property as described in the letter he drafted to the City. He explained he did not want to make any of his neighbors angry and noted he has not heard any complaints from his neighbors. He indicated his equipment would be stored in the woods on his property. He reported three trucks left his property in the morning and returned in the evening.

Commissioner Anderson questioned if people at the residence were driving the vehicles.

Mr. Longfield stated this was the case.

Vice Chairperson VanScoy questioned where the gravel pad was located on the property.

Mr. Longfield noted the location of the gravel pad on his property and stated the gravel pad area would be removed.

Further discussion ensued regarding the proposed size of the accessory structure and City requirements regarding detached structures.

Vice Chairperson VanScoy asked if the applicant needed such a large accessory structure.

Mr. Longfield stated he did not want to have to construct a building twice.

Commissioner Anderson questioned when construction would begin on the accessory structure.

Mr. Longfield reported he would put footings in this spring.

Commissioner Anderson inquired what type of driveway Mr. Longfield would have.

Mr. Longfield indicated he would have a crushed concrete driveway.

Commissioner Surma asked if the applicant would be using his property to store large quantities of sand, gravel or black dirt.

Mr. Longfield stated this was not his intent, unless he would be working on landscaping for his own property.

Vice Chairperson VanScoy explained this was not a Public Hearing, but he wanted to open the meeting at this time for public comment.

Stephanie Trapp, 5829 177th Avenue NW, explained she has lived in her house with her family since 2005. She stated she has a long commute to work but considers her home to be her oasis. She indicated she appreciates the rural feel of her neighborhood and stated it was a great place for her to raise her two boys. She commented she has had amicable relations with her neighbors for the past 12 years and commented on how the neighborhood changed after September of 2016 when Travis Longfield moved onto the street. She discussed how the property at 5751 177th Avenue NW has changed since that time. She indicated she appreciated the improved landscaping but not the traffic being generated from the property. She described the numerous deliveries that have been made to the Longfield property over the past two years. She stated she has tried to be patient with her neighbor noting she understood he was working to improve his property. She commented that while the deliveries have ceased, the commercial vehicle traffic moving to and from the property has continued. She stated her main concerns with the home occupation was the noise and traffic being generated by the use as this was impacting the enjoyment of her property. She feared she would be prematurely be reassessed for a roadway given the high amount of heavy traffic going to and from Mr. Longfield's property. She respectfully requested the City take these concerns under advisement.

Dan Lenhard, attorney for Don and Jamie Kveton at 5750 177th Avenue NW, addressed the concerns being raised by his clients. He stated the Kveton's do not want to see this commercial operation continue in their neighborhood. He commented the loading and unloading of commercial vehicles in the morning and evening was disruptive to a residential neighborhood. He indicated the vehicles were impeding access through the cul-de-sac and at times his clients could not access their own driveway or mailbox. He reported Mr. Longfield has conducted open burning which was a concern to his clients. In addition, his clients have concerns regarding the aggressive driving, speed of commercial traffic, along with the wear and tear these commercial vehicles are having on the roadway. He noted Mr. Longfield's employees have thrown beer cans and made vulgar comments to his clients. He stated this type of behavior has to be curtailed.

Scott DeJares, 5910 177th Avenue NW, commented Mr. Longfield has employees coming to and from his property and noted they have not always lived at his house. He expressed concern with the amount of equipment going up and down his street.

Maria Gobernath, 5880 177th Avenue NW, stated she has the youngest child on the block, age four. She noted Travis Longfield has two young children. She expressed concern with letting her son play at the Longfield property given number of large vehicles coming and going from the property. She feared the roadway would prematurely need repairs given the high volume of commercial trucks. She explained she didn't have a problem with Travis or his family, but stated she did have concerns with the business operations.

Rob Shaneus, Attorney for Travis Longfield, addressed the Commission. He described how the neighborhood was structured and the lots were oriented. He reported the neighboring property was a working farm and had much of the same traffic the neighbors were concerned about. However, because this property was zoned agricultural, the traffic was allowed. He stated his client had no intention of parking trucks on the street long-term. He noted this was a short-term situation during construction on the property. He commented on his client's intention to store all company vehicles within an accessory structure which would be built on his property. He stated his client received a letter from the City identifying two options to bring the property into compliance and explained his client had chosen to build an accessory structure.

Mr. Longfield stated it was not his intention to drive recklessly down his street and explained he was unaware of any beer can throwing incident. He indicated he was not trying to make anybody mad. He noted he has allowed to have a fire on his property and explained he had all the necessary permits in place.

Commissioner Gengler asked if all employees would be living onsite during the 2018 landscaping season.

Mr. Longfield stated his plan was to have his employees staying on his property.

Vice Chairperson VanScoy commented traffic was a concern for him. He noted the applicant was allowed eight trips per day without becoming excessive. He understood that only six trips were being generated at this time. He encouraged employees to carpool into and out of the site in order to reduce the traffic to the property.

Community Development Director Gladhill recommended that the applicant pursue a home occupation through the conditional use permit process and that this not be approved by staff administratively given the complexity of the request and location of the employees. He anticipated the request would require conditions.

Vice Chairperson VanScoy and the entire Planning Commission supported this recommendation.

Mr. Shaneus expressed concern that a conditional use permit was being proposed when home occupations are entitled if an applicant complies with a list of conditions. He stated applicants have three options with home occupations, one being staff can approve home occupations administratively with conditions. He reported that only if an applicant does not comply with these conditions, is a conditional use permit required. He explained that his client has made every effort to comply with City Ordinance. He stated if Mr. Longfield installs a garage and

driveway as has been requested by the City, he would be in compliance with City Code and has eliminated all exterior evidence. Therefore, his client would not require a conditional use permit.

Vice Chairperson VanScoy stated this was not his understanding.

Community Development Director Gladhill commented he did not want to get into a long debate regarding this request. He stated there were a number of commercial vehicles being stored on this property. He recommended that City staff and the City attorney meet with the applicant in order to sift through the home occupation request further.

Mr. Shaneus stated he would be happy to work through this further with City staff and the City Attorney.

Community Development Director Gladhill stated until the City receives more information regarding Mr. Longfield's employees staff would continue to recommend a conditional use permit for this home occupation.

Commissioner Anderson encouraged Mr. Longfield to work with staff on this matter.

Vice Chairperson VanScoy encouraged Mr. Longfield to work with his neighbors in order to keep the peace on this street. He thanked everyone from this neighborhood for coming forward and expressing their concerns. It was his hope that all of the issues brought up would be addressed by staff and the applicant in the near future.

Vice Chairperson VanScoy recessed the meeting at 8:53 p.m.

Vice Chairperson VanScoy reconvened the meeting at 8:58 p.m.

6.02: Discussion Item: Auto Sales at 6750 Highway 10

Presentation

Community Development Director Gladhill presented the Staff Report stating the City has been approached by a party interested in conducting motor vehicle sales/service on the property located at 6750 Highway 10 NW (the "Subject Property"). The Subject Property is located in the B-2 Highway Business District and is approximately 1.32 acres. There are several interrelated questions regarding surfacing and the lawful, non-conforming designation that have come up that Staff wanted to review with the Planning Commission before providing direction to the prospective Applicant. A Conditional Use Permit shall be required for this use. The question at hand is to also allow the expansion of a lawful, non-conforming use (storage on an unimproved surface) to allow the storage of motor vehicles staged for service.

Commission Business

Commissioner Surma asked why staff wants to see the gravel area paved.

Community Development Director Gladhill stated the paved surface regulation was a zoning requirement for aesthetic and erosion control purposes.

Vice Chairperson VanScoy asked if the gravel area was fenced in.

Community Development Director Gladhill reported this was the case.

Commissioner Surma supported the gravel area remaining as is.

Steve Fisher, 10766 Dunkirk Lane, explained his client was in the due diligence phase for this property. He reported his client currently leases space and was looking to purchase.

Dave Evenson, 7867 Park Court NE, stated has owned a business in Ramsey for the past 10 years and it was his dream to own his own property. He commented further on the auto detailing and auto sales business he owns and noted one of his main clients was Luther Automotive. He explained he would be able to grow his business through retail sales and higher visibility along Highway 10.

Vice Chairperson VanScoy questioned why the applicant was requesting to keep the gravel area.

Mr. Evenson stated this was a cost issue for him.

Commissioner Gengler asked how tall the fence was.

Mr. Evenson estimated the fence was eight feet in height. He noted the fence could not be seen through.

Vice Chairperson VanScoy questioned how many cars would be moved in and out of the site per day.

Mr. Evenson anticipated he would be moving eight to ten vehicles in and out of the site per day.

Vice Chairperson VanScoy stated his only concern is with moving that number of vehicles in and out of the property constantly on an unimproved surface, the gravel would be damaged.

Commissioner Anderson asked if boats and trailers would be sold on this property.

Mr. Evenson commented this was not the type of work he would do. He explained the Sunwater Sports business would be going away.

Commissioner Anderson indicated he did not want to see any additional used car lots in the City. In addition, he supported the entire gravel area being paved. He stated he wanted Ramsey to look nice and this property had to be brought into compliance with City Code.

Community Development Director Gladhill commented the utilization of the area in the back was a concern without paving the site. If motor vehicle sales could be conducted on the already paved surface, this would not be a concern.

Vice Chairperson VanScoy questioned if a phased approach could be taken regarding the paving.

Mr. Evenson stated his main concern at this time was the expense. He appreciated how staff approached this issue and commented he was still considering if this property would work for his business. Further discussion ensued regarding the boat storage activity that was occurring on this property currently. He explained he would be greatly improving the outdoor storage situation if he were able to purchase the property.

Vice Chairperson VanScoy supported a phased approach for this property.

Community Development Director Gladhill commented staff was willing to work with the applicant on a phased approach.

Vice Chairperson VanScoy asked if the applicant could support a phased approach.

Mr. Evenson stated he was uncertain at this time.

Community Development Director Gladhill suggested cost estimates be provided by City staff and that negotiations be held between staff and the applicant. The Planning Commission encouraged the applicant to work with staff.

Commissioner Surma anticipated that if the gravel area was paved the property value would be greatly enhanced.

6.03: Discussion Item: Oversized Signage in the COR

Presentation

City Planner Brigl presented the Staff Report stating members of the City Council and public wanted to visit the topic of over-sized signage in the COR to potentially develop City standards in-line with the mission of the COR. It was noted this was a discussion topic only.

Commission Business

Commissioner Anderson stated he would need more context in order to provide staff with feedback. He commented he could not support a 75-foot sign in the COR as this would be out of place.

Community Development Director Gladhill reviewed a zoning map for the properties along Highway 10. He requested feedback on the Commission's level of comfort for sign height in this particular area. He reported the common sign height request was 75 feet.

Commissioner Anderson commented he would be comfortable with a 75-foot-tall sign in this particular zone so long as there was not an abundance. He noted he liked the idea of collocating signs.

Commissioner Surma believed that the zoning area along Highway 10 was too wide and should be narrowed.

Vice Chairperson VanScoy agreed.

Community Development Director Gladhill suggested the area be shrunk to include the area inside of Sunwood Drive and Riverdale Drive.

The Commission supported this recommendation.

Vice Chairperson VanScoy stated he could support staff approving a 75-foot-high sign request inside of Sunwood Drive and Riverdale Drive and anything beyond this area should be reviewed by the Planning Commission.

Commissioner Surma stated he would like to see the City consider wayfinding signs for the COR.

Vice Chairperson VanScoy stated he did not want to see a forest of 75-foot signs along Highway 10.

Community Development Director Gladhill reported staff would work to further refine the zone in order to narrow the corridor and would report back to the Commission at a future meeting.

6.04: Select Winning 2017 Photo – 'Life in Ramsey'

Presentation

Community Development Director Gladhill presented the Staff Report stating as a member of a City of Ramsey board/commission, the Commission was invited to participate in the voting process for the 2017 photo contest. The photo contest was implemented to gather photos to supplement the City's Comprehensive Plan and the Parks System Plan, as well as City publications. Staff reviewed the photo contest categories and winning photos with the Commission.

Commission Business

Vice Chairperson VanScoy asked if the Commission could get access to the photos.

Community Development Director Gladhill stated he could provide the Commission with access to the photos.

7. COMPREHENSIVE PLAN UPDATE ITEMS

None.

8. COMMISSION / STAFF INPUT

8.01: Receive Staff Update

The Staff Update was noted.

8.02: Zoning Bulletins

Zoning Bulletins were noted.

9. ADJOURNMENT

Motion by Commissioner Anderson, seconded by Commissioner Gengler, to adjourn the meeting.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Gengler, and Surma. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

The regular meeting of the Planning Commission adjourned at 9:44 p.m.

Respectfully submitted,

_____
Tim Gladhill
Community Development Director

ATTEST:

_____
JoAnn Shaw
Planning Division Secretary

Drafted by Heidi Guenther
TimeSaver Off Site Secretarial, Inc.

PARK AND RECREATION COMMISSION
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

The Ramsey Park and Recreation Commission conducted a regular meeting on February 8, 2018, at Ramsey City Council Chambers, 7550 Sunwood Drive NW.

Commission Members Present:	Chair Shane Bennett Commissioner Andrew Andrusko Commissioner Russell Bayer Commissioner Jennifer Leistico Commissioner Brandon Sis Commissioner Charles Tchuinkwa Commissioner Jon Trappen
Commission Members Absent:	None
Also Present:	Parks & Assistant Public Works Superintendent, Mark Riverblood Anoka County Parks Planner, Karen Blaska

1. CALL TO ORDER

Chair Bennett called the Park and Recreation Commission meeting to order at 7:13 p.m.

Chair Bennett apologized for the late start to the meeting due to technical difficulties. He also noted that the agenda will have to be changed as a result of the ongoing technical difficulties.

2. CITIZEN INPUT

None.

3. APPROVE AGENDA

Chair Bennett explained Items 5.02, 5.03, and 5.04 will be tabled until the next Park and Rec meeting, due to the aforementioned technical difficulties.

Motion by Commissioner Sis, seconded by Commissioner Bayer, to approve the Park and Recreation Commission meeting agenda as amended.

Motion carried. Voting Yes: Chair Bennett, Commissioners Sis, Bayer, Andrusko, Leistico, Tchuinkwa, Trappen. Voting No: None. Absent: None.

4. APPROVE MINUTES

4.01: Approve Park and Recreation Commission Meeting Minutes

Commissioner Trappen noted that the first page of the January 11th meeting minutes indicates he was absent, though he was in fact present and accounted for as part of the voting record.

Motion by Commissioner Trappen, seconded by Commissioner Sis, to approve the following:

Park and Recreation Commission Regular Meeting Minutes dated January 11, 2018 as amended to reflect Commissioner Trappen's presence.

Motion carried. Voting Yes: Chair Bennett, Commissioners Trappen, Sis, Andrusko, Bayer, Leistico, Tchuinkwa. Voting No: None. Absent: None.

5. COMMISSION BUSINESS

5.01: Recommend to City Council Support for the Realignment of the Central Anoka County Regional Trail

Parks & Assistant Public Works Superintendent Riverblood recalled that the project purpose is realignment of the 26-mile long regional trail that runs through the center of Anoka County. He noted that the City Council is ready to vote on this realignment proposal next Monday, February 12th, so he recommended the Commission proceed with hearing Ms. Blaska's presentation, even without the visual slides (unavailable due to technical difficulties). He added that the slides will be available at the Park and Rec Commission's March meeting, so Commissioners will then have the chance to review the images not available tonight.

Mr. Riverblood introduced Karen Blaska, long-time parks planner for Anoka County.

Ms. Blaska provided a verbal overview of the 26-mile-long regional trail, noting that about 15 miles of the trail is actually built. The piece under consideration tonight is in the City of Ramsey, along Center Street. The draft master plan highlights the proposed change. She provided a verbal description of the proposed change, which would result in a much safer way to cross Highway 10. Currently the trail runs south along Ramsey Boulevard down to Highway 10. The proposal is to remove that designation and switch it to Center Street.

Commissioner Sis asked if the change presents any financial impacts to the City.

Ms. Blaska responded there are no financial impacts of the realignment at this time.

Mr. Riverblood noted there is no monetary impact negatively, but probably a favorable one related to the City's ability to obtain infrastructure grants relative to The COR. It is favorable in all ways. This really is a favorable development also for the places the public will become connected to (retails, transit, restrooms, and other facilities). In the March meeting, the Commission will be able to see the images that show the intersection of Ramsey Blvd and

Highway 10. At such point as the pedestrian bridge happens over Highway 10, it will be safe, seamless, well-integrated systems of public facilities.

Commissioner Andrusko asked how this change will align with the National Park Service's plan for this area.

Ms. Blaska noted the National Park Service has established Alternative Transportation nodes that tie to public transportation. Presumably, Ramsey will be included in the next round of establishing nodes. Thus, the realignment plan ties nicely into the NPS's transportation program.

Chair Bennett expressed support for the potential changes, specifically as it relates to connectivity to the parks, leveraging the proposed pedestrian bridge, moving the trail off a less-usable area that does not connect certain elements of Ramsey. He concluded by stating this is the right thing to do.

Commissioner Bayer asked about the timeline for the City and the County, and the starting point of the alignment project itself.

Mr. Riverblood stated the trail along Bunker Lake Blvd is in place. The new section of Center Street has been constructed with a 10' wide sidewalk in anticipation of the realignment of the County Trail. Case No. 2 will fill in the blanks relative to that question, wherein the Water-Centric Park space is built. The municipal pass-through area next to City Hall is in place. Very little of this is not ready to go or will not be very soon.

Commissioner Tchuinkwa asked when the project will begin.

Mr. Riverblood responded the project will begin as soon as the City receives the money. He added that the City plans to apply for a grant in June 2018 for the pedestrian bridge.

Chair Bennett noted there will be an informational open house about this topic on February 12, 2018.

Mr. Riverblood encouraged the public to attend the open house or send in written comments about the project.

Motion by Commissioner Sis, seconded by Commissioner Tchuinkwa, to support the realignment of the Central Anoka County Regional Trail as proposed

Amendment offered by Commissioner Bayer, seconded by Commissioner Andrusko, to specifically include Resolution No. 18-039, a resolution supporting the realignment of the Central Anoka County Regional Trail.

Motion carried. Voting Yes: Chair Bennett, Commissioners Sis, Tchuinkwa, Andrusko, Bayer, Leistico, Trappen. Voting No: None. Absent: None.

~~5.02: Recommend 2018 Parks Capital Improvement Project(s)~~

~~**5.03: Update on the Schematic Design Process for Municipal Plaza and the Water-Centric Park**~~

~~**5.04: Select Winning 2017 Photo – Park and Trial Category**~~

Due to technical difficulties, these agenda items were not addressed.

6. COMMISSION/STAFF INPUT

Parks & Assistant Public Works Superintendent Riverblood provided an update on rink usage, which has been down considerably from previous years, with no real explanation. There have been cold periods, but that is not unusual. He encouraged the public to utilize the last few weeks of the ice skating season.

7. ADJOURNMENT

Motion by Commissioner Andrusko, seconded by Commissioner Bayer, to adjourn the meeting.

Motion carried. Voting Yes: Chair Bennett, Commissioners Andrusko, Bayer, Leistico, Sis, Tchuinkwa, Trappen. Voting No: None. Absent: None.

The Park and Recreation Commission meeting adjourned at 7:30 p.m.

Respectfully submitted,



_____
Mark Riverblood
Parks & Assistant Public Works Superintendent

Drafted by Allison Burr
TimeSaver off Site Secretarial, Inc.

CC Regular Session **4. 3.**

Meeting Date: 03/27/2018

By: Jo Thieling, Administrative Services

Information

Title

Approve the Following Meeting Minutes:

1. City Council Work Session dated 3/13/2018
2. City Council Regular dated 3/13/2018

Purpose/Background:

Purpose: The purpose of this case is for Council review and approval of meeting minutes.

Background: Attached are the meeting minutes referenced above.

Action:

Motion to approve the following Council meeting minutes:

1. City Council Work Session dated 3/13/2018
2. City Council Regular dated 3/13/2018

Attachments

CCWS Mts

CC Mts

Form Review

Form Started By: Jo Thieling Started On: 03/22/2018 09:03 AM

Final Approval Date: 03/22/2018

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

The Ramsey City Council conducted a City Council Work Session on Tuesday, March 13, 2018, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Acting Mayor John LeTourneau
Councilmember Jill Johns
Councilmember Mark Kuzma
Councilmember Chris Riley
Councilmember Melody Shryock

Members Absent: Mayor Sarah Strommen

Also Present: City Administrator Kurtis Ulrich
Police Chief Jeff Katers
Public Works Superintendent Grant Riemer
Community Development Director Timothy Gladhill
Asst. City Administrator/Economic Development Manager Patrick Brama

1. CALL TO ORDER

Acting Mayor LeTourneau called the City Council Work Session to order at 5:32 p.m.

2. TOPICS FOR DISCUSSION

2.01: 2018 City of Ramsey Resident Survey

Asst. City Administrator/Economic Development Manager Brama reviewed the staff report.

Councilmember Shryock stated that the changes look good and she was glad to see additional levels of government listed in one of the questions. She commented that she also liked the inclusion of the road financing question as that will assist the City in the collection of comparison data.

Councilmember Johns referenced question 17 and asked why the school question is included as the City does not have much control.

Asst. City Administrator/Economic Development Manager Brama stated that question was generated through the public input process involved in the updating of the Comprehensive Plan. He noted that education is one of the four key themes identified by the community and therefore that question is representative of that theme.

Acting Mayor LeTourneau asked if that question is asking for the survey taker to rank the priorities.

Councilmember Shryock replied that the user would not necessarily be ranking the items but identifying the most important.

Councilmember Riley agreed that it seems odd that one of the four pillars of the Comprehensive Plan is something the City does not have control over.

Community Development Director Gladhill noted that although the City is not in control of building the capital or operation of the school, there has been input from residents that there needs to be better planning between the City and School District. He explained that the City can help to plan for the needed elements regarding education and can work together with the School District to plan for the future.

City Administrator Ulrich noted that it would be difficult to determine if survey users view change as a positive or negative.

Community Development Director Gladhill provided additional details and noted that staff can revise the language.

Councilmember Riley asked what would occur if the response is that element is not important.

Community Development Director Gladhill noted that the survey would provide additional data and the draft Comprehensive Plan can be adjusted, if needed.

Councilmember Johns referenced question 16 and noted that may be a place to include the possible creation of space for incubator businesses.

Asst. City Administrator/Economic Development Manager Brama stated that is where the incubator question was included in the last draft of the survey and community center was added in its place. He stated that he did not believe that there would be sufficient space on the page to add that additional line.

Councilmember Shryock stated that she is pleased to see community center added back into the survey in order to continue to gain data on the opinion of the residents. She referenced the question regarding road financing and asked if the element regarding franchise fee should include a range of price rather than including just the one figure.

Councilmember Johns stated that she would be comfortable with the $8 figure being included.

Acting Mayor LeTourneau stated that if a range were included, residents may focus on the high or low number rather than the actual number.

Councilmember Riley stated that he would also include $8, as that is the figure the Council has discussed in the past.

Councilmember Kuzma confirmed his consensus with using $8.

Acting Mayor LeTourneau confirmed the consensus of the Council to move forward with the questions as discussed.

2.02: Review Policy for Attendance and Participation at City Meetings (Council and Commissioners) via Electronic Medium

City Administrator Ulrich reviewed the staff report.

Councilmember Johns referenced the statement that eligible users may use this option up to four times. She stated that for the Council that would be a good number but for some of the Commissions and Boards that would equate to 25 percent of their meetings for the year.

Councilmember Kuzma stated that there is a cost to use Skype and asked if the individual would be responsible for having that technology or whether there would be a City funded cost.

Councilmember Riley stated that there would be a regular Skype that does not have a cost.

City Administrator Ulrich stated that there may be additional charges, should someone be remotely attending from a far location. He noted that would be an item for discussion as to whom would be responsible for that cost.

Councilmember Johns stated that perhaps there would be international charges for some users.

Councilmember Riley stated that this option would be at the user's convenience and therefore it should be their cost.

Acting Mayor LeTourneau stated that he would like additional information on the cost for using this technology for a meeting as that will help determine whether he would even be interested in this option.

Councilmember Shryock agreed that four meetings would be a lot for Board and Commission members that only meet 12 times per year. She suggested setting the limit for those users at up to two meetings per year.

Councilmember Riley stated that his expectation is that this method for attending meetings be used very rarely and suggested adding that language to the policy. He suggested that this policy be limited to one person per meeting, as it would be difficult to accommodate technology for two users to attend remotely.

Acting Mayor LeTourneau stated that he would be interested in the cost for both one and two users.

Councilmember Kuzma stated that there was talk of televising the other Commissions and received confirmation that all meetings are now televised.

City Administrator Ulrich noted that as discussed, he will add the preamble of the expectation for use of this policy, the additional notification period, amending the number of allowed users to one per meeting, reducing the number of allowed times of use to two per year for Boards and Commissions, adding language on decorum, and adding a statement that specifies that an individual would be responsible for the cost. He stated that he will also investigate the possible cost and bring this item back to the Council again in the future.

2.03: Review Construction Manager Option for Public Works Campus

City Administrator Ulrich reviewed the staff report.

Brian Recker, RJM Construction, provided background on his organization which has been in business for 21 years and focuses on healthcare, corporate clients, and municipalities. He provided information on how cities traditionally deliver a construction project utilizing the competitive bidding process. He stated that municipalities have struggled with that process because rather than bringing on a partner for the project, they are bringing on the lowest bidding contractor. He stated that construction management came into the metro market about 25 years ago and the process brings on a construction manager at the beginning of the project, often times before you hire an architect, and that manager becomes the advocate for the City throughout the process. He stated that the architect and construction manager will work together and as the architect designs the project, the construction manager continues to check in and ensure that the budget remains consistent. He stated that if the budget checks in above budget, the construction manager then provides input on cost savings or reduction ideas that could be implemented to bring the project back to the budget. He stated that the construction manager will look through all the plan documents to ensure that there are no gaps or grey areas that a bidder could leave out of their bid and come back to the City later with a change order. He stated that the construction manager will also review the materials to ensure that the best value will be gained for the City. He noted that the project will need to be publicly bid once the plans are prepared. He explained that the plans will be broken up into packages and each individual trade will bid on their applicable scope of work and the recommendation would be made to accept the low bidder for each individual plan package. He stated that the construction manager would also provide a job superintendent that oversees the activity from the contractors and would oversee the project throughout the entire process as an advocate for the City. He stated that there are two ways to provide construction manager services, through an agency construction manager or a construction manager at risk. He explained the differences noting that with an agency construction manager, the City would hold the contracts with the individual contractors. He stated that some cities had bad experiences with that method because the construction manager was not taking full responsibility on the job site and communicating with the contractors because the City is holding the contracts. He stated that because of that experience a new method was developed, construction manager at risk, in which the City still goes to bid for the plan packages and a recommendation is made to accept the low bidder for each plan package, but the contracts are then held through the construction management office rather than the City holding each contract. He provided an example where a contractor was working on a municipal job and went

out of business over a weekend. He stated in that example, the construction management office handled the necessary action towards the contractor that closed their business rather than the City having to handle that work because the municipality used the at-risk method.

Acting Mayor LeTourneau asked if there is a price difference between agency and at-risk models.

Mr. Recker replied that sometimes there is difference between agency and at risk, where an agency project may have a percentage of 2.8 compared to a percentage of 2.35 for an at-risk model. He stated that often RJM charges a lower rate for an at-risk method because they have the experience and overhead to handle those services.

Councilmember Kuzma asked at what point it would be helpful for a construction manager to be involved.

Mr. Recker replied that it is his understanding that there has already been a feasibility study and project estimate completed and therefore it would be a good time to bring the construction manager on. He stated that the construction manager can review the budget information to ensure that the project is within the right spot before an architect is hired. He stated that if the City were within a year of when they would like to start the project, that would be a good time.

Councilmember Kuzma asked how long the estimate would be good for.

Mr. Recker stated that when the conceptual estimate is done, the construction manager would look at the estimated time of construction and would review the current prices of similar projects and also build in inflation. He stated that further along in the process they would refine the budget further and the budget would be refined again in the design/development phase where more accurate pricing information in gained from the current market. He stated that once the plans are 95 percent finalized, about two to three months before the plans are ready to be bid, he would again obtain more formal budget estimates.

Acting Mayor LeTourneau asked if there is a model that shows the hard cost savings provided by the use of a construction manager.

Mr. Recker explained that in a traditional bid a general contractor will obtain bids from all of the subcontractors that they use and add that with the superintendent and the fees that the general contractor will have for their trailer and additional services. He stated that with a construction manager, the fee for using the construction manager would be similar to the fees of the general contractor to oversee the project. He stated that what the City would be losing by not using a construction manager would be the opportunity to obtain cost savings throughout the design process and the ability to stay more on budget.

Public Works Superintendent Reimer stated that using a construction manager will provide the City with knowledge. He explained that an architect will tell you certain elements are needed, and the construction manager will be able to provide their input on what elements are actually needed, as City staff does not always have that knowledge.

City Administrator Ulrich stated that the City would also save staff time in management of the project.

Councilmember Riley asked if a construction manager was used for Fire Station #2 and asked how this would be different.

Asst. City Administrator/Economic Development Manager Brama stated that a construction manager was not used for Fire Station #2. He stated that although the architect and general contractor attempt to help the City throughout the process, each person has their own wants and is not looking out for the best interest of the City. He stated that if the construction manager at risk service would be provided for the same cost, he would believe that to be a great service as it would save staff time. He stated that if the City has someone that knows the industry and knows the design process, they will be able to pick up on language gaps that could equate to change orders later in the process to help avoid those change orders.

Councilmember Kuzma stated that he likes the at-risk method but is concerned that this would be jumping into the process too quickly as he is still unsure how the project will be funded. He stated that the City has enough concern with road debt that needs to be resolved before this additional debt is added. He agrees that this will be a great way to go but believes that this is too early in the process.

Councilmember Riley echoed those comments exactly. He stated that there needs to be head on discussion of whether the City can fund this project rather than these off-center discussions that continue to move the City down the path.

Mr. Recker stated that if the construction manager is brought on to help with the budgeting and true cost determinations, there are abilities for phasing of services and long-range projections.

Acting Mayor LeTourneau thanked Mr. Recker for his time.

Councilmember Riley stated that he supports hearing more about the project but the Council needs to know how this project could be funded and the budget implications before this goes forward. He agrees that there is a need for the project but noted that funding needs to be discussed.

Councilmember Johns agreed. She stated that the Council keeps saying that discussion needs to occur but it really needs to happen.

3. TOPICS FOR FUTURE DISCUSSION

3.01: Review Future Topics/ Calendar

City Administrator Ulrich stated that the next work session agenda will include road financing options. He noted that additional information was added to the calendar to provide specific dates.

4. MAYOR / COUNCIL / STAFF INPUT

Councilmember Shryock referenced the most recent issue of the *Ramsey Resident* that featured information that the Council wanted to share with residents. She thanked staff for following through on that notion.

Councilmember Riley stated that one of his goals is to increase voter turnout. He suggested making an announcement during the meeting, both at the beginning and end of the meeting, reminding people to vote.

Councilmember Shryock stated that perhaps a statement be made after the pledge of allegiance.

5. ADJOURNMENT

The Work Session of the City Council was adjourned at 6:44 p.m.

Respectfully submitted,

_____
Kurtis G. Ulrich
City Administrator

ATTEST:

_____
Jo Ann M. Thieling
City Clerk

Drafted by Amanda Staple
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, March 13, 2018, at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Acting Mayor John LeTourneau
Councilmember Jill Johns
Councilmember Mark Kuzma
Councilmember Chris Riley
Councilmember Melody Shryock

Members Absent: Mayor Sarah Strommen

Also Present: City Administrator Kurtis Ulrich
Police Chief Jeff Katers
Community Development Director Timothy Gladhill
Planner Chloe McGuire Brigl
City Planner Chris Anderson
Asst. City Administrator/Economic Development Manager Patrick Brama

1. CALL TO ORDER

Acting Mayor LeTourneau called the regular meeting of the Ramsey City Council to order at 7:00 p.m., followed by the Pledge of Allegiance led by Acting Mayor LeTourneau.

Acting Mayor LeTourneau reported that there is a special election for the vacant Council seat on April 10th and encouraged all residents to vote in the election. He noted that residents can also select absentee voting and advised that option is already open.

2. PRESENTATION

None.

3. CITIZEN INPUT

None.

4. CONSENT AGENDA

Motion by Councilmember Kuzma, seconded by Councilmember Johns, to approve the following items on the Consent Agenda:

4.01: Receive January 2018 Financial Reports – General Fund and Enterprise Funds
4.02: Receive Cash and Investments for Period Ending February 28, 2018
4.03: Note the Following Boards and Commissions Meeting Minutes:

- Environmental Policy Board Meeting Minutes dated December 18, 2017
- Planning Commission Meeting Minutes dated January 4, 2018
- Park and Recreation Commission Meeting Minutes dated January 11, 2018
- Economic Development Authority Meeting Minutes dated January 11, 2018
- Economic Development Authority Meeting Minutes dated January 25, 2018

4.04: Approve the following Meeting Minutes:

1) City Council Work Session dated February 12, 2018
2) City Council Regular dated February 12, 2018
3) City Council Canvassing Board dated February 15, 2018
4) City Council Strategic Planning dated February 20, 2018
5) City Council Work Session dated February 27, 2018
6) City Council Regular dated February 27, 2018

4.05: Approve Licenses:

Special Events

MN State Society Daughters of the American Revolution/5K beginning at 7545 Veterans Drive

Peddler/Solicitor/Transient Merchant

Custom Remodelers Inc./474 Apollo Drive in Lino Lakes

Peddler/Solicitor/Transient Merchant

Matthew Finn representing Edward Jones/331 Main Street in Elk River

4.06: Approval of Tuition Reimbursement
4.07: Adopt 2018 Legislative Platform
4.08: Adopt 2018 City of Ramsey Resident Survey
4.09: Adopt Resolution #18-053 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of February 22, 2018 through March 7, 2018
4.10: Adopt Resolution #18-054 Updating the City's Personnel Policy
4.11: Report from the Public Works Committee Meeting dated February 20, 2018:

1) Review COR Street Names – *Ratify the recommendation of the Public Works Committee to direct staff to prepare alternatives that would make sense for road names within The COR*

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Kuzma, Johns, LeTourneau, Riley, and Shryock. Voting No: None. Absent: Mayor Strommen.

5. APPROVE AGENDA

Motion by Councilmember Shryock, seconded by Councilmember Johns, to approve the agenda as presented.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Shryock, Johns, Kuzma, LeTourneau, and Riley. Voting No: None. Absent: Mayor Strommen.

6. PUBLIC HEARING

6.01: Public Hearing to Consider Final Plat, Zoning Amendment, and Easement Vacations for a Proposed Lot Combination (Project No. 18-100); Case of ACE Solid Waste, Inc.

Presentation

City Planner Anderson reviewed the staff report and recommendation from the Planning Commission to approve the Final Plat and Zoning Amendment and noted that staff supports the Easement Vacation request contingent upon recording of the Plat.

Public Hearing

Motion by Councilmember Kuzma, seconded by Councilmember Johns, to open the public hearing.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Kuzma, Johns, LeTourneau, Riley, and Shryock. Voting No: None. Absent: Mayor Strommen.

Acting Mayor LeTourneau called the public hearing to order at 7:08 p.m.

Citizen Input

Dave Wiggins, ACE Solid Waste, stated that the business would like to combine the parcels as that will make it easier in future when the business wants to continue to grow.

Motion by Councilmember Johns, seconded by Councilmember Kuzma, to close the public hearing.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Johns, Kuzma, LeTourneau, Riley, and Shryock. Voting No: None. Absent: Mayor Strommen.

The public hearing was closed at 7:10 p.m.

Council Business

Councilmember Kuzma stated that ACE has been a great business in Ramsey and asked if there is a timeline for expansion.

Mr. Wiggins replied that there is not yet a timeline for expansion but anticipated that an expansion would be needed in the next five years and therefore this is an attempt to be proactive in planning.

Motion by Councilmember Johns, seconded by Councilmember Riley, to introduce Ordinance # 18-07 amending Section 117-90 “Map” of Chapter 117 of the City Code of Ramsey, Minnesota

and #18-08 vacating drainage and utility easements and a street, trail and utility easement on Lot 1, Block 4, Gateway North Industrial Park Plat 2 and Adopt Resolution #18-052 Approving the Final Plat for ACE Addition.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Johns, Riley, Kuzma, LeTourneau, and Shryock. Voting No: None. Absent: Mayor Strommen.

7. COUNCIL BUSINESS

7.01: Consider Adopting Resolution #18-045 Approving a Request for a Conditional Use Permit for Motor Vehicle Sales and Detail at 6750 Highway 10 NW; Case of 22 Properties, LLC

Planner McGuire Brigl reviewed the staff report and recommendation to approve the Conditional Use Permit contingent upon the applicant bringing the subject property into compliance with the terms of the Conditional Use Permit and Zoning Code over the next five years; paving 6,500 square feet of the unpaved surface by June 2020 and the remainder by June 2023.

Councilmember Riley asked for details on how the phased paving would be enforced.

Planner McGuire Brigl stated that as drafted, the applicant would be able to continue to use the unimproved area. She stated that if the first paving phase did not occur by 2020, the applicant would then no longer be able to utilize any of the unimproved area.

Community Development Director Gladhill provided additional details on the enforcement activity that could occur including revocation of the Conditional Use Permit. He noted that the Council could also require financial surety, should that be desired.

Councilmember Riley asked how this property would be impacted by the Highway 10 Access Study.

Community Development Director Gladhill replied that this property will not be impacted, as the property will remain fully intact and already receives access from Riverdale Drive. He noted that the City has been flexible with other sites along the corridor with improvements, such as paving, because those properties may need to be acquired for the Highway 10 improvement project.

Councilmember Kuzma asked if this is a City owned property.

Community Development Director Gladhill replied that the property is not City owned and under this agreement would remain under private ownership.

Motion by Councilmember Shryock to Adopt Resolution #18-045 Approving the Issuance of a Conditional Use Permit to 22 Properties, LLC to Allow Motor Vehicle Sales and Detailing in the B-2 Highway Business District and Declaring Terms of Same, contingent upon bringing the subject property into compliance with the terms of the Conditional Use Permit and Zoning Code over the next five years.

The motion failed for lack of a second.

Councilmember Riley stated that the City has been flexible with other properties along the corridor because the parcels will be acquired in the future for the Highway 10 improvement project and therefore it would not make sense to improve those parcels further. He stated that because this property is not impacted by the Highway 10 improvements, he believes five years is too long to wait for the paving to occur.

Councilmember Johns suggested that perhaps the first section of paving occur immediately, as it is known that this parcel will not be impacted by the Highway 10 improvement project, and the second paving occur within two years.

Steve Fisher, real estate broker for the applicant, stated that the applicant would like to purchase this property, which has been vacant for the past year. He stated that there has not been much interest in the property outside of this offer. He noted that the applicant does not need the visibility for his business and has other sites in mind as well. He stated that the current owner is unwilling to assist in the paving and the applicant has maximized his loan options for the purchase. He explained that the proposal would work for the applicant and the intention is to clean up the property.

Dave Levinson, 22 Properties, stated that moving into this property does max out his budget and noted he intended to move into the property as is. He noted the Planning Commission supported this option and advised he will not be able to move into the property if anything extra is required today. He stated that his proposal is to use the property as it has been for many years. He stated that he is trying to work with the City and felt that the condition of the Planning Commission is a fair compromise. He stated that while he would like to say his business will do well from the beginning, he does not want to promise something he cannot follow through with financially.

Councilmember Riley asked the estimation of costs for the two phases of planning.

Mr. Fischer estimated about $82,000 for paving the entire area.

Planner McGuire Brigl displayed the paving estimates that were received and submitted to the Planning Commission.

Patrick Surma, 161st Avenue Northwest, stated that Mr. Levinson is a good man and has been a resident of Ramsey for many years. He stated that the applicant already runs this business in Ramsey and wants to purchase this Ramsey property to expand his business. He stated that the applicant is willing to improve the appearance of the site with landscaping and believed that there were other blighted properties along the corridor that are in worse conditions than this site.

Councilmember Shryock stated that was her impression as well, that this would be an opportunity to accomplish the desire of the City to improve the corridor and presents a plan for doing so.

Mr. Levinson provided additional details on the phased paving.

Acting Mayor LeTourneau stated that he appreciated staff sharing the input regarding the Highway 10 Access Study. He stated that the paving is a critical element of how the corridor is perceived. He stated that the current viewshed towards Highway 10 is fully paved and having a plan to finish paving seems reasonable. He noted that the Council needs to be consistent for all properties along the Highway 10 corridor.

Councilmember Riley stated that the City has the goal of being business friendly and promotes business but still needs to remain thoughtful of the precedent that would be set with allowing this variance.

Mr. Levinson stated that he runs his business and does not cause problems in the community. He stated that this is his compromise. He noted that staff has said that the City is here to work with him and he cannot commit to something that he cannot financially fulfill.

Mr. Fischer stated that if this is not approved, the property will remain as it is today and therefore could be a year to three years or longer before another property owner comes along and completes the desired improvement.

Mr. Levinson stated that once he moves in, he will want to complete the paving as soon as he financially can, and therefore will do so but will remain on the schedule at minimum.

Acting Mayor LeTourneau stated that it is great that the applicant is willing to commit the timeline of improvements for paving. He asked if the applicant would be willing to commit to additional buffering, perhaps landscaping that would improve the viewshed from Highway 10.

Mr. Levinson stated that he does have a friend that owns a nursery and believes that he could improve landscaping at the building, although acknowledged that would increase his price and therefore could not commit at this time. He expressed thanks for Mr. Surma expressing his support tonight. He stated that he has owned his business for over 20 years, both outside of Ramsey and in Ramsey for the past nine years. He stated that he would like to remain in Ramsey but would like to own his business site and therefore would go outside of Ramsey if need be.

Councilmember Shryock noted that the Council is going to be working with businesses along the corridor and wanted to hear that the applicant is going to be a willing partner.

Mr. Levinson noted that he intends on being an active partner.

Councilmember Johns apologized that she misunderstood the paving agreement. She noted that her understanding was that the first paving would occur in five years but clarified that she now understands that the first paving would occur within two years and the remainder would be paved within five years.

Motion by Councilmember Shryock, seconded by Councilmember Johns, to Adopt Resolution #18-045 Approving the Issuance of a Conditional Use Permit to 22 Properties, LLC to Allow

Motor Vehicle Sales and Detailing in the B-2 Highway Business District and Declaring Terms of Same, contingent upon bringing the subject property into compliance with the terms of the Conditional Use Permit and Zoning Code over the next five years.

Further discussion: Community Development Director Gladhill noted that because the first motion failed for lack of a second, this motion would need four affirmative votes to move this item forward. Councilmember Kuzma stated that with the additional information he will be able to support the motion. Councilmember Johns suggested that the applicant work to increase landscaping along the Highway 10 viewshed. Councilmember Riley stated that he would support this request and urged the applicant to move forward with the paving plan as identified and encouraged the applicant to be a good steward of the business in the corridor.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Shryock, Johns, Kuzma, LeTourneau, and Riley. Voting No: None. Absent: Mayor Strommen.

7.02: Consider Request from Maple Investments LLC (Sharp & Associates) Purchase Agreement (Portions may be closed to the public)

Assistant City Administrator/Economic Development Manager Brama reviewed the staff report and noted that on March 8, 2018, the EDA passed a motion of 6-0 to recommend that the City Council approve this purchase agreement with no modifications. He noted that the EDA was generally supportive of the purchase agreement, proposed project, and developer. He reported that the Planning Commission reviewed this case on March 1, 2018 and was generally supportive of the project, the proposed concept layout, concept renderings, and the developer. He noted that there was no significant discussion and no official motion was passed.

Councilmember Kuzma stated that he does not see a need to enter closed session as the range seems appropriate.

Councilmember Riley stated that the EDA was pleased that Sharp & Associates is interested in building another building of this nature. He agreed that there is not a need to enter closed session as staff has already negotiated this price within the acceptable range.

Motion by Councilmember Kuzma, seconded by Councilmember Riley, to approve the purchase agreement between the City of Ramsey and Maple Investments LLC for 0.95 acres of City-owned land.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Kuzma, Riley, Johns, LeTourneau, and Shryock. Voting No: None. Absent: Mayor Strommen.

7.03: Consider Adoption of Ordinance #18-01 Amending Lot Width Requirements for Cul-De-Sac Lots in the R-1 Residential (Rural Developing) District

City Planner Anderson reviewed the staff report and recommendation from the Planning Commission to adopt Ordinance #18-01 amending the lot width requirement for cul-de-sac lots in the R-1 Residential (Rural Developing) District.

Councilmember Riley stated that the Council has discussed this topic on multiple occasions.

Motion by Councilmember Riley, seconded by Councilmember Johns, to waive the City Charter requirement to read the ordinance aloud and adopt Ordinance #18-01 Amending Article II Division 4 (Subdivision) Section 117-111 (R-1 Residential District) of the Ramsey City Code.

A roll call vote was performed by the Recording Secretary:

Councilmember Riley	aye
Councilmember Shryock	aye
Councilmember Johns	aye
Councilmember Kuzma	aye
Acting Mayor LeTourneau	aye
Mayor Strommen	absent

Motion carried.

8. MAYOR, COUNCIL AND STAFF INPUT

City Administrator Ulrich announced upcoming meetings and events.

Councilmember Shryock stated that the City has the honor of working with the Rum River Art Alliance, noting that the organization will be hosting a booth at the Business Expo.

9. ADJOURNMENT

Motion by Councilmember Shryock, seconded by Councilmember Johns, to adjourn the meeting.

Motion carried.

The regular meeting of the City Council adjourned at 7:54 p.m.

Respectfully submitted,

_____
Kurtis G. Ulrich
City Administrator

ATTEST:

_____
Jo Ann M. Thieling
City Clerk

Drafted by Amanda Staple, *TimeSaver Off Site Secretarial, Inc.*

CC Regular Session **4. 4.**

Meeting Date: 03/27/2018

By: Jo Thieling, Administrative Services

Information

Title

Approve Licenses

Purpose/Background:

Purpose: The purpose of this case is to approve license requests for 2018.

Background: Certain businesses in the City of Ramsey are required to apply for a license in addition to the Business Registration Certificate (BRC). Other businesses that may require a license, but are not required to have a BRC may also be included in this approval. Those new license requests and/or renewals are attached for Council approval.

Recommendation:

Staff recommends approval of license applications.

Action:

Motion to approve license applications.

Attachments

Licenses

Form Review

Form Started By: Jo Thieling Started On: 03/22/2018 09:09 AM

Final Approval Date: 03/22/2018

License Applications

*Temporary Wine	Church of St. Katharine Drexel	7101 – 153rd Ave NW – Ste G	Ramsey, MN	763-323-4424
Peddler/Solicitor/Transient Merchant	Comcast – Brian Holden	6901 Winnetka Ave N	Brooklyn Park, MN 55428	612-618-1935
Peddler/Solicitor/Transient Merchant	LeAnn Lambrecht – Edward Jones	2850 Cutters Grove Ave NW – Ste 202	Anoka, MN 55303	763-421-8600
**Peddler/Solicitor/Transient Merchant	Britos Tacos El Sombrero	6360 Highway 10 NW	Ramsey, MN 55303	763-300-6246

***Application Fee waived for non profit**

****Food Truck – Stationary in Parking Lot of Do All Printing**

CC Regular Session **4. 5.**

Meeting Date: 03/27/2018

By: JoAnn Shaw, Community Development

Information

Title

Approve Rental Licenses

Purpose/Background:

Purpose: The purpose of this case is to approve rental license requests for 2018.

Background: Detached Single-Family Homes and Attached Single-Family Homes (townhomes, duplexes, etc.) are required to obtain a license (registration), but are not subject to inspections (unless the City has sufficient evidence of a violation of City Code).

Multi-Family Units (apartments, condos, etc.) will continue to be subject to the license and inspection program as required today, but the inspection frequency will be reduced.

New license application requests are attached for Council approval.

Recommendation:

Staff recommends approval of license applications.

Action:

Motion to approve rental license applications.

Attachments

Rental Licenses

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:25 PM
Form Started By: JoAnn Shaw		Started On: 03/21/2018 03:19 PM
Final Approval Date: 03/22/2018		

Report Name: Rental License - License Types
Council Dates: 3/27/2018 to 3/27/2018
Status: Active, Inactive
License Type(s): Rental, Rental-Type I-3 Year, Rental-Type II-2 Year, Rental-Type III-1 Year, Rental-Type IV-6 Months, Rental-Type IV-Pending

City of Ramsey
Rental License - License Types

Company	Location	Complex	Exp. Date	Council Date	Statu
Rental					
Allyson Christianson	14776 Willemite Way NW		3/27/2021	3/27/2018	A

Rental License Count: 1

Total Licenses: 1

CC Regular Session **4. 6.**

Meeting Date: 03/27/2018

Submitted For: Patrick Brama, Administrative Services

By: Patrick Brama, Administrative Services

Information

Title

Approve Lease Agreement: 6745 Highway 10, Independent Auto

Purpose/Background:

PURPOSE

Approve attached lease agreement with Independent Auto for use of city-owned property.

BACKGROUND (CASE)

This case was last reviewed by the City Council on 12/12/2017. At that time, the Council provided staff with general direction to work with the tenant as follows:

> Work with the Tenant to renew the lease for three years, at the rent rate outlined in the original agreement. Staff strongly recommend a complete rewrite of the original lease agreement, to address various issues/ challenges with the existing lease language, and to come into compliance with the city's template lease agreement. Staff also recommended including a $10,000 limit/ cap on the city's future investment into property maintenance. Staff also addressed all immediate life/ safety property maintenance issues.
>
> Please see 12/12/2017 case and minutes for details. Example issues with original lease agreement: late rent payments, property maintenance issues/ debate of responsibility for property maintenance, use of areas for outside storage.
>
> The City Attorney did a complete re-write of the original lease agreement, and has addressed staff's concerns. This agreement has been reviewed by the Tenant (Independent Auto) and the Property Manager (Premier Commercial Realty). Although the Tenant does not desire some of the language in the new lease agreement (i.e. addressing some of the past issues), it appears all parties are agreeable.

BACKGROUND (PROPERTY & LEASE)

The City purchased 6745 Highway 10 in 2006. Since then, the City has attempted to lease the property back to the private sector. In 2011, City negotiated a 5-year lease agreement with Independent Auto for use of 6745. The original lease term began February 2012, and is set to expire in March of 2018. Attached is the original lease agreement.

The original lease agreement provides a 3-year renewal/ option-period for the tenant, at the identical rent rate currently being paid (i.e. no increase in rent for 3-years). The original lease agreement also contains several provisions that allow the City to not renew the lease. Independent Auto is seeking to renew the lease for an additional 3-year term, at the rate outlined in the original lease agreement.

Notification:

NA

Observations/Alternatives:

NA

Funding Source:

NA

Recommendation:

The attached lease agreement is generally consistent with past City Council direction, and was drafted by the City Attorney. Staff is generally supportive of this new agreement.

Action:

Motion to:

Approve the attached lease agreement between the City of Ramsey and Independent Auto; subject to final review and amendments by the City Attorney.

Attachments

New Lease Agreement

Original Lease Agreement

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:44 PM
Form Started By: Patrick Brama		Started On: 03/16/2018 11:03 AM
Final Approval Date: 03/22/2018		

LEASE AGREEMENT

THIS LEASE AGREEMENT (hereinafter "Lease") made as of this 14th day of March, 2018, is entered into by and between the **City of Ramsey**, a Minnesota municipal corporation, 7550 Sunwood Drive, Ramsey, Minnesota 55303 ("Landlord") and **Independent Auto Service, Inc.**, a Minnesota corporation, 6745 Highway 10, Ramsey, Minnesota 55303 ("Tenant").

IN CONSIDERATION OF the mutual agreements expressed herein, the parties agree as follows:

1. **Purpose.** Landlord is the fee owner of the Premises described in Paragraph 2 of this Agreement. Tenant desires to rent the Premises from Landlord for Tenant's use for auto sales and service. Landlord is willing to lease the Premises to Tenant pursuant to the terms and conditions of this Lease.

2. **Premises.** The "Premises" consists of the 5,930 square feet of a building located at 6745 Highway 10 Northwest, in Ramsey, Minnesota ("Building") which is located on the following legally described Property:

Lot 2, Block 2, DEAL INDUSTRIAL PARK, Anoka County, Minnesota.

The Premises also include the exclusive use of the paved parking areas adjacent to the Building within the fenced-in area of the Property. The Premises excludes the RV/cold storage portion of the Building. The Tenant's employees and invitees shall not be permitted to use those parking areas that interfere with the reasonable use of other tenants located within the Building.

The Premises is depicted on the attached Exhibit A hereto, and is labeled "5,930 sf Office Space" and "Parking." Exhibit A is incorporated herein as if fully set forth in this Lease.

3. **Term.** The term of this Lease is for a period of three years, commencing on April 01, 2018 (the "Commencement Date") and ending at midnight on March 31, 2021, unless extended by written agreement of both parties or sooner terminated as provided herein ("Lease Term"). If Tenant desires to end this Lease after a period of one year, Tenant may do so by providing Landlord with 90 days prior written notice. Notwithstanding the Lease Term, Landlord may terminate this Lease at any time at Landlord's sole option upon 12-month days prior written notice to Tenant.

4. **Use.**

a. The Premises shall be used by Tenant as a commercial use for the auto repair, auto detailing and cleaning/washing. Vehicle sales are not permitted.

b. Tenant will not make or suffer any unlawful or offensive use of the Premises or any use or occupancy thereof contrary to any federal law, state law or ordinance of the City of Ramsey now or subsequently hereto made. Tenant will not conduct or permit to be conducted any activity, or place any equipment in or about the Premises, which will in any way increase the rate of fire insurance or other insurance on the Premises; and if any increase in the in the rate of fire insurance or other insurance is stated by any insurance company or by the applicable Insurance Rating Bureau to be due to activity or equipment of Tenant in or about the Premises, such statement shall be conclusive evidence that such increase in such rate is due to such activity or equipment and, as a result thereof, Tenant shall be liable for such increase and shall reimburse Landlord therefore and further, shall discontinue or cause the discontinuance of such conduct or shall remove such equipment upon Landlord's demand made at any time thereafter.

c. Tenant's use of the Premises shall be consistent with Exhibit A.

   i. The blue areas are outside the Premises and are through ways for the movement of traffic; these areas are not to be used for parking by Tenant, its agents, employees, invitees or sublessee.
   ii. The yellow fenced area is for outside storage. A 15-foot-wide through lane must be maintained at all times in the yellow area for emergency vehicles to get through the storage area to the rear of the building.

d. Any sign, lettering, picture, notice or advertisement installed on or in any part of the Premises and visible from the exterior of the Building must be approved by Landlord, which approval shall not be unreasonably withheld, and installed at Tenant's expense. Political signs are prohibited on the Premises. If this subparagraph is violated, Landlord may remove the sign(s) without liability and may charge the expense incurred by such removal to Tenant.

5. **Rent.** Tenant covenants and agrees to pay to Landlord at the Landlord's Agent Office without demand, monthly rent in the following amounts:

Year 1 (April 01, 2018 through March 31, 2019): $2,693.00
Year 2 (April 01, 2019 through March 31, 2020): $2,693.00
Year 3 (April 01, 2020 through March 31, 2021): $2,693.00

All Rent shall be payable on the first day of each month during the Lease Term. If Landlord does not receive the full Rent by the fifth day of the month at 3:00 p.m., at the Landlord's Agent

Office, Tenant must pay a $200.00 late fee as an additional rent. Rent is "paid" when Landlord receives it, not when mailed by the Tenant, date stamped by the Tenant, or sent by Tenant.

6. **Additional Rent.** In addition to the Rent set forth in Paragraph 5 of this Lease, Tenant covenants and agrees to pay as additional rent all monies required to be paid by Tenant as set forth in the balance of this Lease. Specifically, but not by way of limitation, the reasonable value of any action taken or materials used by Landlord to correct or mitigate any violations of this Lease by the Tenant shall be deemed additional rent and charged to Tenant payable with the Rent as set forth in Paragraph 5.

7. **Utilities and Trash Removal.** Tenant is solely responsible for paying for all utilities servicing the Premises, including but not limited to, water, natural gas and electricity. Tenant is also responsible for paying for the removal of all trash and recycling materials generated as a result of Tenant's use of the Premises. Landlord is not responsible for any interruption in such services beyond the reasonable control of Landlord.

8. **Real Estate Taxes and Special Assessments.** Landlord is responsible for the payment of all real estate taxes and special assessments pertaining to the Premises during the Lease Term. Tenant is responsible to pay the City's quarterly Stormwater Management Fee.

9. **Repair and Maintenance.** Except as otherwise provided herein, Tenant shall keep in good order and repair the entire Premises, at its sole cost, including all glass, the interior of the Premises, and heating, sprinkler, water and electric fixtures in and upon the Premises, ordinary wear and tear excepted. Tenant shall protect such systems against freezing and damage due to neglect of Tenant, and Tenant shall keep the abutting sidewalks and parking areas free of ice and snow. Tenant shall pay all costs and expenses necessary to maintain the plumbing, heating, air conditioning and electrical systems in and upon the Premises in good order and repair, including replacement if necessary. Tenant accepts the Premises AS IS as of the date of commencement of this Agreement. Tenant may, but is not obligated to, maintain and repair the roof, building foundation and parking lot. Tenant acknowledges that the roof, building foundation and parking lot are leased to Tenant AS IS and Landlord is not obligated to repair those portions of the Premises absent a separate, mutual, written agreement with Tenant. Notwithstanding any other term of this Agreement, if the roof or building foundation fails so as to render the Premises substantially unusable, Tenant may terminate this Agreement.

If Tenant fails, refuses or neglects to maintain or repair the Premises as required in this Lease after written notice is given to the Tenant by Landlord, Landlord may make such repairs without liability to Tenant for any loss or damage that may accrue to Tenant's merchandise, fixtures or other property or to Tenant's business by reason thereof, and upon completion thereof, Tenant shall pay to Landlord all costs plus 15% overhead incurred by Landlord in making such repairs upon presentation to Tenant of the bill therefore.

Landlord agrees to provide up to $10,000 towards improvements to the Premises over the term of the Lease. Said improvements shall be approved in writing by the City in its sole discretion prior to commencing the improvements. Notwithstanding any other terms of this Lease, the air conditioning system will be checked in the spring of 2018. In the event the air

conditioning system requires repair, Landlord shall undertake the necessary repair or replacement by July 1, 2018. If said repair or replacement exceeds $5,000, the remainder shall be paid for by the City out of the $10,000 improvement budget.

10. **Tenant's Improvements, Alterations and Remodeling.** Tenant shall be permitted to perform improvements, alterations or remodeling on or to the Premises consistent with its intended use thereof; provided however, that such improvements shall be done at the sole expense of Tenant and provided that any single improvement reasonably expected to exceed $2,500.00 in cost may be done only with Landlord's prior written consent. Notwithstanding the above, Tenant shall not make any alterations to the structure, plumbing, electrical, or HVAC systems of the Building without the prior written consent of Landlord.

11. **Assignment or Subletting.** Tenant may not assign, transfer, mortgage or encumber this Lease, and may not sublet, rent or permit occupancy or use of the Premises, or any part thereof, by any third party without Landlord's written consent; no assignment or transfer of this Lease shall be effectuated voluntarily, by operation of law, or otherwise. Any of the foregoing will hereinafter be referred to as an "Assignment" for purposes of this Lease. Tenant is solely responsible for any acts or omissions of any sublessee that violate the terms of this Lease Agreement, and any enforcement of the Lease Agreement by Landlord shall be brought against Tenant.

12. **Destruction of Premises.** If the Premises are totally destroyed (or so substantially damaged as to be wholly untenable) by storm, fire, earthquake or other casualty, this Lease shall terminate as of the date of such destruction or damage, and Rent shall be accounted for between Landlord and Tenant as of that date. If the Premises are damaged but not rendered wholly untenable and the damage can be fully repaired within 90 days from the date of the damage, Rent shall abate in proportion as the Premises have been damaged, and Landlord shall restore within said 90-day time limit, whereupon payment of full Rent shall re-commence. In the event Landlord fails or refuses to fully repair the Premises within said 90 days, Tenant may terminate this Lease.

13. **Removal of Fixtures.** Unless otherwise approved by Landlord, Tenant must, prior to the termination of this Lease, remove all fixtures and equipment which Tenant has placed in the Premises. Tenant must repair all damage caused by removal of fixtures or equipment.

14. **Entry by Landlord.** Landlord or its agents or representatives may enter the Premises at all reasonable hours to inspect the same, clean, make repairs, alterations and additions thereto or exhibit the Premises to prospective tenants, purchasers or others, or for other reasonable purposes as Landlord may deem necessary or desirable, and Tenant shall not be entitled to any abatement or reduction of Rent, or any other sums due. Tenant waives any claim for damages or for any injury or inconvenience or for interference with Tenant's business, and any other loss occasioned thereby.

15. **Default.** If Tenant defaults for 10 days after written notice from Landlord in paying any Rent, including additional rent, or if Tenant shall be declared bankrupt or insolvent

according to law or if Tenant shall make an assignment for the benefit of its creditors or if Tenant shall violate or default in any other covenants, agreements, stipulations or conditions herein and such violation or default shall continue for 10 days after written notice from Landlord of such violation or default, then and in such case Landlord lawfully may immediately, or at any time thereafter, and without notice or demand, enter into and upon the Premises, or any part thereof, in the name of the whole, and repossess the same and expel Tenant and those claiming under it and remove their effects, forcibly if necessary, without being taken or deemed to be guilty of any manner of trespass, and prejudice, and Landlord shall have all remedies and recourse which might otherwise be used by Landlord for arrears of Rent or any breach of covenants contained in this Lease.

16. **Quiet Enjoyment.** Landlord covenants and agrees to allow Tenant to peacefully have, hold and enjoy the Premises during the Lease Term, provided that Tenant pays the Rent set forth herein and performs all of Tenant's other agreements and obligations set forth herein.

17. **Nuisance.** Tenant shall conduct its business and control its agents, employees, invitees and visitors in such a manner as not to create waste, odors, nuisance, or interfere with, annoy or disturb any other tenant of Landlord in its operation of the Building or the Premises.

18. **Hold Harmless and Liability Insurance.** Except in the case of the negligence of Landlord, its agents or its employees, Tenant agrees to indemnify, save, hold harmless and defend Landlord against all claims, losses or liabilities for injury or death to any person or for damage to or loss of use of any property arising or resulting from the occupancy or use by Tenant of the Premises, including occupancy or use by Tenant's sublessee. Landlord shall not be liable to Tenant, its agents, employees, representatives, customers or invitees for any personal injury, death or damage to property caused by theft, burglary, water, gas, electricity, fire or for any other cause occurring on or about the Premises. All property kept, stored or maintained in the Premises shall be so kept, stored or maintained at the sole risk of the Tenant. Tenant further agrees to indemnify, defend and hold harmless Landlord from and against any and all claims arising from any breach or default in the performance of any obligation on Tenant's part to be performed under the terms of this Lease. Further, in no event shall Landlord be liable for damages caused by Tenant or Tenant's employees or agents. The provisions of this Paragraph shall survive the expiration or termination of this Lease with respect to any damage, injury, death, breach or default occurring prior to such expiration or termination.

During the Lease Term and any extension thereof, Tenant shall at all times have in full force and effect a policy of general public liability insurance in the amount of the greater of $2,000,000.00 or the maximum liability for tort liability pursuant to Minnesota Statutes Section 466.04 and any amendments thereto, which insurance shall insure Landlord and Tenant against liability for acts of Landlord and Tenant.

19. **Hazard Insurance.** It shall be the responsibility of Landlord to keep the Premises and its interest therein covered by hazard insurance against loss or damage by fire and other perils. Landlord shall provide to Tenant copies of such insurance policies upon reasonable request of Tenant.

Tenant shall, at its expense, maintain a policy or policies of insurance insuring the Premises against loss or damage by fire, expulsion or other insurable hazards and contingencies for the full insurable value of Tenant's improvements to the Premises and Tenant's personal property.

20. Security and Damage Deposit. Tenant previously deposited with Landlord $1,000.00 as a security and damage deposit for the faithful performance of this Lease Agreement. Landlord may commingle the deposit with its own funds and use such deposit for any purpose. In the event Tenant fails to perform or fulfill any of the terms of this Lease Agreement, Landlord, either with or without terminating this Lease Agreement, may apply such portion of said deposit as may be necessary to compensate or repay Landlord for all losses or damages sustained or to be sustained by Landlord due to such breach by Tenant, including overdue and unpaid rent and any other sum payable by Tenant to Landlord pursuant to the provisions of this Lease, damages or deficiencies in the reletting of the Premises, and reasonable attorney's fees incurred by Landlord. Should the entire deposit or any portion thereof, be appropriated and applied by Landlord, Tenant, upon written demand by Landlord, shall remit to Landlord a sufficient amount of cash to restore said security deposit to the original sum deposited, and Tenant's failure to do so within 30 days after receipt of such demand shall constitute a breach of this Lease. Said security deposit together with any interest thereon as required by law shall be returned to Tenant less any depletion as a result of the provisions of this paragraph, at the end of the term of this Lease or any renewal thereof, or upon the earlier termination of this Lease.

21. **Time of the Essence.** Time is of the essence with regard to this Lease and the terms therein.

22. **Relationship of Parties.** This Lease shall create the relationship of Landlord and Tenant between the parties and none other.

23. **Holding Over.** If Tenant remains in possession of the Premises, or any part thereof, after the expiration or termination of the Lease Term with the express written consent of Landlord, Tenant shall be deemed to be occupying the Premises as a Tenant at will, subject to all the conditions, provisions and obligation of this Lease insofar as the same can be applicable to a tenant at will; provided, however, that the Rent required to be paid by Tenant during any holdover period shall be a minimum of 1.5 times the monthly Rent which Tenant was obligated to pay for the month immediately preceding the end of the Lease Term, for each month or any part thereof, of any such holdover period. In the event of holding over by Tenant after expiration or termination of this Lease without the written consent of Landlord, Tenant shall be in breach of this Lease and Landlord shall be entitled to all of its rights and remedies under this Lease, in law, or in equity. No holding over by Tenant after the Lease Term shall operate to extend the Lease Term or renew this Lease. In the event of any unauthorized holding over, Tenant shall indemnify Landlord against all claims for damages by any other tenant to whom Landlord may have leased all or any part of the Premises covered hereby effective upon the expiration or termination of the Lease.

24. **Surrender of Premises.** At the termination of this Lease, Tenant shall surrender the Premises and all keys thereof to Landlord.

25. **Eminent Domain.** If the entire Premises are taken by any public authority under the power or threat of eminent domain, then the term of this Lease shall cease as of the day possession shall be taken by such public authority, and the Landlord shall make a pro rata refund of any Rent that has been paid in advance by Tenant for a period beyond the date of the taking. In the event that less than the entire Premises is so taken and provided the Premises are not rendered untenable thereby, then this Lease shall terminate only at the option of the Landlord. In the event that only a part of the Premises is so taken and that this Lease does not so terminate, there shall be a pro rata reduction in Rent to the extent that such taking interferes in any way with Tenant's use of the Premises, and all other terms and provisions of this Lease shall remain in full force and effect. All damages awarded for such taking shall belong to and be the property of the Landlord, irrespective of the basis on which they were awarded.

26. **Subordination.** Tenant agrees that, at the Landlord's election, this Lease shall be subordinate to any land Lease or mortgage now on or to be placed in the future on the Premises or Building and to any and all advances to be made thereunder and to the interest thereon and to all renewals, replacements and extensions thereof, provided that such subordination shall not materially affect either party's obligations under this Lease. Tenant hereby appoints Landlord as its attorney-in-fact to execute such documents as may be required to accomplish such subordination.

27. **No Waiver.** No reference to any specific right or remedy shall preclude Landlord from exercising any other right or from having any other remedy or from maintaining any action to which it may otherwise be entitled ether at law or in equity. Landlord's failure to insist upon a strict performance of any covenant of this Lease or to exercise any option or right herein contained shall not be a waiver or relinquishment for the future of such covenant, right or option; but the same shall remain in full force and effect.

28. **Captions.** The captions and headings herein are for convenience and reference only.

29. **Brokers.** Each of the parties represents and warrants to the other that there are no claims for brokerage commission or finder's fees in connection with the execution of this Lease other than Premier Commercial Realty; which represents the Landlord. Both parties agree to indemnify the other against, and hold it harmless from, all liabilities arising from any other such claims including, without limitation, reasonable attorney's fees in connection therewith.

30. **No Partnership.** This Lease does not create a joint venture or partnership relation between the parties hereto.

31. **Hazardous Materials.** In the event Hazardous Material is brought or caused to be brought into or onto the Premises by Tenant, Tenant shall handle any such material in compliance with all applicable federal, state and/or local regulations. For purposes of this paragraph, Hazardous Material means and includes any hazardous, toxic or dangerous waste,

substance or material defined as such in (or for the purpose of) the Comprehensive Environmental Response, Compensation and Liability Act, and so-called Superfund law, or any federal state or local statute, law, ordinance, code rule regulation, order or decree relating to or imposing liability or standards of conduct concerning, any hazardous, toxic or dangerous waste, substance or material, as now or at any time hereafter in effect. Tenant will indemnify and hold harmless Landlord from any losses, liabilities, damages, costs or expenses (including reasonable attorney's fees) which Landlord may suffer or incur as a result of Tenant's introduction into or onto the Premises, of any Hazardous Material. This paragraph shall survive expiration or termination of this Lease.

32. **Notices.** All communications, demands, notices or objections permitted or required to be given or served under this Lease shall be in writing and shall be deemed to have been duly given or served if delivered in person to the other party or its duly authorized agent or if deposited in the United States mail, postage prepaid, for mailing by certified or registered mail, return receipt requested, and addressed to the other party to this Lease at the addresses set forth below for each party, or if to a person not a party to this Lease, to the address designated by a party to this l\Lease in the foregoing manner.

Landlord:	City Administrator City of Ramsey 7550 Sunwood Drive Ramsey, Minnesota 55303
Landlord's Agent	Premier Commercial Realty 299 Coon Rapids Blvd. NW Coon Rapids, MN 55433
Tenant:	Independent Auto Service, Inc. 6745 Highway 10 N.W. Ramsey, MN 55303

Either party may, by written notice to the other party, designate a different address to which notices must be sent. Such written notice designating a different address must state the party's newly designated address, and must be provided by following the above notice requirements. Commencing on the 10th day after a party gives notice designating a new address to which notices must be sent, the newly designated address shall be the party's address for the purpose of all communication, demands, notices or objections permitted or required to be given or served under this Lease.

33. **Force Majeure.** The time within which any of the parties hereto shall be required to perform any act or acts under this Lease, except for the payment of monies, shall be extended to the extent that the performance of such act or acts shall be delayed by acts of God, fire, windstorm, flood, explosion, collapse or structures, riot, war, labor and/or legal disputes, delays or restrictions by government bodies, inability to obtain or use necessary materials or any cause beyond the reasonable control of such party, provided however that the party entitled to

such extension hereunder shall give prompt notice to the other party of the occurrence causing such delay.

34. **Minnesota Law.** This Lease shall be construed and enforced in accordance with the laws of the State of Minnesota. The parties agree that the Minnesota state courts will have exclusive jurisdiction over any dispute arising out of this Lease.

35. **Entire Agreement.** This Lease constitutes the entire agreement between the parties relating to the subject matter described herein. The terms of this Lease are contractual and are intended to be legally binding. This Lease supersedes any and all prior agreements between the parties relating to the subject matter described herein. No party has relied upon any statements, representations, or promises that are not set forth in this Lease. No changes to this Lease will be valid or enforceable unless they are in writing and signed by all of the parties.

36. **Equal Drafting.** In the event any party asserts a provision of this Lease is ambiguous, this Lease must be construed to have been drafted equally by the parties.

37. **Savings Clause.** Each provision of this Lease is separate and distinct and individually enforceable. In the event any provision hereof or the application of any such provision under any circumstance is declared to be unlawful or invalid, the enforceability of all the other provisions shall not be affected.

38. **Counterparts.** This Lease may be executed in multiple counterparts, each of which shall be an original, but all of which together shall constitute a single agreement.

39. **Keys.** Unless expressly permitted by Landlord, no additional locks or similar devices shall be attached to any door or window and no keys other than those provided by Landlord shall be made for any door. If more than two keys for one lock are desired by Tenant, landlord may provide the same upon payment by Tenant. Upon termination of this Lease or of Tenant's possession, Tenant shall surrender all keys of the Premises and shall explain to Landlord all combination locks on safes, cabinets and vaults.

40. **Plumbing.** The restrooms, drinking fountains and other plumbing fixtures shall not be used for any purpose other than for which they were constructed, and no sweepings, rubbish, rags, coffee grounds or other substances shall be thrown therein. All damages resulting from any misuse of the fixtures shall be borne by Tenant who, or whose employees, agents, visitors or licensees have caused same. No person shall waste water by interfering or tampering with the faucets or otherwise.

IN WITNESS WHEREOF, the parties hereto have executed this Lease the date and year first above written.

Landlord's Address:

City Administrator
7550 Sunwood Drive
Ramsey, Minnesota 55303

CITY OF RAMSEY

By: _____
Its: Mayor

ATTEST:

By: _____
Its: City Administrator

Approved as to Form:

_____
Joseph J. Langel, City Attorney

STATE OF MINNESOTA)
)ss.
COUNTY OF ANOKA)

The foregoing instrument was acknowledged before me this _____ day of _____, 2018, by Sarah Strommen, the Mayor, and Kurtis G. Ulrich, the City Administrator, of the City of Ramsey, a Minnesota municipal corporation, under the laws of the State of Minnesota on behalf of the corporation.

_____
Notary Public

Tenant's Address:

6745 Highway 10 N.W.
Ramsey, Minnesota 55303

INDEPENDENT AUTO SERVICE, INC.

By: _____
Its:

STATE OF MINNESOTA)
)ss.
COUNTY OF ANOKA)

The foregoing instrument was acknowledged before me this _____ day of _____, 2018, by _____, the _____ of Independent Auto Service, Inc., a Minnesota corporation, under the laws of the State of Minnesota on behalf of the corporation.

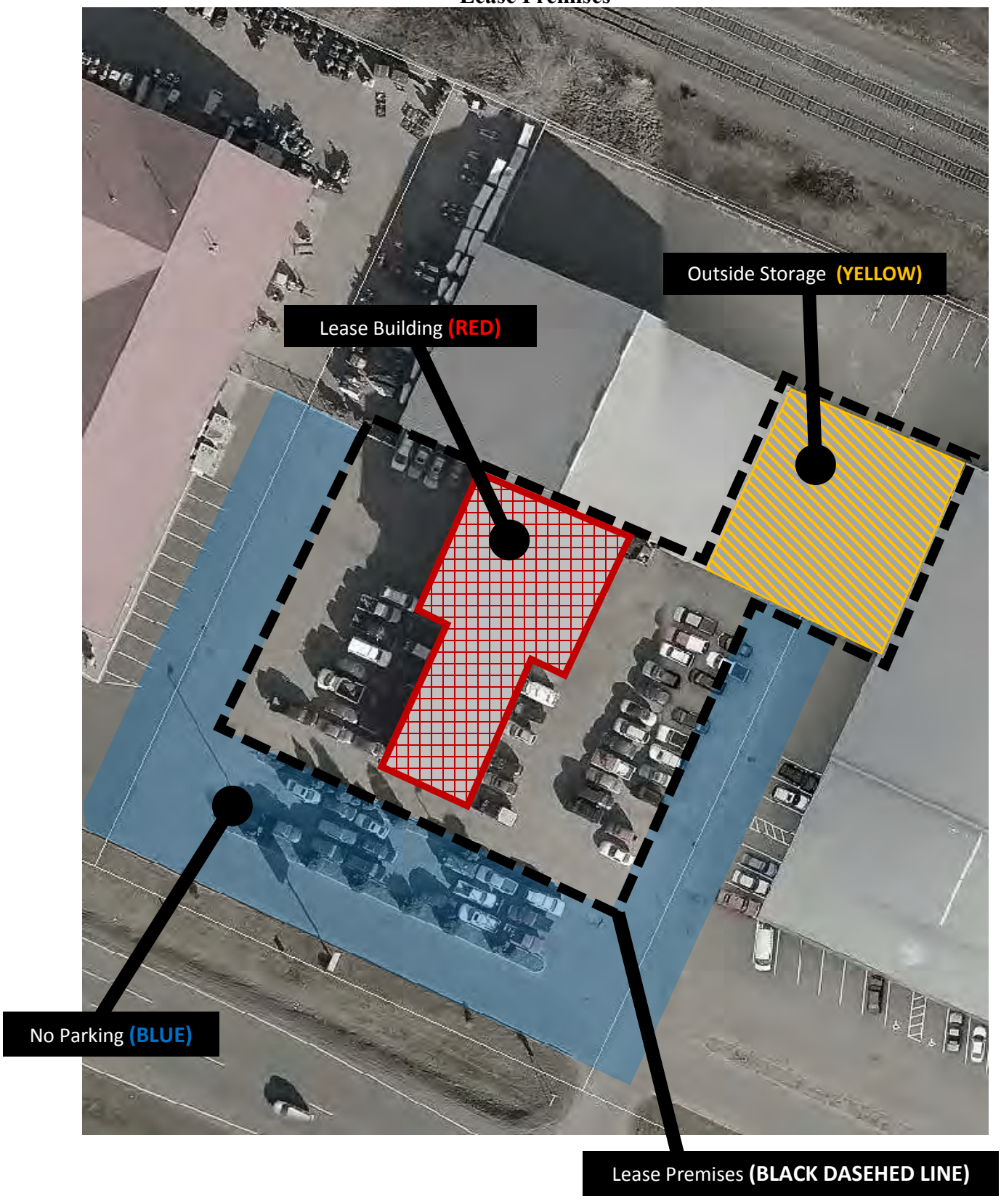
_____

_____
Notary Public

284229

EXHIBIT A

Lease Premises



LEASE AGREEMENT

THIS LEASE AGREEMENT, dated this 27th day of January, 2012, (this "Lease") by and between the CITY OF RAMSEY, 7550 Sunwood Drive NW, Ramsey, MN 55303, a Minnesota municipal corporation ("Landlord") and INDEPENDENT AUTO SERVICE, INC., a Minnesota corporation, 18140 Zane Street NW, Elk River, Minnesota 55330, a Minnesota Limited Liability Company (hereinafter referred to as "Tenant").

DEFINITIONS:

LEASED PREMISES. The leased premises is 5,930 s.f. of a building located on that real property legally described as Lot 2, Block 2, DEAL INDUSTRIAL PARK, Anoka County, Minnesota, and is commonly known as 6745 Highway 10 NW, Ramsey, Minnesota (the "Site"). The Leased Premises consists generally of 1,000 s.f. of office space, 1,030 s.f. of small service bays and 3,900 s.f. of three large bays and mechanical area (the "Leased Premises") and the common parking as shown on attached Exhibit B and the parking spaces as outside storage within the fenced-in area of the Site, and 8 customer service/employee parking spaces. The Leased Premises DOES NOT include the RV/Cold Storage portion of the building in which it is located.

RECITALS:

1. TERM:

a. **Lease Term.** For and in consideration of the rents, additional rents, terms, provisions and covenants herein contained, Landlord hereby lets, leases and demises to Tenant the Leased Premises for the term of seventy two (72) months commencing on the first day of February, 2012, or thirty days after Landlord tenders possession to Tenant, whichever is later (sometimes called "the Commencement Date") and expiring on the 31st day of January, 2018 (sometimes called "Expiration Date"), unless sooner terminated as hereinafter provided

b. **Option to Renew.** Tenant shall notify Landlord, in writing, at least sixty (60) days before the Expiration Date of Tenant's intent to renew the Lease Term for an additional thirty-six (36) months ("Option Period"). Monthly rent in the Option Period shall be equal to the monthly rent in the last year of the initial lease term.

c. **Landlord's Notice to Quit.** Notwithstanding the Lease Term or the Option to Renew, in the event Landlord determines, in its sole discretion, that the Leased Premises or any part thereof is required for the improvement of U.S. Highway 10, upon giving one year's prior written notification to Tenant, the Landlord may terminate this Lease. Landlord is not obligated to provide this one year notice to quit in the event of any default by Tenant of the terms of this Lease.

2. BASE RENT:

Tenant shall pay Landlord, a total rent payment in advance without offset, deduction or demand, in equal monthly installments commencing on the Commencement Date and continuing on the first day of each and every month thereafter for the next succeeding 72 months, during the balance of the term based on the following schedule:

	Period	Rent per month
Year One		
	February 1, 2012 – April 30, 2012	$ 0/mo
	May 1, 2012 – July 31, 2012	$ 494/mo
	August 1, 2012 – January 31, 2013	$1,483/mo
Year Two	February 1, 2013 – March 31, 2014	$1,977.00
Year Three	February 1, 2014 – March 31, 2015	$2,224.00
Year Four	February 1, 2015 – March 31, 2016	$2,471.00
Year Five	February 1, 2016 – March 31, 2017	$2,619.00
Year Six	February 1, 2017 – March 31, 2018	$2,693.00

If the Commencement Date is later than February 1, 2012, the schedule shall adjust accordingly.

3. ADDITIONAL RENT:

a. **Real Estate Taxes.** Tenant shall not be responsible for the payment of any real estate taxes. Real estate taxes shall be the sole responsibility of Landlord EXCEPT that the Tenant shall be responsible to pay the City's quarterly Stormwater Management fee.

b. **Leased Premises Operating Expenses.** Tenant shall pay its Proportionate Share of the annual aggregate Operating Expense incurred by Landlord in the operation, maintenance and repair of the Building and Leased Premises. The term "Operating Expenses" shall include but not be limited to maintenance, repair, operation of utilities and lighting, parking and landscaped areas, signs, snow removal, non-structural repair and maintenance of the exterior of the Building, insurance premiums, wages and fringe benefits of personnel employed for such work, costs of equipment purchased and used for such purposes.

The payment of the sums set forth in this paragraph 3. shall be in addition to the Base Rent payable pursuant to paragraph 2. of this Lease. All sums due hereunder shall be due and payable within thirty (30) days of delivery of written certification by Landlord setting forth the computation of the amount due from tenant. In the event the lease term shall begin or expire at any time during the calendar year, Tenant shall be responsible for its pro-rata share of Additional Rent under subdivisions a. and b. during the Lease and/or occupancy time.

Prior to commencement of this Lease, and prior to the commencement of each calendar year thereafter commencing during the term of this Lease or any renewal or extension thereof, Landlord may estimate for each calendar year (i) the Operating Expenses for such calendar year; and (ii) the computation of the annual and monthly rental payable during such calendar year as a result of increases or decreases of Operating Expenses. Said estimate will be in writing and will be delivered or mailed to Tenant.

The amount of Operating Expenses for each calendar year, so estimated, shall be payable as Additional Rent by Tenant, without offset, deduction or demand, in equal monthly installments, in advance, on the first day of each month during such calendar year at the option of Landlord. In the event that such estimate is delivered to Tenant before the first day of January of such calendar year, said amount, so estimated, shall be payable as additional rent in equal monthly

installments, in advance, on the first day of each month during such calendar year. In the event that such estimate is delivered to Tenant after the first day of January of such calendar year, said amount, so estimated, shall be payable as additional rent in equal monthly installments, in advance, on the first day of each month over the balance of such calendar year, with the number of installments being equal to the number of full calendar months remaining in such calendar year.

Upon completion of each calendar year during the term of this Lease or any renewal or extensions thereof, Landlord shall cause its accountants to determine the actual amount of the Operating Expenses payable in such calendar year and deliver a written certification of the amounts thereof to Tenant. If Tenant has underpaid the Operating Expenses for such calendar year, Tenant shall pay the balance of same within thirty (30) days after receipt of such statement. If Tenant has overpaid the Operating Expenses for such calendar year, Landlord shall either (i) refund such excess, or (ii) credit such excess against the most current monthly installment or installments due Landlord for its estimate of Tenant's share of Operating Expenses for the next following calendar year. A pro-rata adjustment shall be made for a fractional calendar year occurring during the term of the Lease or any renewal or extension thereof based upon the number of days of the term of the Lease during said calendar year as compared to three hundred sixty-five (365) days and all additional sums payable by Tenant or credits due Tenant as a result of the provision of this paragraph 3 shall be adjusted accordingly.

4. COVENANTS TO PAY RENT:

The covenants of Tenant to pay the Base Rent and the Additional Rent are each independent o any other covenant, condition, provision or agreement contained in this Lease. All rents are payable to Landlord at Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota, or such other place as Landlord may designate.

5. UTILITIES:

Landlord shall provide mains and conduits to supply water, gas, electricity and sanitary sewage to the Leased Premises. Tenant shall pay, when due, all charges for sewer usage or rental, garbage disposal, refuse removal, water, electricity, heating fuel, gas, telephone and/or other utility services or energy source furnished to the Leased Premises during the term of this Lease, or any renewal or extension thereof. If Landlord elects to furnish any of the foregoing utility services of other services furnished or caused to be furnished to Tenant, then the rate charged by Landlord shall not exceed the rate Tenant would be required to pay to a utility company or service company furnishing any of the foregoing utilities or services. The charges thereof shall be deemed additional rent in accordance with paragraph 3. Landlord shall not be liable for, and Tenant shall not be entitled to any abatement or reduction of Base Rent or Minimum Rent by reason of Landlord's failure to furnish any of the foregoing utilities, when such failure is caused by accident, breakage, repairs (including replacements), strikes, lockouts or other labor disturbances or labor disputes of any character, or for any other causes.

6. CARE AND REPAIR OF LEASED PREMISES:

Tenant shall, at all times throughout the term of this Lease, including renewals and extension, and at its sole expense, keep and maintain the Leased Premises in a clean, safe and sanitary condition and in compliance with all applicable laws, codes, ordinances, rules and regulations. Tenant's obligations hereunder shall include but not be limited to the maintenance, and repair, if necessary, of all lighting and plumbing fixtures and equipment, fixtures, motors and machinery, all interior walls, partitions, doors and windows, including the regular painting thereof, all exterior entrances, windows, doors and docks and the replacement of all broken glass. When used in this provision, the term "repairs" shall include replacements or renewals when necessary and all such repairs made by Tenant shall be equal in quality and class to the original work. The Tenant shall keep and maintain all portions of the Leased Premises and the sidewalk and areas adjoining the same in a clean and orderly condition, free of accumulation of dirt, rubbish, snow and ice. The Tenant shall be responsible for all outside maintenance of the Leased Premises, including grounds and parking areas.

If Tenant fails, refuses or neglects to maintain or repair the Leased Premises as required in this Lease after notice shall have been given Tenant, in accordance with paragraph 33 of this Lease, Landlord may make such repairs without liability to Tenant for any loss or damage that may accrue to Tenant's merchandise, fixtures or other property or to Tenant's business by reason thereof, and upon completion thereof, Tenant shall pay to Landlord all costs plus fifteen percent (15%) of overhead incurred by Landlord in making such repairs upon presentation to Tenant of bill therefore.

Landlord shall, at its expense, repair/replace the overhead heaters in the bays as necessary. Landlord is under no obligation to make any structural or other alterations, decorating, additions or improvement in or to the Leased Premises/Building except as herein provided. Except as herein provided, Tenant is taking the Leased Premises "AS IS" except as set forth in this Agreement, Landlord shall not be obligated to do any work on or in the Leased Premises. Landlord warrants that at the Commencement Date, the Leased Premises is in compliance with all applicable laws, codes, ordinances, rules and regulations. Landlord shall be responsible for all structural repairs or replacement of the roof, exterior walls, floor and parking area, including sidewalks and curbing and all mechanical systems. Landlord in its sole discretion shall make the decision on any repairs or replacement of the roof, exterior walls, floor and parking area including sidewalks and curbing and all mechanical systems. In the event Landlord elects not to make a repair necessary for the continued quiet enjoyment of the Leased Premises by Tenant, Tenant may terminate this Agreement.

7. SIGNS:

Any sign, lettering, picture, notice or advertisement installed on or in any part of the Leased Premises and visible from the exterior of the Building, or visible from the exterior of the Leased Premises, must be approved in advance by Landlord, which approval shall not be unreasonably withheld, and installed at Tenant's expense. In the event of a violation of the foregoing by Tenant, Landlord may remove the same without any liability and may charge the expense incurred by such removal to Tenant.

8. PERSONAL PROPERTY.

Tenant shall have the use of that personal property described on attached Exhibit C (the "Personal Property"). The Personal Property consists primarily of office/showroom counter and oil change equipment. Tenant shall not remove the Personal Property from the Leased Premises, shall be solely responsible for repair and maintenance and shall return the Personal Property to Landlord upon expiration of the Lease in good condition, reasonable wear and tear excepted. Landlord shall not be responsible to replace any of the Personal Property in the event it is beyond repair and or becomes obsolete during the Lease Term. If, in the opinion of Tenant, upon written approval by Landlord, the Personal Property is beyond repair or obsolete, Tenant, in their sole discretion, can remove and/or dispose of that Personal Property.

9. ALTERATIONS, INSTALLATION, FIXTURES:

a. Except as hereinafter provided, Tenant shall not make any alternation, additions, or improvements in or to the Leased Premises or add, disturb or in any way change any plumbing or wiring therein without the prior written consent of Landlord, which consent will not be unreasonably withheld. In the event alterations are required by any governmental agency by reason of the use and occupancy of the Leased Premises by Tenant, Tenant shall make such alterations at its own cost and expense after first obtaining Landlord's approval of plans and specifications therefore and furnishing such indemnification as Landlord may reasonably require against liens, costs, damages and expenses arising out of such alterations. Alterations or additions by Tenant must be built in compliance with all laws, ordinances and governmental regulations affecting the Leased Premises and Tenant shall warrant to Landlord that all such alterations, additions, or improvements shall be in strict compliance with all relevant laws, ordinances, governmental regulations, and insurance requirements. Construction of such alterations or additions shall commence only upon Tenant obtaining and exhibiting to Landlord the requisite approvals, licenses and permits and indemnification against liens. All alterations, installations, physical additions or improvements to the Leased Premises made by Tenant shall at the option of Landlord become the property of Landlord and shall be either removed by Tenant at Tenant's sole cost or surrendered to Landlord upon the termination of this Lease; provided, however, this clause shall not apply to movable equipment or furniture owned by Tenant which may be removed by Tenant at the end of the term if this Lease of Tenant is not then in default (See Appendix C).

b. Landlord agrees that Tenant may make the following leasehold improvements to the Leased Premises:

Replace carpet as necessary.
Interior painting as necessary.
Steel covers for the two pits.
Electrical wiring, conduit and other utility improvements in shop/bay areas.
Replacement of six overhead doors.
Installation of electric fire place in reception area.

As leasehold improvements, the above items may not be removed by Tenant upon terminating this lease. The estimated cost for installing these improvements is $15,000.00.

c. Landlord agrees to replace the following on the Leased Premises on or before the Commencement Date:

The radiant tube heaters in the three larger bays at an estimated cost of $7,800.00.
Repair the roof near the main vent by the smaller service bays in the event there is future roof leaking in this area.

10. POSSESSION:

Except as hereinafter provided Landlord shall deliver possession of the Leased Premises to Tenant in the condition required by this Lease on or before the Commencement Date, but delivery of possession prior to or later than such Commencement Date shall not affect the expiration date of this Lease. The rentals herein reserved shall commence on the date that is thirty days after possession of the Leased Premises is delivered by Landlord to Tenant. Any occupancy by Tenant prior to the beginning of the term shall in all respects be the same as that of Tenant under this Lease. Landlord shall have no responsibility or liability for loss or damage to fixtures, facilities or equipment installed or left on the Leased Premises. If for any reason, Landlord cannot deliver possession of the Leased Premises to Tenant by the Commencement Date, in no event shall landlord be subject to any liability for a delay in delivery and such failure shall not affect the validity of this Lease or the obligations of Tenant under, and Tenant's remedies for such delay shall be limited to termination of this Lease in the event that Landlord fails to deliver the Leased Premises to Tenant within 30 days of the Commencement Date.

11. SECURITY AND DAMAGE DEPOSIT:

Tenant contemporaneously with the execution of this Lease, has deposited with Landlord the sum of One Thousand and 00/100 Dollars ($1,000.00), receipt of which is acknowledged by Landlord, which deposit is to be held by Landlord, as a security and damage deposit for the faithful performance by Tenant during the term hereof or any extension hereof. Prior to the time when Tenant shall be entitled to the return of this security deposit, Landlord may commingle such deposit with Landlord's own funds and to use such security deposit for such purpose as Landlord may determine. In the event of the failure of Tenant to keep and perform any of the terms, covenants and conditions of this Lease to be kept and performed by Tenant during the term hereof or any extension hereof, then Landlord, either with or without terminating this Lease may (but shall not be required to) apply such portion of said deposit as may be necessary to compensate or repay Landlord for all losses or damages sustained or to be sustained by Landlord due to such breach on the part of Tenant, including, but not limited to overdue and unpaid rent, any other sum payable by Tenant to Landlord pursuant to the provisions of this Lease, damages or deficiencies in the reletting of the Leased Premises, and reasonable attorney's fees incurred by Landlord. Should the entire deposit or any portion thereof, be appropriated and applied by Landlord, in accordance with the provisions of this paragraph, Tenant, upon written demand by landlord, shall remit forthwith to Landlord a sufficient amount of cash to restore said security deposit to the original sum deposited, and Tenant's failure to do so within thirty (30) days after receipt of such demand shall constitute a breach of this Lease. Said security deposit together with any interest thereon as required by law, shall be returned to Tenant, less any depletion thereof as the result of the provisions of this paragraph, at the term of this Lease or any renewal

thereof, or upon the earlier termination of this Lease. Tenant shall have no right to anticipate return of said deposit by withholding any amount required to be paid pursuant to the provision of this Lease or otherwise.

In the event Landlord shall sell the Leased Premises, or shall otherwise convey or dispose of its interest in this Lease, Landlord may assign the security deposit or any balance thereof to Landlord's assignee, whereupon Landlord shall be released from all liability for the return or repayment of such security deposit and Tenant shall look solely to the said assignee for the return and repayment of said security deposit. Said security deposit shall not be assigned or encumbered by Tenant without such consent of Landlord, and any assignment or encumbrance without such consent shall not bind Landlord. In the event of any rightful and permitted assignment of this Lease by Tenant, said security deposit shall be deemed to be held by Landlord as a deposit made by the assignee, and Landlord shall have no further liability with respect to the return of said security deposit to Tenant.

12. USE:

The Leased Premises shall be used and occupied by Tenant solely for the purposes of vehicle repair and maintenance, auto detailing and cleaning/washing. Vehicle sales on the Leased Premises shall NOT be permitted. The permitted uses by Tenant shall at all times be in full compliance with all applicable laws, ordinances and governmental regulations affecting the Building and Leased Premises. The Leased Premises shall not be used in such manner that, in accordance with any requirement of law or of any public authority, Landlord shall be obligated on account of the purpose or manner of said use to make any addition or alteration to or in the Leased Premises. The Leased Premises shall not be used in any manner which will increase the rates required to be paid for public liability or for fire and extended coverage insurance covering the Leased Premises. Tenant shall occupy the Leased Premises, conduct its business and control its agents, employees, invitees and visitors in such a way as is lawful, and reputable and will not permit or create any nuisance, noise, odor, or otherwise interfere with, annoy or disturb any other Tenant in the Building in its normal business operations or Landlord in its management of the Building. Tenant's use of the Leased Premises shall conform to all landlord's rules and regulations relating to the use of the Leased Premises as listed on Exhibit A attached hereto.

13. ACCESS TO LEASED PREMISES:

The Tenant agrees to permit Landlord and the authorized representatives of Landlord to enter the Leased Premises at all times during usual business hours for the purpose of inspecting the same and making any necessary repairs to the Leased Premises and performing any work therein that may be necessary to comply with any laws, ordinances, rules, regulations or requirements of any public authority or of the Board of Fire Underwriters or any similar body or that Landlord may deem necessary to prevent waste or deterioration in connection with the Leased Premises. Nothing herein shall imply any duty upon the part of Landlord to do any such work which, under any provision of this Lease, Tenant may be required to perform and the performance thereof by Landlord shall not constitute a waiver of Tenant's default n failing to perform the same. The Landlord may, during the progress of any work in the Leased Premises, keep and store upon the Leased Premises all necessary materials, tools and equipment. The Landlord shall not in any event be liable for inconvenience, annoyance, disturbance, loss of business, or other damage of

Tenant by reason of making repairs or the performance on any work in the Leased Premises, or on account of bringing materials, supplies and equipment into or through the Leased Premises during the course thereof and the obligations of Tenant under this Lease shall not thereby be affected in any manner whatsoever.

Landlord reserves the right to enter upon the Leased Premises at any time in the event of an emergency and at reasonable hours to exhibit the Leased Premises to prospective purchasers or others; and to exhibit the Leased Premises to prospective Tenants and to display "For Lease" or similar signs on windows or doors in the Leased Premises during the last one hundred eighty (180) days of the term of this Lease, all without hindrance or molestation by Tenant.

14. EMINENT DOMAIN:

In the event of any eminent domain or condemnation proceeding or private sale in lieu thereof in respect to the Leased Premises during the term thereof, the following provisions shall apply:

a. **Leased Premises Acquired** If the whole of the Leased Premises shall be acquired or condemned by eminent domain for any public or quasi-public use or purpose, then the term of this Lease shall cease and terminate as of the later of the end of the notice period pursuant to paragraph 1B or the date possession shall be taken in such proceeding and all rentals shall be paid up to that date.

b **Part of Leased Premises Acquired.** If any part constituting less than the whole of the Leased Premises shall be acquired or condemned as aforesaid, and in the event that such partial taking or condemnation shall materially affect the Leased Premises so as to render the Leased Premises unsuitable for the business of Tenant, in the reasonable opinion of Landlord or Tenant, then the term of this Lease shall cease and terminate as of the date possession shall be taken by the condemning authority and rent shall be paid to the date of such termination.

In the event of a partial taking or condemnation of the Leased Premises which shall not materially affect the Leased Premises so as to render the Leased Premises unsuitable for the business of Tenant, in the reasonable opinion of Landlord or Tenant, this Lease shall continue in full force and effect but with a proportionate abatement of the Base Rent and Additional Rent based on the portion if any, of the Leased Premises taken. Landlord reserves the right, at its option, to restore the Leased Premises to substantially the same condition as they were prior to such condemnation. In such event, Landlord shall give written notice to Tenant, within 30 days following the date possession shall be taken by the condemning authority, of Landlord's intention to restore. Upon Landlord's notice of election to restore, Landlord shall commence restoration and shall restore the Leased Premises with reasonable promptness, subject to delays beyond Landlord's control and delays in the making of condemnation or sale proceeds adjustment by Landlord; and Tenant shall have no right to terminate this Leas except as herein provided. Upon completion of such restoration, the rent shall be adjusted based upon the portion, if any, of the Leased Premises restored.

c. **Tenant Waiver.** In the event of any condemnation or taking as aforesaid, whether whole or partial, Tenant shall not be entitled to any part of the award paid for such

condemnation and Landlord is to receive the full amount of such award, Tenant hereby expressly waives any right to claim to any part thereof.

d. **Tenant Damages.** Although all damages in the event of any condemnation shall belong to Landlord whether such damages are awarded as compensation for diminution in value of the leasehold or to the fee of the Leased Premises, Tenant shall have the right to claim and recover from the condemning authority, but not from Landlord, such compensation as may be separately awarded or recoverable by Tenant in Tenant's own right on account of any and all damage to Tenant's business by reason of the condemnation and of or on account of any cost or loss to which Tenant might be put in removing Tenant's merchandise, furniture, fixtures, leasehold improvements and equipment. However, Tenant shall have no claim against Landlord or make any claim with the condemning authority of the loss of its leasehold estate, any unexpired term of loss of any possible renewal or extension of said lease or loss of any possible value of said lease, any unexpired term, renewal or extension of said Lease.

15. DAMAGE OR DESTRUCTION:

In the event of any damage or destruction to the Leased Premises by fire or other cause during the term hereof, the following provisions shall apply:

a. **Significant Damages.** If the Leased Premises is damaged by fire or any other cause to such extent that the cost of restoration, as reasonably estimated by Landlord, will equal or exceed ten percent (10%) of the replacement value of the Leased Premises (exclusive of foundations) just prior to the occurrence of the damage, then Landlord or Tenant may, no later than the sixtieth (60^{th}) day following the damage, give the other party written notice of their election to terminate this Lease.

b. **Date of Termination.** If the event Landlord or Tenant elects to terminate this Lease, it shall be deemed to terminate on the date of the receipt of the notice of election and all rentals shall be paid up to that date. Tenant shall have no claim against landlord for the value of any unexpired term of this Lease.

Notwithstanding anything contained in this paragraph 15 to the contrary, Landlord shall only be obligated to restore the Leased Premises to the extent of the insurance proceeds actually received, but if the insurance proceeds actually received do not permit Landlord to restore the Leased Premises, Landlord shall so notify Tenant and either Landlord or Tenant may terminate this Lease by written notice given within 60 days after Landlord's notice. If Landlord restores the Leased Premises in accordance with the provisions of this Section, then Tenant shall not have any right to terminate this Lease because of such damage pursuant to (i) any common law rights, (ii) Minnesota Statutes §504.131 as now in effect or as it may be hereafter amended or supplemented, or (iii) any comparable right established b a similar statute.

16. CASUALTY INSURANCE:

a. **Landlord to Maintain.** Landlord shall at all times during the term of this Lease, at its expense, maintain a policy or policies of insurance with premiums paid in advance issued by an insurance company licensed to do business in the State of Minnesota insuring the Leased Premises against loss or damage by fire, explosion or other insurable hazards and contingencies

for the full insurance value, provided that Landlord shall not be obligated to insure any furniture, equipment, machinery, goods or supplies not covered by this Lease which Tenant may bring upon the Leased Premises or any additional improvements which Tenant may construct or install on the Leased Premises.

b. **Tenant to Maintain.** Tenant shall at all times during the term of this Lease, at its expense, maintain a policy or policies of insurance with premiums paid in advance issued by an insurance company licensed to do business in the State of Minnesota insuring the Leased Premises against loss or damage by fire, expulsion or other insurable hazards and contingencies for the full insurable value of Tenant's improvements to the Leased Premises and Tenant's personal property.

c. **Tenant Restriction.** Tenant shall not carry any stock of goods or do anything in or about the Leased Premises which will in any way impair or invalidate the obligation of the insurer under any policy of insurance required by this Lease.

d. **Waiver of Liability.** Landlord hereby waives and releases all claims, liabilities and causes of action against Tenant and its agents, servants and employees for loss or damage to, or destruction of, the Leased Premises or any portion thereof, including the buildings and other improvements situated thereon, resulting from fire, explosion and other perils included in standard extended coverage insurance, whether caused by the negligence of any of said persons or otherwise. Likewise, Tenant hereby waives and releases all claims, liabilities and causes of action against Landlord and its agents, servants and employees for loss or damage to, or destruction of, any of the improvements, fixtures, equipment, supplies, merchandise and other property, whether that of Tenant or of others, upon or about the Leased Premises resulting from fire, explosion or the other perils included in standard extended coverage insurance, whether caused by the negligence of any of said persons or otherwise. The waiver shall remain in force whether or not Tenant's insurer shall consent thereto.

e. **Tenant Payment.** In the event that the use of the Leased Premises by Tenant increases the premium rate for insurance carried by Landlord, Tenant shall pay Landlord, upon demand, the amount of such premium increase. If tenant installs any electrical equipment that overloads the power lines to the building or its wiring, Tenant shall, at its own expense, make whatever changes are necessary to comply with the requirements of the insurance underwriter, insurance rating bureau and governmental authorities having jurisdiction.

17. PUBLIC LIABILITY INSURANCE:

Tenant shall during the term hereof keep in full force and effect at its expense a policy or policies of public liability insurance with respect to the Leased Premises and the business of Tenant, on terms with companies approved in writing by Landlord, in Landlord. Landlord shall be named as additional insured under all policies. Limits of liability shall not be less than a combined policy limit of at least $2,000,000.00 applying to Bodily Injury, Leased Premises Damage and Personal Injury. Such policy(ies) shall: (i) provide that such policies are primary and landlord's policy(ies) are noncontributing; (ii) include a cross-liability endorsement, and (iii) require that at least 30 days prior written notice must be given to Landlord prior to cancellation, expiration or

material adverse changes to such policy(ies). Tenant shall furnish evidence satisfactory to Landlord at the time this Lease is executed that such coverage is in full force and effect.

18. DEFAULT OF TENANT:

a. **Failure to Pay Rent.** In the event of any failure of Tenant to pay any rental due hereunder within ten (10) days after the same shall be due, or any failure to perform any other of the terms, conditions or covenants of this Lease to be observed or performed by Tenant for more than 20 days after written notice of such failure shall have been given to Tenant, or if Tenant or an agent of Tenant shall falsify any report required to be furnished to Landlord pursuant to the terms of this Lease, or if Tenant or any guarantor of this Lease shall become bankrupt or insolvent, or file any debtor proceedings or any person shall take or have against Tenant or any guarantor of this Lease in any court pursuant to any statute either of the United States or of any state a petition of bankruptcy or insolvency or for reorganization or for the appointment of a receiver or trustee of all or a portion of Tenant's or any such guarantor's property, or if Tenant or any such guarantor makes an assignment for the benefit of creditors, or petitions for or enters into an arrangement, or if Tenant shall abandon the Leased Premises or suffer this Lease to be taken under any writ of execution, then in any such event Tenant shall be in default hereunder, and Landlord, in addition to other rights of remedies it may have, shall have the immediate right of re-entry and may remove all personal property from the Leased Premises and such property may be removed and stored in a public warehouse or elsewhere at the cost of, and for the account of Tenant, all without service of notice or resort to legal process and without being guilty of trespass, or becoming liable for any loss or damage which may be occasioned thereby.

b. **Landlord's Rights.** Should Landlord elect to re-enter the Leased Premises, as herein provided, or should it take possession of the Leased Premises pursuant to legal proceedings or pursuant to any notice provided for by law, it may either terminate this Lease or it may from time to time, without terminating this Lease, make such alterations and repairs as may be necessary in order to relet the Leased Premises, and relet the Leased Premises or any part thereof upon such term or terms (which may be for a term extending beyond the term of this Lease) and at such rental or rentals and upon such other terms and conditions as Landlord in its sole discretion may deem advisable. Upon each such subletting all rentals received by Landlord from such reletting shall be applied first to the payment of any indebtedness other than rent due hereunder from Tenant to Landlord; second, to the payment of any costs and expenses of such reletting, including brokerage fees and attorney's fees and costs of such alterations and repairs; third, to the payment of the rent due and unpaid payment of future rent as the same may become due and payable hereunder. If such rentals received from such reletting during any month be less than that to be paid during that month by Tenant hereunder, possession of the Leased Premises by Landlord shall be construed as an election on its part to terminate this Lease unless a written notice of such intention be given to Tenant or unless the termination thereof be decreed by a court of competent jurisdiction. Notwithstanding any such reletting without termination, Landlord may at any time after such re-entry and reletting elect to terminate this Lease for any such breach, in addition to any other remedies it may have, it may recover from Tenant all damages it may incur by reason of such breach, including the cost of recovering the Leased Premises, reasonable attorney's fees, and including the worth at the time of such termination of the excess, if any, of the amount of rent and charges equivalent to rent reserved in this Lease for the remainder of the stated term, minus the amount of rental loss which Tenant proves could

have been reasonably avoided, all of which amounts shall be immediately due and payable from Tenant to Landlord. Landlord shall also be entitled to any other amounts necessary to compensate Landlord for all detriment proximately caused by Tenant's failure to comply with the requirements of this Lease.

c. **Landlord May Cure Default.** Landlord may, at its option, instead of exercising any other rights or remedies available to it in this Lease or otherwise by law, statute or equity spend such money as is reasonably necessary to cure any default of Tenant herein and the amount so spent, and costs incurred, including attorney's fees incurring such default, shall be paid by Tenant, and additional rent, upon demand.

d. **Tenant Payment.** In the event suit shall be brought for recovery of possession of the Leased Premises, for the recovery of rent of any other amount due under the provisions of this Lease, or because of the breach of any other covenant herein contained on the part of Tenant to be kept or performed, and a breach shall be established, Tenant shall pay to Landlord all expenses incurred therefore, including a reasonable attorney's fee, together with interest on all such expenses at the rate of ten percent (10%) per annum from the date of such breach of the covenants of this Lease.

e. **Waiver of Rights of Redemption.** Tenant also waives any demand for possession of the Leased Premises, and any demand for payment of rent and any notice of intent to re-enter the Leased Premises, or of intent to terminate this Lease, other than the notices above provided in this paragraph, and waives any and every other notice or demand prescribed by any applicable statutes or laws.

f. **No Exclusive Remedy.** No remedy herein or elsewhere in this Lease or otherwise by law, statute or equity, conferred upon or reserved to Landlord or Tenant shall be exclusive of any other remedy, but shall be cumulative, and may be exercised from time to time and as often as the occasion may arise.

19. INDEMNITY & HOLD HARMLESS:

Except to the extent that liability for damages or loss is caused by the intentional acts or gross negligence of Landlord, its agents or employees, Tenant shall indemnify, protect, defend (at Landlord's request and with counsel approved by Landlord) and hold Landlord and each of its respective officers and employees harmless from and against every demand, claim, cause of action, judgment and expense, including, but not limited to, reasonable attorney's fees and disbursements of counsel, whether suit is initiated or not, and all loss and damage arising from: (a) any injury, loss or damage to the person or property of Tenant, or to any other person rightfully in the Leased Premises, , (i) occurring in or about the Leased Premises, or (ii) caused by the negligence or misconduct of Tenant, or Tenant's affiliates or any of their respective employees, representatives, agents or contractors, or (iii) resulting from the violation of any legal requirements or the provisions of this Lease by Tenant, or Tenant's affiliates or any of their respective employees, representatives, agents or contractors; (b) any loss or damage, however caused, to books, records, computer or other electronic equipment or data or media, files, artwork, money, securities, negotiable instruments or papers in the Leased Premises; (or (c) any loss or damage resulting from interference with or obstruction of deliveries to or from the Leased

Premises caused by Tenant or Tenant's affiliates or any of their respective employees, representatives, agents or contractors. All property kept, maintained or stored on the Leased Premises shall be so kept, maintained or stored at the sole risk of Tenant. If any mechanic's lien is filed against any part of the Leased Premises for work claimed to have been done for, or materials claimed to have been furnished to Tenant, such mechanic's lien shall be discharged by Tenant within ten (10) days thereafter, at Tenant's sole cost and expense, by the payment thereof or by making any deposit required by law or by posting a bond with such surety, in such amount and in such form as landlord deems proper. Tenant shall immediately notify Landlord of any mechanic's lien or other lien filed against the Leased Premises or any part thereof by a contractor or subcontractor of Tenant or otherwise by reason of work claimed to have been done for or materials claimed to have been furnished to Tenant. If Tenant fails to remove such lien or post such bond within the ten (10) day period following the filing thereof, Landlord may, at its sole discretion and without waiving its right and remedies based on such breach by Tenant and without releasing Tenant from any of its obligations, cause such lien to be released by any means it shall deem proper, including payment in satisfaction of the claim giving rise to such lien. Tenant shall, in such event, pay to Landlord at once, upon notice by Landlord, any sum paid by Landlord to remove such lien, together with interest at the rate of twelve percent (12%) from the date of such payment by Landlord. Landlord shall have the right at all times to post and keep posted on the Leased Premises any notices permitted or required by applicable law, or that Landlord shall deem proper for the protection of Landlord, the Leased Premises, the Leased Premises and any other party having an interest therein, from liens. All material suppliers, contractors, artisans, mechanics, laborers and other parties contracting with Tenant for the furnishing of any labor, services, materials, supplies or equipment with respect to any portion of the Leased Premises are hereby charged with notice that they must look solely to Tenant for payment of the same and Tenant's purchase orders, contracts and subcontracts in connection therewith must clearly sate this requirement.

20. NON-LIABILITY:

Subject to the terms and conditions of paragraphs 6 and 15 hereof, Landlord shall not be liable for damage to any property of Tenant or of others located on the Leased Premises, or for the loss of or damage to any property of Tenant or of others by theft or otherwise. Landlord shall not be liable for any injury or damage to persons or property resulting from fire, explosion, falling plaster, steam, gas, electricity, water, rain or snow or leaks from any part of the Leased Premises or from the pipes, appliances, or plumbing works or from the roof, street or subsurface or from any other place or by dampness or by any other cause of whatsoever nature. Landlord shall not be liable for any such damage caused by Tenants or persons in the Leased Premises, occupants of adjacent property, of the buildings, or the public or caused by operations in connection of any private, public or quasi-public work. Landlord shall not be liable for any latent defect in the Leased Premises. All property of Tenant kept or stored on the Leased Premises shall be so kept or stored at the risk of Tenant only and Tenant shall hold Landlord harmless from any claims arising out of damage to the same, including subrogation claims by Tenant's insurance carrier.

21. ASSIGNMENT OR SUBLETTING:

Tenant agrees to use and occupy the Leased Premises throughout the entire term hereof for the purpose or purposes herein specified and for no other purposes, in the manner and to

substantially the extent now intended, and not to assign, sublet, license, concession or otherwise transfer this Lease or Tenant's rights in the Leased Premises, or any part thereof, whether by voluntary act, operation of law, or otherwise, without obtaining the prior written consent of Landlord in each instance. Tenant shall seek such consent of Landlord by a written request therefore, setting forth such information as Landlord may deem necessary. Landlord agrees not to withhold consent unreasonably. Consent by Landlord to any assignment of this Lease or to any subletting of the Leased Premises shall not be a waiver of Landlord's rights under this paragraph as to any subsequent assignment or subletting. Landlord's rights to assign this Lease are and shall remain unqualified. No such assignment or subleasing shall relieve Tenant from any of Tenant's obligations in this Lease contained, nor shall any assignment or sublease or other transfer of this Lease be effective unless the assignees, subtenant or transferee shall at the time of such assignment, sublease or transfer, assume in writing for the benefit of Landlord, its successors or assigns, all of the terms, covenants and conditions of this Lease thereafter to be performed by Tenant and shall agree in writing to be bound thereby. Should Tenant sublease in accordance with the terms of this Lease, fifty percent (50%) of any increase in rental received by Tenant over the per square foot rental rate which is being paid by Tenant shall be forwarded to and retained by Landlord, which increase shall be in addition to the Base Rent and Additional Rent due landlord under this Lease.

22. ATTORNMENT:

In the event of any sale, transfer or assignment of Landlord's interest in the Leased Premises, or this Lease, or if the Leased Premises comes into custody or possession of a mortgagee or any other party whether because of a mortgage foreclosure, or otherwise, Tenant shall attorn to such assignee or other party and recognize such party as Landlord hereunder; provided, however, Tenant's peaceable possession will not be disturbed so long as Tenant faithfully performs it obligations under this Lease. Tenant shall execute, on demand, any attornment agreement required by any such party to be executed, containing such provisions and such other provisions as such party may require.

23. NOVATION IN THE EVENT OF SALE:

In the event of the sale of the Leased Premises, Landlord shall be and hereby is relieved of all of the covenants and obligations created hereby accruing from and after the date of sale, and such sale shall result automatically in the purchaser assuming and agreeing to carry out all the covenants and obligations of Landlord herein. Notwithstanding the foregoing provisions of this paragraph, Landlord, in the event of a sale of the Leased Premises, shall cause to be included in the agreement of sale and purchase a covenant whereby the purchaser of the Leased Premises assumes and agrees to carry out all of the covenants and obligations of Landlord herein.

The Tenant agrees at any time and from time to time upon not less than ten (10) days prior written request by Landlord to execute, acknowledge and deliver to Landlord a statement in writing certifying that this Lease is unmodified and in full force and effect as modified and stating the modifications, and the dates to which the basic rent and other charges have been paid in advance, if any, it being intended that any such statement delivered pursuant to this paragraph may be relied upon by any prospective purchaser of the fee or mortgagee or assignee of any mortgage upon the fee of the Leased Premises. In the event that Tenant fails to execute and

return the estoppel certificate within such ten (10) day period, the holder of such encumbrance shall be entitled to rely, as against the Tenant, that: (i) this Lease is in full force and effect, without amendment except as specified by the Landlord, (ii) Tenant has no offsets against rent nor any defenses to Tenant's performance under this Lease, (iii) Tenant has no right to any offset or defenses to the payment of rent, and (iv) Tenant has not paid any rental under this Lease more than one month in advance.

24. SUCCESSORS AND ASSIGNS:

The terms, covenants and conditions hereof shall be binding upon and inure to the successors and assigns of the parties hereto.

25. REMOVAL OF FIXTURES AND LEASEHOLD IMPROVMENTS:

Notwithstanding anything contained in paragraph 8, paragraph 29 or elsewhere in this Lease, if Landlord requests then Tenant will promptly remove at the sole cost and expense of Tenant all fixtures, equipment and alterations made by Tenant simultaneously with vacating the Leased Premises and Tenant will promptly restore the Leased Premises to the condition that existed immediately prior to said fixtures, equipment and alterations having been made all at the sole cost and expense of Tenant.

26. QUIET ENJOYMENT:

Landlord warrants that it has full right to execute and to perform this Lease and to grant the estate demised, and that Tenant, upon payment of the rents and other amounts due and the performance of all the terms, conditions, covenants and agreements on Tenant's part to be observed and performed under this Lease, may peaceably and quietly enjoy the Leased Premises for the business uses permitted hereunder, subject, nevertheless, to the terms and conditions of this Lease.

27. RECORDING:

Tenant shall not record this Lease without the written consent of Landlord. However, upon the request of either party hereto, the other party shall join in the execution of the Memorandum lease for the purposes of recordation. Said Memorandum lease shall describe the parties, the Leased Premises and the term of the Lease and shall incorporate this Lease by reference.

28. OVERDUE PAYMENTS:

All monies due under this Lease from Tenant to Landlord shall be due on demand, unless otherwise specified and if not paid when due, shall result in the imposition of a service charge for such late payment in the amount of five percent (5%) of the amount due.

29. SURRENDER:

On the Expiration Date or upon the termination hereof upon a day other than the Expiration Date, Tenant shall peaceably surrender the Leased Premises broom-clean in good order, condition and repair, reasonable wear and tear only excepted unless the Lease has been

terminated pursuant to paragraphs 1.b, 14 or 15. On or before the Expiration Date or upon termination of this Lease on a day other than the Expiration Date, Tenant shall, at its expense, remove all trade fixtures, personal property and equipment and signs from the Leased Premises and any property not removed shall be deemed to have been abandoned. Any damage caused in removal of such items shall be repaired by Tenant and at its expense. All alterations, additions, improvements and fixtures (other than trade fixtures) which shall have been made or installed by Landlord or Tenant upon the Leased Premises and all floor covering so installed shall at the option of Landlord remain upon and be surrendered with the Leased Premises as a part thereof, without disturbance, molestation or injury, and without charge, at the expiration or termination of this Lease. If the Leased Premises is not surrendered on the Expiration Date or the date of termination, Tenant shall indemnify Landlord against loss or liability, claims, without limitation, made by any succeeding Tenant founded on such delay. Tenant shall promptly surrender all keys for the Leased Premises to Landlord at the place then fixed for payment of rent and shall inform Landlord of combinations of any locks and safes on the Leased Premises.

30. HOLDING OVER:

In the event of a holding over by Tenant after expiration or termination of this Lease without the consent in writing of Landlord, Tenant shall be deemed a Tenant at sufferance and shall pay rent for such occupancy at the rate of twice the lease-current aggregate Base and Additional Rent, prorated for the entire holdover period, plus all attorney's fees and expenses incurred by Landlord in enforcing its rights hereunder, plus any other damages occasioned by such holding over. Except as otherwise agreed, any holding over with the written consent of Landlord shall constitute Tenant as a month-to-month Tenant.

31. ABANDONMENT:

In the event Tenant shall remove its fixtures, equipment or machinery or shall vacate the Leased Premises or any part thereof prior to the Expiration Date of this Lease, or shall discontinue or suspend the operation of its business conducted on the Leased Premises for a period of more than thirty (30) consecutive days (except during any time when the Leased Premises may be rendered untenantable by reason of fire or other casualty), then in any such event Tenant shall be deemed to have abandoned the Leased Premises and Tenant shall be in default under the terms of this Lease.

32. CONSENTS BY LANDLORD:

Whenever provision is made under this Lease for Tenant securing the consent or approval by Landlord, such consent or approval shall only be in writing.

33. NOTICES:

Any notice required or permitted under this Lease shall be deemed sufficiently given or secured if sent by registered or certified return receipt mail to Tenant at 6745 Highway 10 NW, Ramsey, Minnesota 55303, and to Landlord at the address then fixed for the payment of rent as provided in paragraph 4 of this Lease, and either party may by like written notice at any time designate a different address to which notices shall subsequently be sent or rent to be paid.

34. RULES AND REGULATIONS:

Tenant shall observe and comply with the rules and regulations as Landlord may prescribe and as listed on Exhibit A attached hereto, on written notice to Tenant for the safety, care and cleanliness of the Leased Premises.

35. INTENT OF PARTIES:

Except as otherwise provided herein, Tenant covenants and agrees that if it shall any time fail to pay any such cost or expenses, or fail to take out, pay for, maintain or deliver any of the insurance policies above required, or fail to make any other payment or perform any other act on its part to be made or performed as in this Lease provided, then Landlord may, but shall not be obligated so to do, and without notice to or demand upon Tenant and without waiving or releasing Tenant from any obligations of Tenant in this Lease contained, pay any such cost or expense, effect any such insurance coverage and pay premiums therefore, and may make any other payment or perform any other act on the part of Tenant to be made and performed as in this Lease provided, in such manner and to such extent as Landlord may deem desirable, and in exercising any such right, to also pay all necessary and incidental costs and expenses, employ counsel and incur and pay reasonable attorney's fees. All sums so paid by Landlord and all necessary and incidental costs and expenses in connection with the performance of any such act by Landlord, together with interest thereon at the rate of twelve percent (12%) per annum from the date of making of such expenditure, by Landlord, shall be deemed Additional Rent hereunder, and shall be payable to Landlord on demand. Tenant covenants to pay any such sum or sums with interest as aforesaid and Landlord shall have the same rights and remedies in the event of the non-payment thereof by Tenant as in the case of default by Tenant in the payment of the Base Rent payable under this Lease.

36. GENERAL:

a. **Landlord Tenant Relationship.** This Lease does not create the relationship of principal and agent or of corporation or of joint venture or of any association between Landlord and Tenant, the sole relationship between the parties hereto being that of Landlord and Tenant.

b. **Effect of Waivers.** No waiver of any default of Tenant hereunder shall be implied from any omission by Landlord to take any action on account of such default if such default persists or is repeated, and no express waiver shall affect any default other than the default specified in the express waiver and that only for the time and to the extent therein stated. One or more waivers by Landlord shall not then be construed as a wavier of a subsequent breach of the same covenant, term or condition. The consent to or approval by Landlord of any act by Tenant requiring Landlord's consent or approval shall not waive or render necessary Landlord's consent to or approval of any subsequent similar act by Tenant. No action required or permitted to be taken by or on behalf of Landlord under the terms or provisions of this Lease shall be deemed to constitute an eviction or disturbance of Tenant's possession of the Leased Premises. All preliminary negotiations are merged into and incorporated in this Lease. The laws of the State of Minnesota shall govern the validity, performance and enforcement of this Lease.

c. **Entire Agreement.** This Lease and the exhibits, if any, attached hereto and forming a part hereof, constitute the entire agreement between Landlord and Tenant affecting the Leased Premises and there are no other agreements, either oral or written, between them other than are herein set forth. No subsequent alteration, amendment, change or addition to this Lease shall be binding upon Landlord or Tenant unless reduced to writing and executed in the same form and manner in which this Lease is executed.

d. **Enforceability of Provisions.** If any agreement, covenant or condition of this Lease or the application thereof to any person or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such agreement, covenant or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each agreement, covenant or condition of this Lease shall be valid and be enforced to the fullest extent permitted by law.

e. **No Personal Obligations.** The obligations of Landlord under this Lease do not constitute the personal obligations of the individual officers or employees of Landlord. If Landlord shall fail to perform any covenant, term or condition of this Lease required of landlord, Tenant shall be required to deliver to Landlord written notice of the same. If, as a consequence of such default, Tenant shall recover a money judgment against Landlord, such judgment shall be satisfied only out of the proceeds of sale received upon execution of such judgment and levied thereon against the right, title and interest of Landlord in the Leased Premises and out of rent or other income from the Leased Premises receivable by Landlord, or out of consideration received by Landlord from the sale or other disposition of all or any part of Landlord's right, title or interest in the Leased Premises, and no action for any deficiency may be sought or obtained by Tenant.

f. **No Relocation Benefits.** The Tenant waives its right to relocation benefits under any state or federal law in the event Tenant elects to terminate this Lease prior to the expiration of the Lease Term or any subsequent term thereafter pursuant to paragraph 1.c. herein.

37. NO WASTE OR NUISANCE AND COMPLIANCE WITH LAWS:

a. **Leased Premises Use.** The Leased Premises shall be used by and/or at the sufferance of Tenant only for the purpose set forth in paragraph 11 above and for no other purposes. Tenant shall not use or permit the use of the Leased Premises in any manner that will tend to create waste or a nuisance. Tenant, its employees and all persons visiting or doing business with Tenant in the Leased Premises shall be bound by and shall observe the reasonable rules and regulations as listed on Exhibit A attached hereto, made by Landlord relating to the Leased Premises, of which notice in writing shall be given to Tenant, and all such rules and regulations shall be deemed to be incorporated into and form a part of this Lease.

b. **Obey Laws.** Tenant covenants throughout the Lease Term, at Tenant's sole cost and expense subject to Landlord's warranty in paragraph 6, promptly to comply with all laws and ordinances and the orders, rules and regulations and requirements of all federal, state and municipal governments and appropriate departments, commissions, boards, and officers thereof, and the orders, rules and regulations of the Board of Fire Underwriters where the Leased Premises are situated, or any other body now or hereafter created with jurisdiction over the

Leased Premises, and whether or not the same require structural repairs or alterations, which may be applicable to the Leased Premises, or the use or manner of use of the Leased Premises. Tenant will likewise observe and comply with the requirements of all policies of public liability, fire and all other policies of insurance at any time in force with respect to the buildings and improvements on the Leased Premises and the equipment thereof.

38. HAZARDOUS MATERIAL:

In the event any Hazardous material (hereinafter defined) is brought or caused to be brought into or onto the Leased Premises by Tenant, Tenant shall handle any such material in compliance with all applicable federal, state and/or local regulations. For purposes of this paragraph, "Hazardous Material" means and includes any hazardous, toxic or dangerous waste, substance or material defined as such in (or for purposes of) the Comprehensive Environmental Response, Compensation, and Liability Act, and so-called "Superfund" or "Super lien" law, or any federal, state or local statute, law, ordinance, code, rule, regulation, order decree regulation, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic or dangerous waste, substance or material, as now or at any time hereafter in effect. Tenant shall submit to Landlord on an annual basis copies of its approved hazardous materials communication plan, OSHA monitoring plan, and permits required by the Resource Recovery and Conservation Act of 1976, if Tenant is required to prepare, file or obtain any such plans or permits. Tenant will indemnify and hold harmless Landlord from any losses, liabilities, damages, costs or expenses (including reasonable attorney's fees) which Landlord may suffer or incur as a result of Tenant's introduction into or onto the Leased Premises, of any Hazardous Material. This paragraph shall survive the expiration or sooner termination of this Lease.

39. CAPTIONS:

The captions are inserted only as a mater of convenience and for reference, and in no way define, limit or describe the scope of this Lease nor the intent or any provision thereof.

40. ATTACHMENTS:

See also Exhibit A, which Exhibit is attached hereto and made a part hereof.

Exhibit	Description
Exhibit A	Leased Premises Rules and Regulations
Exhibit B	Graphic Depiction of Leased Premises
Exhibit C	Personal Property List

41. SUBMISSION:

Submission of this instrument to Tenant or proposed Tenant or its agents or attorneys for examination, review, consideration or signature does not constitute or imply an offer to lease, reservation of space, or option to lease, and this instrument shall have no binding legal effect until execution hereof by both Landlord/Owner and Tenant or its agents.

IN WITNESS WHEREOF, landlord and Tenant have caused these presents to be executed in form and manner sufficient to bind them at law, as of the day and year first above written.

LANDLORD:

CITY OF RAMSEY, a
Minnesota Municipal Corporation

By: _____
Bob Ramsey, Mayor

By: _____
Kurt G. Ulrich, City Administrator

TENANT:

INDEPENDENT AUTO SERVICE, INC.
Minnesota Corporation

By: _____
Allen Berg, Chief Executive Manager

STATE OF MINNESOTA)
) ss.
COUNTY OF ANOKA)

The foregoing instrument was acknowledged before me this 13th day of Feb, 2012, by Bob Ramsey, the Mayor, and Kurt Ulrich, the City Administrator, of the City of Ramsey, a Minnesota Municipal Corporation, under the laws of the State of Minnesota on behalf of the Corporation.

JOANN THIELING
Notary Public
Minnesota
My Commission Expires January 31, 2015

_____
Notary Public

STATE OF Minnesota)
) ss.
COUNTY OF Anoka)

The foregoing was acknowledged before me this 27th day of January, 2012, before me, a Notary Public, personally appeared Allen Berg, the Chief Executive Manager of Independent Auto Service, Inc., to me known to be the person described in and who executed the foregoing instrument and acknowledged that they executed the same as their free act and deed.

JOANN E SHAW
Notary Public
Minnesota
My Commission Expires January 31, 2015

_____
Notary Public

EXHIBIT A
TO LEASE AGREEMENT
DATED February 1, 2012

BUILDING RULES AND REGULATIONS

1. Any sign, lettering, picture, notice or advertisement installed on or in any part of the Leased Premises and visible from the exterior of the Leased Premises, shall be installed at Tenant's sole cost and expense, and in such manner, character and style as Landlord may approve in writing. Anything herein to the contrary notwithstanding, approval as to signs shall be subject to Landlord's approval which may not be unreasonably withheld. In the event of a violation of the foregoing by Tenant, landlord may remove the same without any liability and may charge the expense incurred by such removal to Tenant.

2. Tenant assumes full responsibility for protecting its space from theft, robbery and pilferage, which includes keeping doors locked and other means of entry to the Leased Premises closed and secured after normal business hours.

3. Tenant shall comply with all applicable federal, state and municipal laws, ordinances and regulations, and building rules and shall not directly or indirectly make any use of the Leased Premises which may be prohibited by any of the foregoing or which may be dangerous to persons or property or may increase the cost of insurance or require additional insurance coverage.

4. The Leased Premises shall not be used for cooking (as opposed to heating of food), lodging, sleeping or for any immoral or illegal purpose.

5. Unless expressly permitted by Landlord, no additional locks or similar devices shall be attached to any door or window and no keys other than those provided by Landlord shall be made for any door. If more than two keys for one lock are desired by Tenant, Landlord may provide the same upon payment by Tenant. Upon termination of this Lease or of Tenant's possession, Tenant shall surrender all keys of the Leased Premises and shall explain to Landlord all combination locks on safes, cabinets and vaults.

6. The restrooms, drinking fountains and other plumbing fixtures shall not be used for any purpose other than for which they are constructed, and no sweepings, rubbish, rags, coffee grounds or other substances shall be thrown therein. All damages resulting from any misuse of the fixtures shall be borne by Tenant who, or whose employees, agents, visitors or licensees have caused same. No person shall waste water by interfering or tampering with the faucets or otherwise.

7. Tenant shall be responsible for any damage to the building or the property of its employees or others and injuries sustained by any person whomsoever resulting from the use or moving of such articles in or out of the Leased Premises, and shall make all repairs and improvements required by Landlord or governmental authorities in connection with the use or moving of such articles.

8. Wherever in these Building Rules and Regulations the word "Tenant" occurs, it is understood and agreed that it shall mean Tenant's associates, employees, agents, clerks, invitees, and visitors. Wherever the word "Landlord" occurs, it is understood and agreed that it shall mean Landlord's assigns, agents, clerks, and visitors.

9. Landlord shall have the right to enter upon the Leased Premises at all reasonable hours for the purpose of inspecting the same.

10. Landlord shall have the right to enter the Leased Premises at hours convenient to Tenant for the purpose of exhibiting the same to prospective tenants.

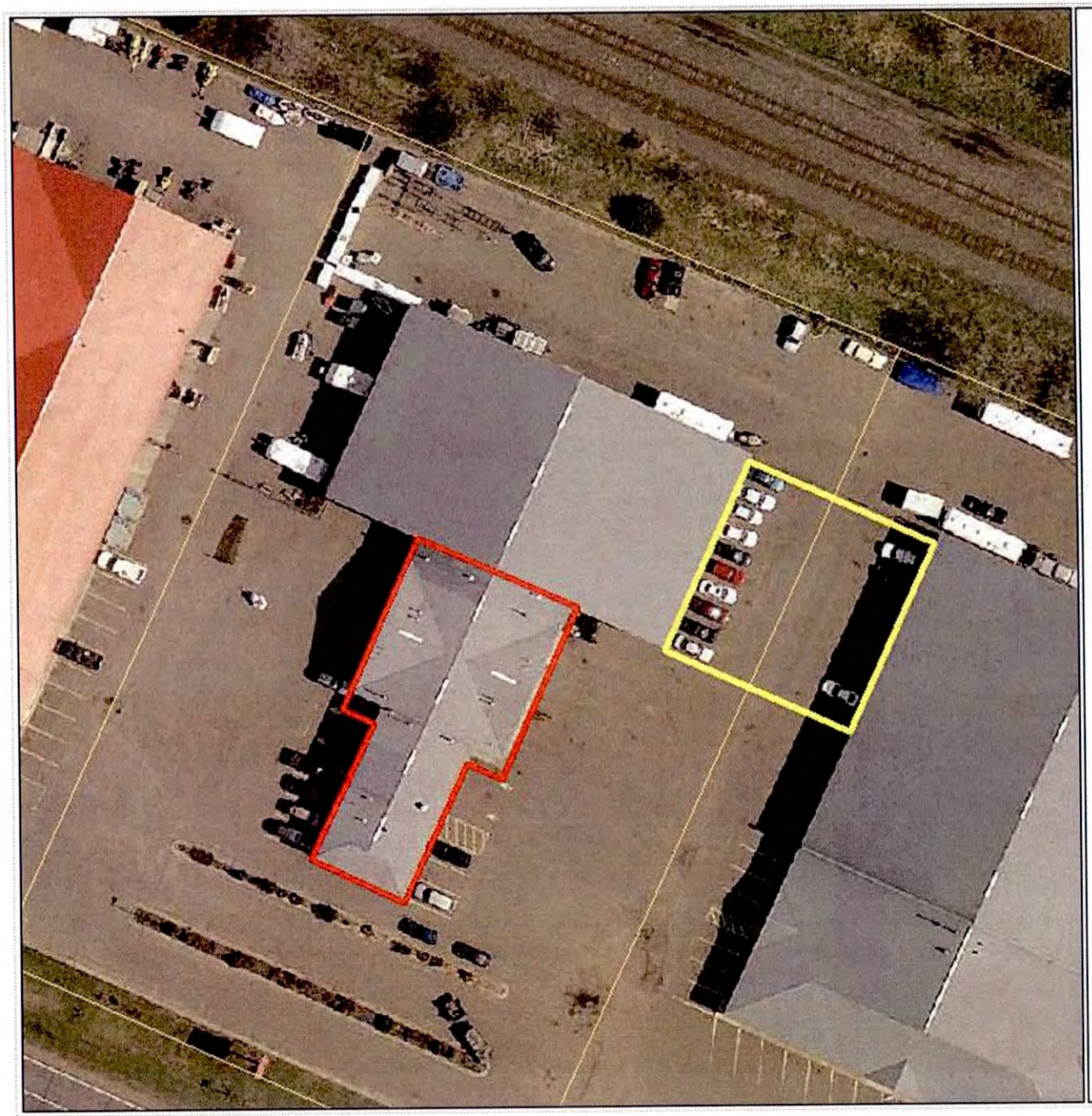
11. Landlord shall be responsible for all repair and maintenance of mechanical systems and devices associated with Tenant's Leased Premises, including heating and air conditioning equipment, water heaters, exhaust fans, plumbing and electrical. Landlord must be advised of any such repair, etc. and must approve of any such repair. Landlord warrants that the equipment is in proper working order on the Commencement Date.

12. Alterations of any nature to the Leased Premises by Tenant shall require written approval of Landlord. Such approval shall not be unreasonably withheld. In the event of a violation of the foregoing by Tenant, Landlord may remove the same without any liability and may charge the expense incurred by such removal to Tenant.

13. Tenant and Tenant's employees, agents, visitors and licensees shall observe faithfully and comply strictly with the foregoing rules and regulations and such other and further appropriate rules and regulations as Landlord or Landlord's agent may from time to time adopt. Reasonable notice of any additional rules and regulations shall be given in such manner as Landlord may reasonably elect in its reasonable discretion.

14. Landlord reserves the right at any time to rescind, alter or waive, in whole or in part, any of these Rules and Regulations when deemed necessary, desirable, or proper, in Landlord's judgment, for its best interest or for the best interest of the tenants of the Complex. Tenant reserves the right to refuse compliance with any subsequent additional rules and regulations added to those agreed to at the time of signing the Lease.

15. To the extent these rules are in conflict with the terms of the Lease, the terms of the Lease shall rule and govern.



City of RAMSEY

Independent Auto Service

Proposed Location

6745 Highway 10 NW

Parcels

Lease Space

Leased Premises

Outdoor Storage Location

0 25 50 Feet

This map has been compiled using information gathered from various governmental offices and abstractors and is to be used for reference purposes only. It is neither a legally recorded map nor a survey and is not intended for use as one. The Geographic Information System (GIS) data used in developing this map is not warranted by the City as being error-free.

The City does not represent that the GIS data can be used for exact measurement of distance or direction or precision in the depiction of geographic features. If errors or discrepancies are found, please contact (763) 427-4430.

The City of Ramsey disclaims any responsibility for or liability for the accuracy of the information or any part of said contact with a GIS to which the public has general access. The preceding disclaimer is provided pursuant to Minnesota Statute 466.03 Subd. 21 (2000), and the user of this map acknowledges that the City of Ramsey is immune from any and all claims brought by User, its employees or agents, or those persons which arise out of the user's access of the data.

Exhibit B

Exhibit C
Personal Property List

Air Compressor in Pit Area

Four Commercial Hoists

Computers

Copier & Fax Machines

Other Office Equipment

Furniture

Tool Cabinets

Inventory

CC Regular Session **4. 7.**

Meeting Date: 03/27/2018

By: Jackie Lipski, Finance

Information

Title

Adopt Resolution # 18-064 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of March 8, 2018 through March 21, 2018

Action:

Motion to Adopt Resolution # 18-064 Approving Cash Disbursements Made and Authorizing Payment of Accounts Payable Invoicing Received During the Period of March 8, 2018 through March 21, 2018.

Attachments

Bills List 3/27/2018

Resolution 3/27/2018

Form Review

Inbox	Reviewed By	Date
Diana Lund	Diana Lund	03/22/2018 06:49 AM
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:47 PM
Form Started By: Jackie Lipski		Started On: 03/21/2018 01:38 PM
Final Approval Date: 03/22/2018		

RAMSEY CITY COUNCIL MEETING

3/27/2018

BILLS LIST

DISBURSEMENTS TO BE APPROVED THIS MEETING:

DISBURSEMENT TYPE:	SUBMITTED FOR APPROVAL
Purchase Journal:	
Prepaids 3/8/18-3/21/18	293,774.44
Accounts Payable 3/8/18-3/21/18	530,649.21
Payroll 3/9/18	155,041.91

TOTAL SUBMITTED FOR APPROVAL THIS MEETING **$ 979,465.56**

	APPROVED PREV. MTG	2018 Y.T.D.
DISBURSEMENTS PREVIOUSLY APPROVED AND PAID:		
NET PAYROLL TOTAL	$ 177,104.74	$ 786,030.59
- CORRECTION TO PAYROLL		
PREPAIDS	192,936.63	1,287,064.92
- PREPAID ADJUSTMENTS		
WIRE TRANSFERS FOR DEBT SERVICE		395,106.25
- CORRECTION TO D.S.		
ACCOUNTS PAYABLE INVOICING - PREVIOUS MEETING:		
- BILLS LIST SUBMITTED	151,798.93	1,209,135.97
ADD (DELETE) BILLS LIST SUBMITTED		
PAY ESTIMATE(S)		510,842.15
- CHECKS VOIDED	0.00	0.00
TOTAL CASH DISBURSEMENTS PREVIOUSLY APPROVED	**$ 521,840.30**	**$ 4,188,179.88**

CITY OF RAMSEY

Council Check Register by GL

Council Check Register and Summary

3/8/2018 -- 12/31/2018

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
105197	3/8/2018		111601 21ST CENTURY BANK						
		15,400.00	RE: SILVER OAKS 2ND ADD.		90574	022318	9601.4606		DEVELOPER FEES (W
		15,400.00							
105198	3/8/2018		111326 BURNET TITLE						
		180.51	UB REFUND 14714 WACO STREET NW		90575	030518	9601.4651		WATER REVENUE
		180.51							
105199	3/8/2018		113687 CITIES TITLE SERVICE						
		335.21	UB REFUND 15660 RAMSEY BLVD		90576	030818	9601.4651		WATER REVENUE
		335.21							
105200	3/8/2018		110734 CITY OF RAMSEY						
		25.00	724028		90578	030818	9601.4651		WATER REVENUE
		2.40	724899		90578	030818	9601.4651		WATER REVENUE
		27.40							
105201	3/8/2018		111696 CITY OF RAMSEY						
		679.23	UB REFUND 16244 COQUINA ST		90577	030518	9601.4651		WATER REVENUE
		679.23							
105202	3/8/2018		100116 CONNEXUS ENERGY						
		9,634.77	STREET LIGHTS		90579	759126-303101 FEB 18	9603.6371		ELECTRIC UTILITIES
		85.00	SIRENS		90580	759126-303095 FEB 18	0250.6371		ELECTRIC UTILITIES
		6,302.61	WTR TWR/WELLS/ LIFT STATIONS		90581	759126-303102 FEB 18	9601.6371		ELECTRIC UTILITIES
		758.23	WTR TWR/WELLS/ LIFT STATIONS		90581	759126-303102 FEB 18	9602.6371		ELECTRIC UTILITIES
		764.10	MISC PW ACCOUNTS		90582	759126-303106 FEB 18	0311.6371		ELECTRIC UTILITIES
		1,452.21	MISC PW ACCOUNTS		90582	759126-303106 FEB 18	0452.6371		ELECTRIC UTILITIES
		254.70	MISC PW ACCOUNTS		90582	759126-303106 FEB 18	9601.6371		ELECTRIC UTILITIES
		254.70	MISC PW ACCOUNTS		90582	759126-303106 FEB 18	9602.6371		ELECTRIC UTILITIES
		254.70	MISC PW ACCOUNTS		90582	759126-303106 FEB 18	9605.6371		ELECTRIC UTILITIES
		846.98	TRAFFIC SIGNALS		90583	759126-303100 FEB 18	0260.6371		ELECTRIC UTILITIES
		2,160.62	MISC CITY ACCOUNTS		90585	759126-303107 FEB 18	0220.6371		ELECTRIC UTILITIES
		6,002.33	MISC CITY ACCOUNTS		90585	759126-303107 FEB 18	0194.6371		ELECTRIC UTILITIES
		234.41	MISC CITY ACCOUNTS		90585	759126-303107 FEB 18	0194.6371		ELECTRIC UTILITIES
		71.91	MISC CITY ACCOUNTS		90585	759126-303107 FEB 18	9230.6249		MISCELLANEOUS OP
		5,107.88	MISC CITY ACCOUNTS		90585	759126-303107 FEB 18	9240.6371		ELECTRIC UTILITIES
		30.87	MISC CITY ACCOUNTS		90585	759126-303107 FEB 18	9410.6371	00041018	ELECTRIC UTILITIES
		1,029.56	MISC CITY ACCOUNTS		90585	759126-303107 FEB 18	9410.6371	00041012	ELECTRIC UTILITIES

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
105202	3/8/2018		100116 CONNEXUS ENERGY						Contin
		35,245.58							
105203	3/8/2018		100870 EDINA REALTY TITLE						
		40.29	UB REFUND 5425 144TH WAY		90586	030518	9601.4651		WATER REVENUE
		40.29							
105204	3/8/2018		116229 ERICKSON, JOHN						
		258.35	UB REFUND 8901 175TH LN NW		90587	030518	9601.4651		WATER REVENUE
		258.35							
105205	3/8/2018		116224 HASS, JEFF						
		63.31	UB REFUND 15250 URANIUM ST		90588	030518	9601.4651		WATER REVENUE
		63.31							
105206	3/8/2018		115574 HEALTHPARTNERS						
		44,512.00	REISSUE FEB 2018 PAYMENT		90589	78756128-REISSUE	9101.2176		LIFE/HEALTH-EMPLO
		44,512.00							
105207	3/8/2018		115959 HOSCH, HELEN						
		26.30	UB REFUND 15035 RAMSEY BLVD		90590	030518	9601.4651		WATER REVENUE
		26.30							
105208	3/8/2018		116228 JOHNSON, WILLIAM						
		149.39	UB REFUND 5840 141ST LN NW		90591	030518	9601.4651		WATER REVENUE
		149.39							
105209	3/8/2018		116226 KLASS, KYLE AND RACHEL						
		91.27	UB REFUND 5200 149TH LANE NW		90592	030518	9601.4651		WATER REVENUE
		91.27							
105210	3/8/2018		111865 LIBERTY TITLE INC						
		34.27	UB REFUND 16244 COQUINA ST		90593	030518	9601.4651		WATER REVENUE
		72.64	UB REFUND 15474 TUNGSTEN ST		90594	030518A	9601.4651		WATER REVENUE
		8.44	UB REFUND 16520 YTTRIUM ST		90595	030518B	9601.4651		WATER REVENUE
		115.35							
105211	3/8/2018		115334 MINNESOTA TITLE LLC						
		303.72	UB REFUND 14471 FLUORINE CT		90596	030518	9601.4651		WATER REVENUE
		303.72							
105212	3/8/2018		116233 MN HOME VENTURE						
		8.13	UB REFUND 7560 149TH LN NW		90597	030518	9601.4651		WATER REVENUE
		8.13							
105213	3/8/2018		116223 MUELLER, JOSH						
		5.57	UB REFUND 15741 FERRET ST		90598	030518	9601.4651		WATER REVENUE
		5.57							
105214	3/8/2018		100351 NCPERS MINNESOTA						
		480.00	MARCH 2018 LIFE INS		90599	022318	9101.2170		DENTAL/DISABILITY/L
		480.00							
105215	3/8/2018		116227 PAZDERNIK, BOBBI JO						
		148.57	UB REFUND 7040 137TH LN NW		90600	030518	9601.4651		WATER REVENUE

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
									Continu
105215	3/8/2018		116227 PAZDERNIK, BOBBI JO						
		148.57							
105216	3/8/2018		100678 PETTY CASH						
		16.00	REPLACEMENT TABS		90601	030618	0311.6249		MISCELLANEOUS OP
		20.00	NOTARY FEE		90601	030618	0130.6249		MISCELLANEOUS OP
		9.94	RAMSEY RESIDENT POSTAGE		90601	030618	0195.6322		POSTAGE
		7.92	FUEL LINE		90601	030618	0311.6257		OTHER VEHICLE PAR
		53.86							
105217	3/8/2018		113450 PINTO PROPERTIES						
		195.48	UB REFUND 13942 IRONSTONE TER		90602	030518	9601.4651		WATER REVENUE
		195.48							
105218	3/8/2018		116232 RESULTS TITLE INC						
		87.52	UB REFUND 14672 SODIUM ST		90603	030518	9601.4651		WATER REVENUE
		87.52							
105219	3/8/2018		116225 ROBBINS, HOLLY						
		66.67	UB REFUND 5690 154TH CURVE		90604	030518	9601.4651		WATER REVENUE
		66.67							
105220	3/8/2018		116230 SEMPLE EXCAVATING AND TRUCKING INC						
		500.00	ERO ESC 7820 158TH AVE NW		90605	030818	9804.6433	00116146	REFUNDS
		500.00							
105221	3/8/2018		114151 TASC (FEES)						
		376.25	MARCH 2018 VEBA/REBA FEES		90606	1230294	0130.6315		MISCELLANEOUS PR
		376.25							
105222	3/8/2018		114606 TITLE SMART INC						
		182.52	UB REFUND 14420 QUICKSILVER ST		90607	030518	9601.4651		WATER REVENUE
		182.52							
105223	3/8/2018		116231 TITLE SMART INC						
		148.29	UB REFUND 14451 FLUORINE CT		90608	030518	9601.4651		WATER REVENUE
		148.29							
105224	3/8/2018		111137 WRIGHT HENNEPIN COOPERATIVE ELECTRIC						
		27.95	7550 SUNWOOD DR PD		90609	150-1682-6501 FEB 18	0211.6489		OTHER CONTRACTEI
		24.95	7650 SUNWOOD DR		90610	150-1681-4280 FEB 18	9240.6315		MISCELLANEOUS PR
		24.95	7550 SUNWOOD DR		90611	150-1681-6340 FEB 18	0194.6489		OTHER CONTRACTEI
		27.95	6701 HWY 10 -YOUTH FIRST		90612	150-1687-1105 FEB 18	9410.6315	00041012	MISCELLANEOUS PR
		105.80							
105294	3/15/2018		100012 ACE SOLID WASTE INC						
		197.37	MARCH 18 PW ACCOUNTS		90653	3610406	0194.6374		REFUSE/RECYCLING
		157.57	MARCH 18 PW ACCOUNTS		90653	3610406	0311.6374		REFUSE/RECYCLING
		117.40	MARCH 18 PW ACCOUNTS		90653	3610406	0452.6374		REFUSE/RECYCLING
		52.52	MARCH 18 PW ACCOUNTS		90653	3610406	9601.6374		REFUSE/RECYCLING
		52.52	MARCH 18 PW ACCOUNTS		90653	3610406	9602.6374		REFUSE/RECYCLING
		126.75	MARCH 18 PW ACCOUNTS		90653	3610406	9604.6249		MISCELLANEOUS OP

CITY OF RAMSEY

Council Check Register by GL

Council Check Register and Summary

3/8/2018 -- 12/31/2018

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
105294	3/15/2018		100012 ACE SOLID WASTE INC						Contin
		52.53	MARCH 18 PW ACCOUNTS		90653	3610406	9605.6374		REFUSE/RECYCLING
		91.33	MARCH 18 FIRE STATIONS		90654	3620931	0220.6374		REFUSE/RECYCLING
		847.99							
105295	3/15/2018		100647 BOLTON AND MENK INC						
		2,902.50	FALL 2017 TRAFFIC CONTROL		90655	0214336	9214.6315		MISCELLANEOUS PR
		2,902.50							
105296	3/15/2018		103641 BOYER TRUCKS ROGERS						
		1,883.70	REPAIR ON 662		90656	477003	0312.6388		OTHER VEHICLE REP
		658.85	REPAIR ON 662		90656	477003	0312.6257		OTHER VEHICLE PAR
		2,542.55							
105297	3/15/2018		100404 CENTURYLINK						
		65.35	FEB/MAR 18 SERVICE		90657	763 422-1452 795 FEB 18	0452.6321		TELEPHONE
		65.35							
105298	3/15/2018		110734 CITY OF RAMSEY						
		150.00	# 719280		90658	031418	9601.4651		WATER REVENUE
		150.00							
105299	3/15/2018		107603 DAHLBERG, NICHOLAS						
		11.70	TRAINING- MEAL		90659	031418	0211.6331		TRAVEL & LODGING
		11.70							
105300	3/15/2018		108454 DIXON, JERAD						
		70.73	TRAINING- MEALS		90670	031218	0211.6331		TRAVEL & LODGING
		70.73							
105301	3/15/2018		100158 ECM PUBLISHERS INC						
		64.50	RE: PH 6750 HIGHWAY 10		90660	573989	9804.6315	00116168	MISCELLANEOUS PR
		64.50							
105302	3/15/2018		100169 EMERGENCY APPARATUS MAINTENANCE INC						
		707.01	REPAIR ON 565		90661	98392	0220.6388		OTHER VEHICLE REP
		707.01							
105303	3/15/2018		100179 FIRE FIGHTERS RELIEF ASSN						
		7,000.00	STATE SUPP PAY REIMB.		90662	031518	9101.4273		OTHER STATE GRAN
		7,000.00							
105304	3/15/2018		106324 INSPECTRON INC						
		7,925.00	JAN 2018 SERVICES		90663	010618	0240.6315		MISCELLANEOUS PR
		7,925.00							
105305	3/15/2018		100291 MET COUNCIL SAC						
		27,335.00	FEB 18 SAC CHARGES		90664	030818	9602.2083		SAC CHARGES
		273.35-	FEB 18 SAC CHARGES		90664	030818	9602.4356		SEWER AVAILABILITY
		27,061.65							
105306	3/15/2018		100391 POSTMASTER						
		1,723.26	POSTAGE-BIZ EXPO 18 POSTCARDS		90665	031318	9230.6249	00923001	MISCELLANEOUS OP
		1,723.26							

CITY OF RAMSEY

Council Check Register by GL

Council Check Register and Summary

3/8/2018 -- 12/31/2018

Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
105307	3/15/2018		103119 ROSSUM, BEN						Contin
		11.70	TRAINING- LUNCH		90666	031418	0211.6331		TRAVEL & LODGING
		11.70							
105308	3/15/2018		100510 VERIZON WIRELESS						
		246.37	FEB/MARCH 18 SERVICE		90667	9802698690	0211.6323		CELLULAR PHONES
		103.16	FEB/MARCH 18 SERVICE		90667	9802698690	0280.6323		CELLULAR PHONES
		455.13	FEB/MARCH 18 SERVICE		90667	9802698690	0211.6415		OTHER EQUIPMENT F
		61.79	JAN/FEB 18 SERVICE		90668	9802082452	0130.6323		CELLULAR PHONES
		866.45							
105309	3/15/2018		111137 WRIGHT HENNEPIN COOPERATIVE ELECTRIC						
		27.95	5650 ALPINE DR FIRE STATION		90669	150-1691-2206 MAR 18	0220.6489		OTHER CONTRACTEI
		27.95							
90455305	3/9/2018		100398 PUBLIC EMPLOYEES RETIREMENT ASSN						
		19,087.20			90568	030818821324	9101.2174		PERA-EMPLOYEE
		25,492.31			90569	030818821325	9101.2183		PERA-EMPLOYER
		44,579.51							
95335488	3/9/2018		100601 MN DEPT OF REV WH						
		10,744.86			90570	030818821326	9101.2172		STATE WITHHOLDING
		10,744.86							
95776622	3/9/2018		101306 IRS						
		22,323.85			90571	030818821327	9101.2171		FEDERAL WITHHOLDI
		12,233.50			90572	030818821328	9101.2173		FICA & MEDICARE-EM
		12,233.50			90573	030818821329	9101.2182		FICA & MEDICARE-EM
		46,790.85							
98030918	3/9/2018		115568 ALERUS FINANCIAL NA						
		1,771.68			90565	0308188213214	9101.2176		LIFE/HEALTH-EMPLO
		1,771.68							
99030918	3/9/2018		107962 TOTAL ADMINISTRATIVE SERVICE CORP						
		2,697.20			90561	0308188213210	9101.2176		LIFE/HEALTH-EMPLO
		2,697.20							
99031418	3/15/2018		100629 MN DEPT OF REV SALES TX						
		36.34	Feb Sales/Use Tax		90584	022818	9101.4305		RENTAL FEES
		8.80	Feb Sales/Use Tax		90584	022818	9101.4328		ACCIDENT REPORTS
		6.20	Feb Sales/Use Tax		90584	022818	9101.4308		SALES OF MAPS & PL
		.87	Feb Sales/Use Tax		90584	022818	9101.4609		OTHER MISCELLANE
		278.05	Feb Sales/Use Tax		90584	022818	9601.2082		SALES/USE TAX PAYA
		.71	Feb Sales/Use Tax		90584	022818	9601.2082		SALES/USE TAX PAYA
		.03	Feb Sales/Use Tax		90584	022818	9601.2085		ANOKA COUNTY TRA
		331.00							
99031518	3/15/2018		108768 COMDATA NETWORK INC						
		24.87	AMAZON MKTPLACE PMTS W , BLUML		90651	FEB18 COMDATA PCARD	0280.6281		SMALL TOOLS & MINC
		12.84	AMAZON MKTPLACE PMTS W , BLUML		90651	FEB18 COMDATA PCARD	0280.6241		COMMUNITY POLICIN
		25.00	TLO TRANSUNION , BLUML		90651	FEB18 COMDATA PCARD	0211.6315		MISCELLANEOUS PR

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			108768 COMDATA NETWORK INC						Continu
99031518	3/15/2018	69.95-	WEATHERTECH DIRECT LLC , BLUML		90651	FEB18 COMDATA PCARD	0211.6281		SMALL TOOLS & MINC
		30.00	LITTLE DUKES RAMSEY , BRAY		90651	FEB18 COMDATA PCARD	0194.6225		DIESEL FUEL
		5.64	LITTLE DUKES RAMSEY , BRAY		90651	FEB18 COMDATA PCARD	0194.6225		DIESEL FUEL
		6.00	LITTLE DUKES RAMSEY , BRAY		90651	FEB18 COMDATA PCARD	0194.6225		DIESEL FUEL
		35.00	LITTLE DUKES RAMSEY , BRAY		90651	FEB18 COMDATA PCARD	0194.6225		DIESEL FUEL
		173.54	COBORN'S SUPERSTORE , FRANKFUR		90651	FEB18 COMDATA PCARD	0211.6331		TRAVEL & LODGING
		650.00	FBI LEEDA INC , FRANKFURTH		90651	FEB18 COMDATA PCARD	0211.6335		TRAINING
		610.00	MINNESOTA CHIEFS OF PO , FRANK		90651	FEB18 COMDATA PCARD	0211.6335		TRAINING
		250.00	MINNESOTA STATE COLLEG , FRANK		90651	FEB18 COMDATA PCARD	0211.6335		TRAINING
		150.00	PAYPAL *BARBARASCHN , FRANKFUR		90651	FEB18 COMDATA PCARD	0211.6335		TRAINING
		26.97	AMAZON MKTPLACE PMTS W , FREDR		90651	FEB18 COMDATA PCARD	0130.6208		MISCELLANEOUS OFI
		7.36	AMAZON MKTPLACE PMTS W , FREDR		90651	FEB18 COMDATA PCARD	0301.6208		MISCELLANEOUS OFI
		12.18	AMAZON MKTPLACE PMTS W , FREDR		90651	FEB18 COMDATA PCARD	0301.6208		MISCELLANEOUS OFI
		14.43	AMAZON MKTPLACE PMTS W , FREDR		90651	FEB18 COMDATA PCARD	0301.6208		MISCELLANEOUS OFI
		11.97	AMAZON MKTPLACE PMTS W , FREDR		90651	FEB18 COMDATA PCARD	0191.6208		MISCELLANEOUS OFI
		179.97	DNH*GODADDY.COM , FREDRICKSON		90651	FEB18 COMDATA PCARD	0192.6405		OFFICE & DATA PROC
		252.00	SMK*SURVEYMONKEY.COM , FREDRIC		90651	FEB18 COMDATA PCARD	0192.6405		OFFICE & DATA PROC
		2,207.96	WWW.NEWEGGBUSINESS.COM , FREDR		90651	FEB18 COMDATA PCARD	0192.6281		SMALL TOOLS & MINC
		536.00	WWW.NEWEGGBUSINESS.COM , FREDR		90651	FEB18 COMDATA PCARD	0192.6281		SMALL TOOLS & MINC
		137.81	WWW.NEWEGGBUSINESS.COM , FREDR		90651	FEB18 COMDATA PCARD	0192.6281		SMALL TOOLS & MINC
		425.00	AMERICAN PLANNING A , GLADHILL		90651	FEB18 COMDATA PCARD	0191.6335		TRAINING
		295.00	LOGMEIN*GOTOMEETING , GLADHILL		90651	FEB18 COMDATA PCARD	0191.6315		MISCELLANEOUS PR
		410.00	MINNESOTA CHIEFS OF PO , KATER		90651	FEB18 COMDATA PCARD	0211.6451		MEMBERSHIP DUES
		89.00	AMAZON MKTPLACE PMTS , KOHNER		90651	FEB18 COMDATA PCARD	0220.6208		MISCELLANEOUS OFI
		155.88	AMAZON MKTPLACE PMTS , KOHNER		90651	FEB18 COMDATA PCARD	0220.6249		MISCELLANEOUS OP
		374.91	BEST BUY , KOHNER		90651	FEB18 COMDATA PCARD	0220.6249		MISCELLANEOUS OP
		288.78	FIREAWARDS.COM , KOHNER		90651	FEB18 COMDATA PCARD	0220.6249		MISCELLANEOUS OP

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99031518	3/15/2018		108768 COMDATA NETWORK INC						Continu
		1,600.00	ASSESSMENTLEADERS.COM , LASHER		90651	FEB18 COMDATA PCARD	0130.6315		MISCELLANEOUS PR
		50.00	MINNESOTA GOVERNMENT F , LUND		90651	FEB18 COMDATA PCARD	0153.6451		MEMBERSHIP DUES
		50.00	MINNESOTA GOVERNMENT F , LUND		90651	FEB18 COMDATA PCARD	0153.6451		MEMBERSHIP DUES
		55.95	LEADERSHIP MGMT INTL , RIVERBL		90651	FEB18 COMDATA PCARD	0452.6208		MISCELLANEOUS OFI
		51.80	CHIEF SUPPLY CRM , SCHIFERLI		90651	FEB18 COMDATA PCARD	0220.6281		SMALL TOOLS & MINC
		117.19	COBORN'S SUPERSTORE , SCHIFERL		90651	FEB18 COMDATA PCARD	0220.6249		MISCELLANEOUS OP
		109.27	GREAT AMERICAN MARINE , SCHIFE		90651	FEB18 COMDATA PCARD	0220.6257		OTHER VEHICLE PAR
		48.72	MAMA DE LUCAS PIZZERIA , SCHIF		90651	FEB18 COMDATA PCARD	0220.6249		MISCELLANEOUS OP
		129.59	WPSG, INC , SCHIFERLI		90651	FEB18 COMDATA PCARD	0220.6281		SMALL TOOLS & MINC
		10.99	WPSG, INC , SCHIFERLI		90651	FEB18 COMDATA PCARD	0220.6281		SMALL TOOLS & MINC
		543.60	DELTA , WENBERG		90651	FEB18 COMDATA PCARD	0111.6331		TRAVEL & LODGING
		2,055.00-	FHWA-NATL HWY INST TRN , WESTB		90651	FEB18 COMDATA PCARD	0301.6335		TRAINING
		2,055.00	FHWA-NATL HWY INST TRN , WESTB		90651	FEB18 COMDATA PCARD	0301.6335		TRAINING
		65.00	HIRSHFIELDS COON RAPID , NELSO		90651	FEB18 COMDATA PCARD	9601.6249		MISCELLANEOUS OP
		2,284.22	HIRSHFIELDS COON RAPID , NELSO		90651	FEB18 COMDATA PCARD	9601.6249		MISCELLANEOUS OP
		212.77	SUNBELT RENTALS , NELSON		90651	FEB18 COMDATA PCARD	9601.6249		MISCELLANEOUS OP
		26.32	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		32.14	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		12.43	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		28.04	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		68.34	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		59.90	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		67.39	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		68.21	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		49.78	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0301.6223		GASOLINE
		50.81	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0301.6223		GASOLINE
		22.21	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE

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99031518	3/15/2018		108768 COMDATA NETWORK INC						Contin
		23.43	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		57.63	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		47.70	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		36.70	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6225		DIESEL FUEL
		26.27	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		21.95	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		21.02	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		17.05	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		50.13	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		75.56	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		43.05	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		66.06	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		32.91	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0240.6223		GASOLINE
		38.34	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0240.6223		GASOLINE
		36.78	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0240.6223		GASOLINE
		65.96	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		41.26	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0194.6223		GASOLINE
		29.23	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0240.6223		GASOLINE
		51.57	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		35.21	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0240.6223		GASOLINE
		48.89	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		33.98	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		41.76	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		52.46	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		63.67	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		68.32	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		68.86	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE

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99031518	3/15/2018		108768 COMDATA NETWORK INC						Continu
		25.04	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		5.88	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		26.58	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		64.91	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		46.61	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		36.48	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		85.38	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		36.57	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		66.16	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		34.06	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		42.47	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		60.81	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		54.22	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		64.01	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		60.66	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		19.55	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		81.56	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		37.05	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		49.40	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0194.6223		GASOLINE
		64.25	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0194.6223		GASOLINE
		53.39	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0194.6223		GASOLINE
		26.09	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		47.72	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		4.72	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		27.28	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		20.81	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		18.40	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE

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99031518	3/15/2018		108768 COMDATA NETWORK INC						Continu
		9.65	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		58.42	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		67.64	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		49.42	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0452.6223		GASOLINE
		81.60	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		62.11	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		21.34	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		49.70	SUPERAMERICA		90652	FEB 18 COMDATA FUEL	0311.6223		GASOLINE
		40.67	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		56.23	BILL'S SUPERETTE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		21.81	CASEYS GEN STORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		31.99	CASEYS GEN STORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		24.48	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		44.10	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		27.73	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		17.29	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		18.92	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		22.82	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		40.48	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		32.49	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		16.62	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		52.25	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		19.54	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		36.75	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		12.34	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		16.38	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		41.11	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE

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99031518	3/15/2018		108768 COMDATA NETWORK INC						Continu
		30.13	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		14.29	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		33.03	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		27.95	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		25.14	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		16.14	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		17.18	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		40.00	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		13.82	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		29.87	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		20.28	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		20.25	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		17.66	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		19.30	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		20.52	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		9.11	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		17.44	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		49.67	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		53.59	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		33.71	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		26.07	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		31.52	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		33.30	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		33.27	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		19.75	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		27.49	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		37.52	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE

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99031518	3/15/2018		108768 COMDATA NETWORK INC						Continu
		31.60	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		24.26	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		15.10	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		20.33	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		32.23	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		35.40	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		22.68	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		36.23	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		21.90	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		33.40	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		48.62	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		15.83	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		38.57	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		41.35	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		77.68	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		31.28	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		34.64	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		36.01	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		20.12	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		41.83	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		35.42	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		28.54	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		28.38	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		31.91	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		34.20	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		35.53	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		22.08	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE

CITY OF RAMSEY

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Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
99031518	3/15/2018		108768 COMDATA NETWORK INC						Contin
		32.62	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		20.81	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		26.95	CASEYS RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		12.20	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		35.01	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		37.60	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		44.90	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		40.03	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		45.41	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		49.24	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		37.15	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		39.25	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		28.06	HOLIDAY STNSTORE		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		35.02	KWIK TRIP		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		47.44	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		50.26	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		20.56	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		22.63	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		16.15	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		8.76	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		35.66	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		16.82	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		41.04	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		25.09	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		9.87	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		11.32	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		13.81	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE

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Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
99031518	3/15/2018		108768 COMDATA NETWORK INC						Contin
		25.30	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		21.58	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		33.73	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		20.35	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		25.07	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		23.03	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		25.16	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		23.05	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		15.42	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		21.80	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		18.53	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		26.19	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		33.85	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		55.61	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		39.52	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		54.03	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		51.60	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0220.6223		GASOLINE
		21.24	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		23.41	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		29.78	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		24.02	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		27.75	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		38.55	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		41.20	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		26.05	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		12.54	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		31.01	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE

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Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
99031518	3/15/2018		108768 COMDATA NETWORK INC						Continu
		51.49	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		44.67	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		46.75	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		77.53	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		49.74	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		9.66	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		38.60	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		22.54	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		23.38	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		41.18	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		50.41	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		25.40	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		35.50	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		30.46	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		35.31	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		32.97	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		26.55	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		23.84	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		22.84	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		29.87	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		18.70	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		19.34	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		30.60	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		28.15	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		30.81	SHELL OIL		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		36.68	SUPERAMERICA		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		19.42	SUPERAMERICA		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE

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Check #	Date	Amount	Supplier / Explanation	PO #	Doc No	Inv No	Account No	Subledger	Account Description
99031518	3/15/2018		108768 COMDATA NETWORK INC						Contin
		44.00	SUPERAMERICA		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		32.15	SUPERAMERICA		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		36.50	SUPERAMERICA		90652	FEB 18 COMDATA FUEL	0211.6223		GASOLINE
		67.28	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	9601.6223		GASOLINE
		49.46	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	9601.6223		GASOLINE
		64.11	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	9601.6223		GASOLINE
		66.32	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	9601.6223		GASOLINE
		72.96	LITTLE DUKES RAMSEY		90652	FEB 18 COMDATA FUEL	9602.6223		GASOLINE
		44.15	SUPERAMERICA		90652	FEB 18 COMDATA FUEL	9602.6223		GASOLINE
		21,037.99							
99031618	3/15/2018		107885 DEPARTMENT OF LABOR AND INDUSTRY						
		1,697.57			90613	022818	9101.2081		SURCHARGES-PERM
		33.97-			90613	022818	9101.4604		SURCHARGES
		1,663.60							
99579739	3/9/2018		100223 ICMA RETIREMENT TRUST 457						
		2,166.58			90560	030818821321	9101.2175		DEFERRED COMPEN
		2,166.58							
99731126	3/9/2018		114790 GREAT WEST LIFE AND ANNUITY INS CO						
		8,719.00			90563	0308188213212	9101.2175		DEFERRED COMPEN
		8,719.00							
99731700	3/9/2018		114790 GREAT WEST LIFE AND ANNUITY INS CO						
		1,507.26			90564	0308188213213	9101.2176		LIFE/HEALTH-EMPLO
		1,507.26							
		293,774.44	Grand Total						

Payment Instrument Totals

Checks	151,764.91
EFT Payments	142,009.53
Total Payments	293,774.44

Bank Account	00002224	CASH IN BANK
Version	LOGIS004V	
Originator	JLIPSKI	
Payment Instrument		Check Payment
Pay Through Date	12/31/2018	

Payee Number	Payee Name / Mailing Address	Stub Message	Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount
111610	A DYNAMIC DOOR CO. INC.	REPAIR ON DOOR OPENER	PV	90769	001	09101	3/19/2018	21803025	218.63
	A DYNAMIC DOOR CO. INC.	REPAIR ON DOOR OPENER	PV	90769	002	09101	3/19/2018	21803025	71.66
	4588 194TH AVENUE NE					Summary Total			290.29
	EAST BETHEL MN 55092					Payment Amount			290.29
110402	ADVANCE AUTO PARTS	FEB 18 PURCHASES	PV	90671	001	09101	2/28/2018	022818	287.23
	ADVANCE AUTO PARTS	FEB 18 PURCHASES	PV	90671	002	09101	2/28/2018	022818	93.25
	AAP FINANCIAL SERVICES	FEB 18 PURCHASES	PV	90671	003	09101	2/28/2018	022818	47.96
	P O BOX 742063	FEB 18 PURCHASES	PV	90671	004	09101	2/28/2018	022818	5.97
	ATLANTA GA 30374-2063					Summary Total			434.41
						Payment Amount			434.41
100017	AIRGAS USA, LLC	MISC GASES	PV	90672	001	09101	2/28/2018	9951331865	27.60
	AIRGAS USA LLC					Summary Total			27.60
	P O BOX 802576								
	CHICAGO IL 60680-2576					Payment Amount			27.60
116111	ALLSTREAM	INSTALL 4 PHONES	PV	90673	001	09101	2/27/2018	120391920	333.60
	ALLSTREAM					Summary Total			333.60
	NW 5814								
	P O BOX1450								
	MINNEAPOLIS MN 55485-5814					Payment Amount			333.60
102953	AMERIGAS OF ANOKA	PROPANE	PV	90674	001	09101	3/12/2018	629674252	208.59
	AMERIGAS OF ANOKA					Summary Total			208.59
	P O BOX 371473								
	PITTSBURGH PA 15250-7473					Payment Amount			208.59
100033	ANOKA COUNTY ATTORNEY	FORFEITURE 16-227260	PV	90677	001	09290	3/14/2018	031418	383.00
	ANOKA COUNTY ATTORNEY					Summary Total			383.00
	2100 - 3RD AVENUE NORTH								
	ANOKA MN 55303					Payment Amount			383.00

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Originator	JLIPSKI
Payment Instrument	Check Payment
Pay Through Date	12/31/2018

Payee Number	Payee Name / Mailing Address	Stub Message	Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount
100948	ANOKA COUNTY LICENSE CENTER	FORFEITURES- TITLE TRANS 8	PV	90678	001	09290	3/9/2018	030918	174.00
	ANOKA COUNTY LICENSE CENTER					Summary Total			174.00
						Payment Amount			174.00
107587	ANOKA COUNTY TREASURY DEPARTMENT	DEC 17/JAN 18 BRINE	PV	90614	001	09101	2/27/2018	H022718C	67.54
	ANOKA COUNTY TREASURY DEPARTMENT					Summary Total			67.54
	2100 THIRD AVENUE	APR 18 BROADBAND	PV	90676	001	09101	3/2/2018	B180305M	604.50
	ANOKA MN 55303					Summary Total			604.50
		JLEC 18 SHARED COSTS	PV	90771	001	09101	3/13/2018	S180313G	24,248.00
						Summary Total			24,248.00
						Payment Amount			24,920.04
111377	ANOKA MUNICIPAL UTILITY	RAMSEY STREET LIGHTS	PV	90675	001	09603	3/8/2018	22-990005-01 FEB 18	56.80
	ANOKA MUNICIPAL UTILITY					Summary Total			56.80
	CITY HALL	14034 DYSPOSIUM ST	PV	90753	001	09603	3/8/2018	22-610280-00 FEB 18	50.27
	2015 FIRST AVENUE NO					Summary Total			50.27
	ANOKA MN 55303	CTY RD 116/HWY 47 SIGNAL	PV	90781	001	09101	3/8/2018	22-613120-01 FEB 18	111.74
						Summary Total			111.74
		BUNKER LK BLVD/DYSPOSIUM	PV	90782	001	09101	3/8/2018	22-612000-01 FEB 18	35.23
						Summary Total			35.23
						Payment Amount			254.04
100052	ANOKA POLICE DEPARTMENT	FEB 18 ANIMAL CONTAINMENT	PV	90770	001	09101	3/13/2018	031318	150.00
	ANOKA POLICE DEPARTMENT 275 HARRISON STREET ANOKA MN 55303					Summary Total			150.00
						Payment Amount			150.00
100063	ASPEN MILLS	VESTS- FIRE	PV	90713	001	09101	3/8/2018	212973	244.75
	ASPEN MILLS					Summary Total			244.75

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Originator	JLIPSKI
Payment Instrument	Check Payment
Pay Through Date	12/31/2018

Payee Number	Payee Name / Mailing Address	Stub Message	Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount
	8201 C CENTRAL AVE NE	MISC RESERVE- K. MCNALLY	PV	90772	001	09101	3/8/2018	212972	95.35
	SPRING LAKE PARK MN 55432			Summary Total					95.35
		MISC. G. VOIT	PV	90773	001	09101	3/8/2018	212974	56.95
				Summary Total					56.95
				Payment Amount					397.05
100086	BLUE VELVET INC	MARCH 18 FIRE WASHES	PV	90679	001	09101	3/2/2018	030218 FIRE	149.75
	BLUE VELVET INC 14101 ST FRANCIS BLVD RAMSEY MN 55303			Summary Total					149.75
				Payment Amount					149.75
100647	BOLTON AND MENK INC	RIVERDALE EXT	PV	90714	001	09402	3/13/2018	0215042	263.00
	BOLTON AND MENK INC			Summary Total					263.00
	1960 PREMIER DRIVE	BUNKER LK BLVD	PV	90715	001	09437	2/22/2018	0214339	34,943.00
	MANKATO MN 56001-5900			Summary Total					34,943.00
		BUNKER LK BLVD/PUMA	PV	90716	001	09601	2/22/2018	0214338	193.95
		BUNKER LK BLVD/PUMA	PV	90716	002	09601	2/22/2018	0214338	482.55
				Summary Total					676.50
		BUNKER LK BLVD	PV	90717	001	09437	3/13/2018	0214998	24,616.50
				Summary Total					24,616.50
		MISS RIVER TRL PH 3	PV	90754	001	09805	3/13/2018	0215045	1,665.00
				Summary Total					1,665.00
		MISS RIVER TRL JAN/FEB 2018	PV	90755	001	09805	3/13/2018	0215047	2,010.00
				Summary Total					2,010.00
		WELL HOUSE 3 NAT GAS	PV	90756	001	09601	3/13/2018	0215044	277.30
				Summary Total					277.30
				Payment Amount					64,451.30
100619	BRAUN INTERTEC CORPORATION	JAN/MAR 18 TIF 1 SHOVEL READY	PV	90718	001	09201	3/12/2018	B123189	817.50
	BRAUN INTERTEC CORPORATION NW 7644 PO BOX 1450 MINNEAPOLIS MN 55485-7644			Summary Total					817.50
				Payment Amount					817.50
114529	BRUCE JACOBSON	FEB/MAR 18 RAMSEY	PV	90719	001	09101	3/8/2018	16-0121-2	5,880.75

Bank Account	00002224	CASH IN BANK
Version	LOGIS004V	
Originator	JLIPSKI	
Payment Instrument		Check Payment
Pay Through Date	12/31/2018	

Payee Number	Name / Mailing Address	Stub Message	Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount
	LANDSCAPE ARCHITECT	COR							
	BRUCE JACOBSON LANDSCAPE ARCHITECT				Summary Total				5,880.75
	4204 PILLSBURY AVENUE S								
	MINNEAPOLIS MN 55409								
					Payment Amount				5,880.75
100297	CENTERPOINT ENERGY	5650 ALPINE DR	PV	90680	001	09101	3/8/2018	5961540-1 FEB 18	711.32
	CENTERPOINT ENERGY				Summary Total				711.32
	P O BOX 4671	15050 ARMSTRONG BLVD	PV	90681	001	09101	3/8/2018	5914352-9 FEB 18	453.87
	HOUSTON TX 77210-4671				Summary Total				453.87
		6701 HIGHWAY 10	PV	90720	001	09410	3/8/2018	6011580-5 FEB 18	365.89
					Summary Total				365.89
		FEB 18 7550 SUNWOOD DR	PV	90721	001	09101	3/8/2018	6702493-5 FEB 18	4,694.48
					Summary Total				4,694.48
					Payment Amount				6,225.56
106670	CENTRAL POWER DISTRIBUTORS INC	LUBRICANTS	PV	90722	001	09101	3/15/2018	18-276979	16.92
	CENTRAL POWER DISTRIBUTORS INC	LUBRICANTS	PV	90722	002	09101	3/15/2018	18-276979	16.92
	3801 THURSTON AVENUE				Summary Total				33.84
	ANOKA MN 55303								
					Payment Amount				33.84
114549	CHET S SHOES INC	BOOTS- G. TALBOT	PV	90615	001	09101	2/26/2018	37812	150.00
	CHET S SHOES INC				Summary Total				150.00
	8870 RENDOVA STREET NE	3 PR WOOK BOOTS	PV	90757	001	09101	3/21/2018	37908	300.00
	CIRCLE PINES MN 55014	3 PR WOOK BOOTS	PV	90757	002	09101	3/21/2018	37908	150.00
					Summary Total				450.00
					Payment Amount				600.00
116197	CINTAS CORPORATION	UNIFORM CLEANING	PV	90682	001	09101	3/7/2018	4004260617	23.00
	CINTAS CORPORATION	UNIFORM CLEANING	PV	90682	002	09101	3/7/2018	4004260617	4.00
	CINTAS LOC #4K	UNIFORM CLEANING	PV	90682	003	09101	3/7/2018	4004260617	26.45
	P O BOX 650838	UNIFORM CLEANING	PV	90682	004	09101	3/7/2018	4004260617	26.45
	DALLAS TX 75265-0838				Summary Total				79.90
		UNIFORM CLEANING	PV	90758	001	09101	3/14/2018	4004414535	23.00
		UNIFORM CLEANING	PV	90758	002	09101	3/14/2018	4004414535	4.00
		UNIFORM CLEANING	PV	90758	003	09101	3/14/2018	4004414535	27.62

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Number	Itm	Co	Due Date	Invoice Number	Payment Amount
		UNIFORM CLEANING	PV	90758	004	09101	3/14/2018	4004414535	27.62
				Summary Total					82.24
				Payment Amount					162.14
115896	CIVICPLUS INC	ANNUAL SSL CERTIFICATE	PV	90683	001	09101	2/27/2018	170337	218.15
	ICON ENTERPRISES, INC 302 S 4TH ST SUITE 500 MANHATTAN KS 66502			Summary Total					218.15
				Payment Amount					218.15
107724	COMCAST	FIRE ST 1 MAR/APR 18	PV	90684	001	09101	2/24/2018	022418	3.63
	COMCAST ATTN: FINANCE 4TH FLOOR 10 RIVER PARK PLAZA ST PAUL MN 55107			Summary Total					3.63
				Payment Amount					3.63
114451	COMPASS MINERALS	ROAD SALT	PV	90685	001	09101	3/7/2018	211669	4,274.77
	COMPASS MINERALS			Summary Total					4,274.77
	P O BOX 277043	ROAD SALT	PV	90686	001	09101	3/6/2018	211065	17,218.57
	ATLANTA GA 30384-7043			Summary Total					17,218.57
		ROAD SALT	PV	90759	001	09101	3/9/2018	212861	4,390.11
				Summary Total					4,390.11
				Payment Amount					25,883.45
100167	CORNERSTONE FORD	REPAIR 653	PV	90616	001	09101	3/5/2018	16209260/1	274.93
	CORNERSTONE FORD	REPAIR 653	PV	90616	002	09101	3/5/2018	16209260/1	84.67
	17219 HIGHWAY 10 NW			Summary Total					359.60
	PO BOX 304	REPAIR 557	PV	90687	001	09101	3/9/2018	16209849/1	2,311.06
	ELK RIVER MN 55330			Summary Total					2,311.06
				Payment Amount					2,670.66
100125	COUNTRYSIDE PRINTING INC	EDA BIZ EXPO 2018 POSTCARDS	PV	90760	001	09230	3/13/2018	35145	999.96
	COUNTRYSIDE PRINTING			Summary Total					999.96
	6250 BUNKER LAKE BLVD NW	BUSINESS CARDS C. LASHER	PV	90761	001	09101	3/15/2018	35150	59.00

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Payee Number	Name / Mailing Address	Stub Message	Document Ty	Number	Itm	Co	Due Date	Invoice Number	Payment Amount
	SUITE 113			Summary Total					59.00
	RAMSEY MN 55303								
				Payment Amount					1,058.96
100144	DEHN OIL COMPANY	DIESEL FUEL	PV	90617	001	09101	3/1/2018	57846	1,012.00
	DEHN OIL COMPANY			Summary Total					1,012.00
	6735 141ST AVENUE NW	DIESEL FUEL	PV	90618	001	09101	3/1/2018	57845	2,068.00
	RAMSEY MN 55303			Summary Total					2,068.00
				Payment Amount					3,080.00
113540	DUSTY'S DRAIN CLEANING	JET DRAIN- POLICE GARAGE	PV	90762	001	09101	3/14/2018	7106	259.00
	DUSTY'S DRAIN CLEANING			Summary Total					259.00
	22590 RUM RIVER BLVD NW								
	ST FRANCIS MN 55070								
				Payment Amount					259.00
100158	ECM PUBLISHERS INC	BIDS- STANHOPE TERRACE	PV	90621	001	09435	2/23/2018	575816	193.50
	ECM PUBLISHERS INC			Summary Total					193.50
	4095 COON RAPIDS BLVD	BIDS- RIVERS BEND	PV	90622	001	09435	2/23/2018	575817	193.50
	COON RAPIDS MN 55433			Summary Total					193.50
				Payment Amount					387.00
104267	ELITE SANITATION	PORTABLE TOILET FEB 2018	PV	90763	001	09101	3/3/2018	24653	162.00
	ELITE SANITATION			Summary Total					162.00
	PO BOX 526								
	ELK RIVER MN 55330								
				Payment Amount					162.00
100170	EMERGENCY MEDICAL PRODUCTS INC	MISC SUPPLIES	PV	90688	001	09101	2/28/2018	1970707	303.79
	EMERGENCY MEDICAL PRODUCTS INC			Summary Total					303.79
	25196 NETWORK PLACE								
	CHICAGO IL 60673-1251								
				Payment Amount					303.79
113321	FACTORY MOTOR PARTS CO	SHOP LUBRICANTS	PV	90623	001	09101	3/8/2018	6-14898905	41.16

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Payee Number	Payee Name / Mailing Address	Stub Message	Document Ty	Number	Itm	Co	Due Date	Invoice Number	Payment Amount
	FACTORY MOTOR PARTS CO	SHOP LUBRICANTS	PV	90623	002	09101	3/8/2018	6-14898905	23.88
	BIN 139107				Summary Total				65.04
	P O BOX 9107	AIR FILTER 342	PV	90723	001	09101	3/14/2018	6-1499373	34.88
	MINNEAPOLIS MN 55480-9107				Summary Total				34.88
					Payment Amount				99.92
107099	FASTENAL	MISC SUPPLIES	PV	90619	001	09101	3/1/2018	MNTC8162169	6.49
	FASTENAL COMPANY	MISC SUPPLIES	PV	90619	002	09101	3/1/2018	MNTC8162169	5.82
	P O BOX 1286				Summary Total				12.31
	WINONA MN 55987				Payment Amount				12.31
110379	FBI LEEDA	CLI-ANDOVER B. BLUML	PV	90774	001	09101	3/13/2018	200016321	650.00
	FBI LEEDA				Summary Total				650.00
	5 GREAT VALLEY PARKWAY SUITE 125	CLI-ANDOVER R. WEBB	PV	90775	001	09101	3/13/2018	200016322	650.00
	MALVERN PA 19355				Summary Total				650.00
		CLI- ANDOVER C. CURTIS	PV	90776	001	09101	3/13/2018	200016326	650.00
					Summary Total				650.00
					Payment Amount				1,950.00
107737	FINANCE AND COMMERCE INC	BID- RIVERS BEND	PV	90624	001	09435	2/23/2018	743656855	163.85
	FINANCE AND COMMERCE INC				Summary Total				163.85
	SDS 12-2619	AD STANHOPE TER ST RECONSTUCT.	PV	90724	001	09435	2/23/2018	743656854	171.12
	P O BOX 86				Summary Total				171.12
	MINNEAPOLIS MN 55486-2619				Payment Amount				334.97
110760	FIRE SAFETY USA, INC	MISC SUPPLIES	PV	90689	001	09101	3/9/2018	109241	1,067.00
	FIRE SAFETY USA, INC				Summary Total				1,067.00
	3253 19TH STREET NW								
	ROCHESTER MN 55901				Payment Amount				1,067.00
112421	FIRST SCRIBE	ROWAY WEB MARCH 2018	PV	90625	001	09101	3/1/2018	2476321	200.00

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	FIRST SCRIBE 110 CHESHIRE LANE SUITE 105 MINNETONKA MN 55305			Summary Total					200.00
				Payment Amount					200.00
110388	FRATTALLONE'S ACE HARDWARE STORES	STRAIGHT ROUTER	PV	90764	001	09101	3/9/2018	031800/J	12.99
	FRATTALLONE'S ACE HARDWARE STORES 1203 COUNTY ROAD E WEST ARDEN HILLS MN 55112-3738			Summary Total					12.99
				Payment Amount					12.99
100650	GRAINGER	HOSE CLAMP	PV	90690	001	09601	3/12/2018	9724119707	100.26
	GRAINGER INC DEPT. 806511127 PALATINE IL 60038-0001			Summary Total					100.26
		MISC SUPPLIES	PV	90725	001	09101	3/12/2018	9724705646	75.38
				Summary Total					75.38
		BATTERY	PV	90765	001	09101	3/13/2018	9725691274	102.40
				Summary Total					102.40
				Payment Amount					278.04
112564	HEALTH PARTNERS GROUP HEALTH-WORKSITE	EAP FEB 2018	PV	90726	001	09101	3/7/2018	W814663	73.00
	HEALTH PARTNERS GROUP HEALTH-WORKSITE MAIL STOP # 21109A P O BOX 64059 ST PAUL MN 55164-0059			Summary Total					73.00
				Payment Amount					73.00
106324	INSPECTRON INC	FEB 2018 SERVICES	PV	90626	001	09101	3/6/2018	030618	5,525.00
	INSPECTRON INC CODE COMPLIANCE INSPECTIONS 15120 CHIPPENDALE AVE SUITE 202 ROSEMOUNT MN 55068			Summary Total					5,525.00
				Payment Amount					5,525.00
115408	KRIS ENGINEERING INC	MISC SUPPLIES	PV	90727	001	09101	3/13/2018	29725	1,492.34
	KRIS ENGINEERING INC 1988 247TH STREET SAINT AUGUSTA MN 56301			Summary Total					1,492.34

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				Payment Amount					1,492.34
112413	L E A DATA TECHNOLOGIES	TRAINING UPGRADE 2018	PV	90778	001	09101	3/20/2018	10-1147-06	100.00
	L E A DATA TECHNOLOGIES 290 SE LYON STREET HAPPY VALLEY OR 97086			Summary Total					100.00
				Payment Amount					100.00
100256	LANO EQUIPMENT INC	2018 KUBOTA RTV	PV	90620	001	09101	2/28/2018	02-547371	16,021.52
	LANO EQUIPMENT INC 6140 HIGHWAY 10 NW ANOKA MN 55303	2018 KUBOTA RTV	PV	90627	001	09101	2/28/2018	02-547373	13,431.52
				Summary Total					13,431.52
		PARTS 687	PV	90628	001	09101	3/5/2018	02-547990	48.94
		PARTS 687	PV	90628	002	09101	3/5/2018	02-547990	199.62
		PARTS 687	PV	90628	003	09101	3/5/2018	02-547990	48.94
		PARTS 687	PV	90628	004	09101	3/5/2018	02-547990	199.63
				Summary Total					497.13
		FUEL CAP 671	PV	90629	001	09101	3/1/2018	02-547520	6.93
				Summary Total					6.93
		HARNESS FOR 671	PV	90630	001	09101	3/1/2018	02-547492	145.56
		HARNESS FOR 671	PV	90630	002	09101	3/1/2018	02-547492	145.57
				Summary Total					291.13
		TOOL CAT SNOWBLOWER	PV	90728	001	09101	3/12/2018	02-549086	67.01
		TOOL CAT SNOWBLOWER	PV	90728	002	09101	3/12/2018	02-549086	67.02
				Summary Total					134.03
				Payment Amount					30,382.26
100258	LEAGUE OF MINNESOTA CITIES	2018 STORMWATER COALITION	PV	90729	001	09601	2/27/2018	269317	965.00
	LEAGUE OF MN CITIES FINANCE DEPT 145 UNIVERSITY AVE WEST ST PAUL MN 55103-2044			Summary Total					965.00
				Payment Amount					965.00
102954	LITTLE FALLS MACHINE INC	REPAIR TO PLOW	PV	90691	001	09101	2/27/2018	351394	5,602.30
	LITTLE FALLS MACHINE INC	REPAIR TO PLOW	PV	90691	002	09101	2/27/2018	351394	5,656.34

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	300 LINDBERGH DRIVE SOUTH LITTLE FALLS MN 56345-1598			Summary Total					11,258.64
				Payment Amount					11,258.64
100266	LOGIS	JAN 18	PV	90730	001	09101	1/31/2018	44825	12,975.00
	LOCAL GOVERNMENT INFORMATION SYSTEMS ASS			Summary Total					12,975.00
	5750 DULUTH STREET	JAN 18 SYSTEM DEVELOP-MISC	PV	90731	001	09101	1/31/2018	44931	14,070.00
	GOLDEN VALLEY MN 55422-4036			Summary Total					14,070.00
		18 ANNUAL NETWORK WELLNESS	PV	90732	001	09101	1/31/2018	44958	4,065.00
				Summary Total					4,065.00
		SYS DEV SPECIAL ASSES/PIMS	PV	90733	001	09101	1/15/2018	44906	5,425.00
				Summary Total					5,425.00
				Payment Amount					36,535.00
100268	LRRWMO CITY OF ANOKA	ESC DEP 03-07 TOWN CENTER	PV	90631	001	09214	2/22/2018	395	153.00
	LRRWMO CITY OF ANOKA 2015 - 1ST AVENUE NORTH ANOKA MN 55303			Summary Total					153.00
				Payment Amount					153.00
100270	MACQUEEN EQUIPMENT INC	DIRT SHOE ASSY RETURN	PD	90632	001	09101	3/27/2018	P11138	311.79-
	MACQUEEN EQUIPMENT INC			Summary Total					311.79-
	1125 7TH STREET EAST	2018 ELGIN STREET SWEEPER	PV	90692	001	09605	3/6/2018	E00448	205,743.00
	ST PAUL MN 55106			Summary Total					205,743.00
				Payment Amount					205,431.21
100273	MALLOY MONTAGUE KARNOWSKI RADOSEVIC	AUDIT SERVICES THRU 2/28/18	PV	90693	001	09101	3/7/2018	43558	3,315.00
	MALLOY MONTAGUE KARNOWSKI RADOSEVIC 410 PARK NATIONAL BANK BLDG 5353 WAYZATA BLVD MINNEAPOLIS MN 55416			Summary Total					3,315.00
				Payment Amount					3,315.00

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113658	MARCO	MARCH 18 BILLING	PV	90694	001	09101	3/1/2018	INV5041028	60.00
	MARCO NW 7128 PO BOX 1450 MINNEAPOLIS MN 55485-7128				Summary Total				60.00
					Payment Amount				60.00
100283	MENARDS COON RAPIDS	CEDAR PIECE	PV	90735	001	09101	3/12/2018	69558	5.99
	MENARDS COON RAPIDS 3045 MAIN STREET COON RAPIDS MN 55433				Summary Total				5.99
					Payment Amount				5.99
100284	MENARDS ELK RIVER	RETURNS- MISC ITEMS	PD	90633	001	09601	3/27/2018	53285	67.25-
	MENARDS ELK RIVER				Summary Total				67.25-
	19521 EVANS STREET NW	RETURN- REAPIR SEAT KIT	PD	90634	001	09601	3/27/2018	53191	17.98-
	ELK RIVER MN 55330-1077				Summary Total				17.98-
		RETURN- CLOSET FLANGE	PD	90635	001	09601	3/27/2018	53103	10.98-
					Summary Total				10.98-
		MISC SUPPLIES	PV	90636	001	09601	2/26/2018	53054	85.23
					Summary Total				85.23
		MISC SUPPLIES	PV	90637	001	09601	2/27/2018	53105	35.26
					Summary Total				35.26
					Payment Amount				24.28
108208	METRO PRODUCTS INC	BOLTS/NUTS PLOW SUPPLIES	PV	90638	001	09101	3/8/2018	133046	48.24
	METRO PRODUCTS INC				Summary Total				48.24
	7401 CENTRAL AVENUE NE	BLACK GLOVES	PV	90734	001	09101	3/13/2018	133172	109.50
	FRIDLEY MN 55432				Summary Total				109.50
					Payment Amount				157.74
112454	MINNESOTA DEPARTMENT OF TRANSPORTATION	TRAINING MANUALS	PV	90695	001	09101	3/13/2018	031318	29.50
	MINNESOTA DEPARTMENT OF TRANSPORTATION				Summary Total				29.50
					Payment Amount				29.50

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115611	MN STATE FIRE DEPARTMENT ASSOCIATION	2018 DUES	PV	90696	001	09101	3/5/2018	030518	423.00
	MN STATE FIRE DEPARTMENT ASSOCIATION 28711 HOLLY DRIVE NW ISANTI MN 55040							Summary Total	423.00
								Payment Amount	423.00
108091	MUNICIPAL CODE CORPORATION	UPDATE PAGES/WEB 2018	PV	90779	001	09101	3/14/2018	00305648	463.06
	MUNICIPAL CODE CORPORATION P O BOX 2235 TALLAHASSEE FL 32316							Summary Total	463.06
								Payment Amount	463.06
113946	MUNICIPAL EMERGENCY SERVICES INC	FIRE COATS/PANTS 6 EACH	PV	90736	001	09101	3/7/2018	IN1208320	12,596.37
	MUNICIPAL EMERGENCY SERVICES INC DEPOSITORY ACCOUNT 75 REMITTANCE DRIVE SUITE 3135 CHICAGO IL 60675							Summary Total	12,596.37
								Payment Amount	12,596.37
115375	MUTT MITT	MUTT MITTS	PV	90697	001	09101	3/5/2018	199741	1,041.38
	MUTT MITT 12316 WORLD TRADE DRIVE SUITE 102 SAN DIEGO CA 92128							Summary Total	1,041.38
								Payment Amount	1,041.38
116239	NARTEC INC	EXPANDED DRUG ID KIT	PV	90780	001	09101	3/20/2018	10444	130.28
	NARTEC INC P O BOX 7 HIGHLANDVILLE MO 65669							Summary Total	130.28
								Payment Amount	130.28
115543	NATURAL ENDEAVORS LANDSCAPING INC	PLOW- 6701 HWY 10	PV	90698	001	09410	2/27/2018	1501 FEB 2018	423.32
	NATURAL ENDEAVORS LANDSCAPING INC 22839 ZION PARKWAY NW							Summary Total	423.32

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	BETHEL MN 55005								
				Payment Amount					423.32
114239	NORTH AMERICAN SAFETY	PW JACKET	PV	90639	001	09101	3/5/2018	33355	112.90
	NORTH AMERICAN SAFETY 326 S. ASH STREET BELLE PLAINE MN 56011			Summary Total					112.90
				Payment Amount					112.90
100360	NORTH STAR TOWING INC	TOWS FEB 2018	PV	90699	001	09101	3/1/2018	030118	343.00
	NORTH STAR TOWING INC 833 NORTH STREET ANOKA MN 55303			Summary Total					343.00
				Payment Amount					343.00
100363	NORTHERN SANITARY SUPPLY CO	MISC SUPPLIES	PV	90737	001	09101	3/5/2018	190113	19.73
	NORTHERN SANITARY SUPPLY CO 341 COON RAPIDS BLVD MINNEAPOLIS MN 55433			Summary Total					19.73
				Payment Amount					19.73
115232	NORTHERN TECHNOLOGIES LLC	AUG/SEPT 2017 BUNKER UTILITIES	PV	90738	001	09601	3/7/2018	23361	152.45
	NORTHERN TECHNOLOGIES LLC	AUG/SEPT 2017 BUNKER UTILITIES	PV	90738	002	09601	3/7/2018	23361	379.30
	3522 4TH AVENUE S FARGO ND 58103			Summary Total					531.75
				Payment Amount					531.75
110547	NORTHWEST LIGHTING SYSTEMS CO.	MISC SUPPLIES	PV	90766	001	09240	3/15/2018	106512	426.50
	NORTHWEST LIGHTING SYSTEMS CO. 746 CRAIG AVENUE TRACY MN 56175			Summary Total					426.50
				Payment Amount					426.50
110480	OPUS 21 MANAGEMENT	JAN 2018 SERVICES	PV	90767	001	09601	2/22/2018	180101	2,276.62

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	SOLUTIONS								
	OPUS 21 MANAGEMENT SOLUTIONS	JAN 2018 SERVICES	PV	90767	002	09601	2/22/2018	180101	2,276.62
	680 COMMERCE DRIVE SUITE 160	JAN 2018 SERVICES	PV	90767	003	09601	2/22/2018	180101	2,276.62
	WOODBURY MN 55125	JAN 2018 SERVICES	PV	90767	004	09601	2/22/2018	180101	2,276.62
		JAN 2018 SERVICES	PV	90767	005	09601	2/22/2018	180101	2,276.59
				Summary Total					11,383.07
				Payment Amount					11,383.07
115595	ORACLE AMERICA INC	2018 BRONTO SERVICES	PV	90739	001	09101	3/8/2018	626278	912.50
	ORACLE OF AMERICA BANK OF AMERICA LOCKBOX SERVICES 15612 COLLECTIONS CENTER DRIVE CHICAGO IL 60693			Summary Total					912.50
				Payment Amount					912.50
100384	PLAISTED COMPANIES INC	ICE CONTROL SAND	PV	90640	001	09101	2/28/2018	14239	682.75
	PLAISTED COMPANIES INC PO BOX 332 11555 - 205TH AVENUE NW ELK RIVER MN 55330			Summary Total					682.75
				Payment Amount					682.75
111488	POPP.COM INC	FEB 2018 SERVICE	PV	90740	001	09101	2/28/2018	992470881	118.54
	POPP.COM INC	FEB 2018 SERVICE	PV	90740	002	09101	2/28/2018	992470881	26.94
	620 MENDELSSOHN AVE NO SUITE 101	FEB 2018 SERVICE	PV	90740	003	09101	2/28/2018	992470881	32.33
	GOLDEN VALLEY MN 55427	FEB 2018 SERVICE	PV	90740	004	09101	2/28/2018	992470881	183.20
		FEB 2018 SERVICE	PV	90740	005	09101	2/28/2018	992470881	32.33
		FEB 2018 SERVICE	PV	90740	006	09101	2/28/2018	992470881	91.60
		FEB 2018 SERVICE	PV	90740	007	09101	2/28/2018	992470881	37.72
		FEB 2018 SERVICE	PV	90740	008	09101	2/28/2018	992470881	108.83
		FEB 2018 SERVICE	PV	90740	009	09101	2/28/2018	992470881	86.82
		FEB 2018 SERVICE	PV	90740	010	09101	2/28/2018	992470881	106.52
		FEB 2018 SERVICE	PV	90740	011	09101	2/28/2018	992470881	57.88
				Summary Total					882.71
				Payment Amount					882.71
107978	PREMIER COMMERCIAL PROPERTIES INC	6701 HWY 10- FURNACE FILTERS	PV	90741	001	09410	2/14/2018	5683	107.58

Bank Account	00002224	CASH IN BANK
Version	LOGIS004V	
Originator	JLIPSKI	
Payment Instrument		Check Payment
Pay Through Date	12/31/2018	

Payee Number	Name / Mailing Address	Stub Message	Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount
	PREMIER COMMERCIAL PROPERTIES INC 299 COON RAPIDS BLVD NW #200 COON RAPIDS MN 55433			Summary Total					107.58
				Payment Amount					107.58
112959	PREMIUM WATERS INC	FIRE- WATER	PV	90700	001	09101	2/28/2018	621331-02-18	61.29
	PREMIUM WATERS INC P O BOX 9128 MINNEAPOLIS MN 55480-9128	FEB 18 FIRE WATER	PV	90742	001	09101	2/28/2018	621332-02-18	38.64
				Summary Total					38.64
				Payment Amount					99.93
113737	RATWIK ROSZAK AND MALONEY PA	RETAINER FEB 18	PV	90743	001	09101	3/1/2018	61908	2,016.20
	RATWIK ROSZAK AND MALONEY PA	RETAINER FEB 18	PV	90743	002	09101	3/1/2018	61908	1,000.30
	300 U.S. TRUST BUILDING	RETAINER FEB 18	PV	90743	003	09101	3/1/2018	61908	43.50
	730 SECOND AVENUE SOUTH			Summary Total					3,060.00
	MINNEAPOLIS MN 55402	FEB 18 SERVICES	PV	90744	001	09402	3/1/2018	61907	43.50
		FEB 18 SERVICES	PV	90744	002	09402	3/1/2018	61907	407.00
				Summary Total					450.50
				Payment Amount					3,510.50
116092	ROADKILL ANIMAL CONTROL	FEB 18 1 DEER CALL	PV	90701	001	09101	3/7/2018	030718	93.00
	ROADKILL ANIMAL CONTROL 520 HAROLD DRIVE BURNSVILLE MN 55337			Summary Total					93.00
				Payment Amount					93.00
100431	SAFETY KLEEN CORPORATION	RECYCLE OIL	PV	90641	001	09101	3/1/2018	CN06463995	110.97
	SAFETY KLEEN CORPORATION PO BOX 382066 PITTSBURGH PA 15250-8066			Summary Total					110.97
				Payment Amount					110.97
116182	SELLYS CUSTOM APPAREL LLC	T-SHIRTS FIRE DEPT.	PV	90702	001	09101	3/5/2018	911	123.00
	SELLYS CUSTOM APPAREL LLC 7585 WOODLAND TRAIL			Summary Total					123.00

Bank Account	00002224	CASH IN BANK
Version	LOGIS004V	
Originator	JLIPSKI	
Payment Instrument		Check Payment
Pay Through Date	12/31/2018	

Payee Number	Name / Mailing Address	Stub Message	Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount
	ROCKFORD MN 55373								
				Payment Amount					123.00
114776	STREET SMART RENTALS INC	TRAILER	PV	90703	001	09101	3/12/2018	787610	38,556.00
	STREET SMART RENTALS INC P O BOX 548 CIRCLE PINES MN 55014			Summary Total					38,556.00
				Payment Amount					38,556.00
100469	STREICHER'S POLICE EQUIPMENT	IRRITANT HOLDER	PV	90777	001	09101	3/1/2018	I1303781	29.99
	STREICHER'S POLICE EQUIPMENT 10911 WEST HWY 55 MINNEAPOLIS MN 55441			Summary Total					29.99
				Payment Amount					29.99
110313	SUMMIT FIRE PROTECTION	ANNUAL EXT INSPECTION	PV	90642	001	09101	3/2/2018	1245635	326.66
	SUMMIT FIRE PROTECTION	ANNUAL EXT INSPECTION	PV	90642	002	09101	3/2/2018	1245635	326.66
	P O BOX 6205	ANNUAL EXT INSPECTION	PV	90642	003	09101	3/2/2018	1245635	326.68
	CAROL STREAM IL 60197-6205			Summary Total					980.00
		FIRE EXT ANNUAL INSPECTION	PV	90704	001	09101	3/2/2018	1245636	698.00
				Summary Total					698.00
				Payment Amount					1,678.00
100485	TIMESAVER OFF SITE SECRETARIAL INC	FEB/MAR 2018 MEETINGS	PV	90768	001	09101	3/14/2018	M23640	819.50
	TIMESAVER OFF SITE SECRETARIAL INC 5291 RIVER OAK DRIVE SAVAGE MN 55378			Summary Total					819.50
				Payment Amount					819.50
112079	TOKLE INSPECTIONS INC	FEB 2018 SERVICES	PV	90643	001	09101	3/2/2018	030218	2,622.00
	TOKLE INSPECTIONS INC 1748 123RD AVENUE NW			Summary Total					2,622.00

Bank Account	00002224	CASH IN BANK
Version	LOGIS004V	
Originator	JLIPSKI	
Payment Instrument		Check Payment
Pay Through Date	12/31/2018	

Payee Number	Name / Mailing Address	Stub Message	Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount
	COON RAPIDS MN 55448								
				Payment Amount					2,622.00
111742	TWIN CITY WATER CLINIC INC	15 WATER TESTS FEB 2018	PV	90644	001	09601	2/28/2018	11078	300.00
	TWIN CITY WATER CLINIC INC 617 13TH AVENUE SOUTH HOPKINS MN 55343			Summary Total					300.00
				Payment Amount					300.00
105628	WELLS CATERING SERVICE	DEP EDA GOLF TOURNEY AUG 18	PV	90705	001	09230	3/15/2018	031518 DEP 43895	1,976.82
	WELLS CATERING SERVICE			Summary Total					1,976.82
	7533 SUNWOOD DRIVE SUITE 108	CC MEAL 3/13/2018	PV	90706	001	09101	3/13/2018	43889	91.91
	RAMSEY MN 55303			Summary Total					91.91
				Payment Amount					2,068.73
113539	WINSUPPLY TWIN CITIES MN CO.	SOCKET SAVER	PV	90645	001	09602	2/26/2018	108820 00	29.95
	WINSUPPLY TWIN CITIES MN CO.			Summary Total					29.95
	13930 RADIUM STREET NW	RETURN SOCKET SAVER	PV	90646	001	09602	2/27/2018	108859 00	29.95-
	RAMSEY MN 55303			Summary Total					29.95-
********	3717 Amount Under Payment Limit			Payment Amount					
112318	WINTER EQUIPMENT COMPANY	RAZOR XL SYSTEM	PV	90707	001	09101	2/28/2018	IV36612	3,640.00
	WINTER EQUIPMENT COMPANY 1900 JOSEPH LLOYD PARKWAY WILLOUGHBY OH 44094			Summary Total					3,640.00
				Payment Amount					3,640.00
100539	WRIGHT TIRE SERVICE INC	2 TIRES 406	PV	90647	001	09101	3/8/2018	56943	151.90
	WRIGHT TIRE SERVICE INC 710 WEST MAIN STREET ANOKA MN 55303			Summary Total					151.90
				Payment Amount					151.90

Bank Account	00002224 CASH IN BANK
Version	LOGIS004V
Originator	JLIPSKI
Payment Instrument	Check Payment
Pay Through Date	12/31/2018

Payee Number	Payee Name / Mailing Address	Stub Message	Ty	Document Number	Itm	Co	Due Date	Invoice Number	Payment Amount
112515	WSB AND ASSOCIATES INC	JAN 18 2017 GENERAL PLANNING	PV	90648	001	09804	2/19/2018	13 001973-210 FEB 18	658.00
	WSB AND ASSOCIATES INC	JAN 18 2017 GENERAL PLANNING	PV	90648	002	09804	2/19/2018	13 001973-210 FEB 18	282.00
	701 XENIA AVENUE SOUTH SUITE 300	JAN 18 2017 GENERAL PLANNING	PV	90648	003	09804	2/19/2018	13 001973-210 FEB 18	94.00
	MINNEAPOLIS MN 55416				Summary Total				1,034.00
		JAN 18 GENERAL PLAN	PV	90649	001	09101	2/19/2018	1 011112-000 FEB 18	154.00
		JAN 18 GENERAL PLAN	PV	90649	002	09101	2/19/2018	1 011112-000 FEB 18	4,704.00
		JAN 18 GENERAL PLAN	PV	90649	003	09101	2/19/2018	1 011112-000 FEB 18	376.00
					Summary Total				5,234.00
		JAN 18 2040 COMP PLAN	PV	90650	001	09101	2/19/2018	16 001973 160 FEB 18	314.50
					Summary Total				314.50
					Payment Amount				6,582.50
101257	YOUTH FIRST	2018 MAYORS BREAKFAST 2 TABLES	PV	90708	001	09101	3/12/2018	031218	400.00
	YOUTH FIRST 6701 HWY 10 NW RAMSEY MN 55303				Summary Total				400.00
					Payment Amount				400.00
					Total Amount to be Processed				530,649.21
					Total Number of Payments to be Processed				85

Councilmember introduced the following resolution and moved for its adoption:

RESOLUTION #18-064

RESOLUTION APPROVING CASH DISBURSEMENTS MADE AND AUTHORIZING PAYMENT OF ACCOUNTS PAYABLE INVOICING RECEIVED DURING THE PERIOD OF MARCH 8, 2018 THROUGH MARCH 21, 2018.

WHEREAS, the City of Ramsey Finance Department has made cash disbursements and received accounts payable invoicing during the period of March 8, 2018, through March 21, 2018, in the amount of $979,465.56 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 March 8, 2018, through March 21, 2018, in the amount of $ 979,465.56.

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 27th day of March 2018.

_____
Mayor

ATTEST:

_____
City Clerk

CC Regular Session **4. 8.**

Meeting Date: 03/27/2018
Submitted For: Jo Thieling, Administrative Services
By: Jo Thieling, Administrative Services

Information

Title

Adopt Resolution #18-055 Appointing Election Judges for the Special General Election on April 10, 2018

Purpose/Background:

For each Election, Council is asked to formally appoint Election Judges to work the polling locations. A resolution is attached appointing Election Judges to serve for the Special General Election scheduled for April 10, 2018.

Funding Source:

Monies have been budgeted in the General Fund under Elections for Election expenses and Election Judge pay.

Recommendation:

Staff recommends Council adopt the Resolution appointing Election Judges for the 2018 Special General Election.

Action:

Motion to adopt Resolution #18-055 Appointing Election Judges for the Special General Election on April 10, 2018.

Attachments

Res Appointing Election Judges

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/15/2018 03:20 PM
Form Started By: Jo Thieling		Started On: 03/08/2018 05:26 PM
Final Approval Date: 03/15/2018		

Councilmember introduced the following resolution and moved for its adoption:

RESOLUTION #18-055

RESOLUTION APPOINTING ELECTION JUDGES FOR THE SPECIAL GENERAL ELECTION ON APRIL 10, 2018

WHEREAS, the City of Ramsey will be conducting a Special General Election on Tuesday, April 10, 2018; and

WHEREAS, pursuant to Minnesota Statutes Section 204B.21, election judges for precincts in a municipality must be appointed by the governing body of that municipality; and

WHEREAS, the hourly rate of pay will be $10.00 for election judge trainees (high school students) and regular election judges and $11.00 for chairs.

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

1) That the following individuals be appointed to serve as election judges for the General Election to be held on April 10, 2018:

   Jan Cameron, Colleen Graber, Bernard Wiklund, Deb Koepsell, Jean Lewandowski, Bruce Johnson, David May, Nancy Nelson, Richard (Scott) Cords, Lana Howell, LaVonne Suckow, Michele Elifrits, Al Resler, Kathy Woods, Kevin Efram, Derek Scheuermann, Paula Chicoine, Michele Larkin, Sylvia Frolik, Tom Hoxter, Darlene Croteau, Carol Rudy, Andrea Hillebregt, Joyce Prior, Mariann Johnson, Jill Thieling, Christine Bell, Sharon Schmalzer, Bridget Arnold, Jill Winger, Kathryn Richter, David Newton, Mark Barrett, Becky Smith, Billie Jo Bishop, Julia Bishop, Madeline (Kay) McCulley, Mark Eggleston, James Sather, Catherine Rosenthal, Vicki Herrmann, Sheila Lemke, Roger McCulley, Judith Olson, Lee Warneka, Donna Brauer, William Kociscak, A.C. (Del) Howe III, Margaret (Peggy) Howe, Alice Rasmussen, Jerilyn Bates, Makayla Miller, Stephen Rothstein, Barney (Lee) Freshour, and Lynn Larson.

2) That Council authorize staff to train and hire additional election judges not named here should the need arise.

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 27th day of March, 2018.

_____
Mayor

ATTEST:

_____
City Clerk

Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

CC Regular Session **7. 1.**

Meeting Date: 03/27/2018

By: Chris Anderson, Community Development

Information

Title:

Adopt Ordinances #18-07 and #18-08 Granting a Zoning Amendment and Easement Vacation as Part of ACE Addition (Project No. 18-100); Case of ACE Solid Waste, Inc.

Purpose/Background:

The City has received an application from ACE Solid Waste (the "Applicant") for Final Plat review to combine two (2) lots into one. The application also includes requests for a Zoning Amendment and Easement Vacation as well. The two properties include 6601 McKinley Street (ACE's headquarters) and 14050 Basalt Street (together referred to as the "Subject Properties"). While no site improvements are proposed at this time, ACE Solid Waste is anticipating a potential future expansion of their transfer station building, which would extend across an existing property boundary between the Subject Properties, and additional parking/storage area, prompting the requested actions.

Notification:

City Staff attempted to notify all property owners within 700 feet of the Subject Property of the request via U.S. mail and published a notice of public hearing in the Anoka Union Herald, the City's official newspaper.

Observations/Alternatives:

Final Plat

The Subject Properties combined are just over ten (10) acres in size. The existing transfer station building is located in the northwest corner of ACE's main campus (6601 McKinley Street NW) and any expansion of that building would be to the north, which would cross the existing property boundary separating the Subject Properties. The proposed plat would simply eliminate the boundary line between the two lots, creating one larger parcel. There are no proposed site improvements associated with this request at this time. The new parcel would meet all the minimum standards for the zoning district.

Basalt Street is currently a dirt/gravel road south of 141st Ave. Any future improvements to the northern portion of the Subject Properties would have to gain access from 141st Street, unless the segment of Basalt Street were brought up to current standards (pavement, curb/gutter). This had been conveyed to the Applicant when City Staff met with them in 2017 to discuss their potential future improvements.

Easement Vacation

There are some existing drainage and utility easements and a permanent street easement encumbering 14050 Basalt Street. The Applicant has requested the vacation of all the underlying easements, which will be re-dedicated as drainage and utility easements and dedicated right-of-way with the recording of the plat. The Final Plat does include the required ten (10) foot wide drainage and utility easements around the perimeter of the new parcel and also dedicates the right-of-way along 141st Ave.

Easement Vacation
The Subject Properties currently have a split zoning. 14050 Basalt Street is zoned E-1 Employment while 6601 McKinley Street is zoned E-2 Employment. The Applicant is requesting a Zoning Amendment to rezone the Basalt Street property to E-2 Employment to establish a single, uniform zoning designation for the newly created parcel. That zoning designation would be consistent with the parcels to the west and north of the Subject Properties.

The Planning Commission conducted a Public Hearing concerning the Zoning Amendment and reviewed the Sketch Plan at their February 1, 2018 meeting. There were no written or verbal comments received and the Planning Commission supported the project. The two Ordinances were introduced at the March 13, 2018 City Council meeting and are now eligible for adoption.

Funding Source:
All costs associated with this request are the Applicant's responsibility.

Recommendation:
The Planning Commission recommends approving the Final Plat and Zoning Amendment and Staff supports the Easement Vacation request, contingent upon recording of the Plat.

Action:
Motion to waive the Charter requirement to read the ordinances aloud and to adopt Ordinances #18-07 and #18-08 approving a Zoning Amendment and Easement Vacation for the Subject Property contingent upon recording of the Final Plat.

Roll Call Vote
Councilmember Shryock
Councilmember Letourneau
Councilmember Riley
Councilmember Kuzma
Councilmember Johns
Mayor Strommen

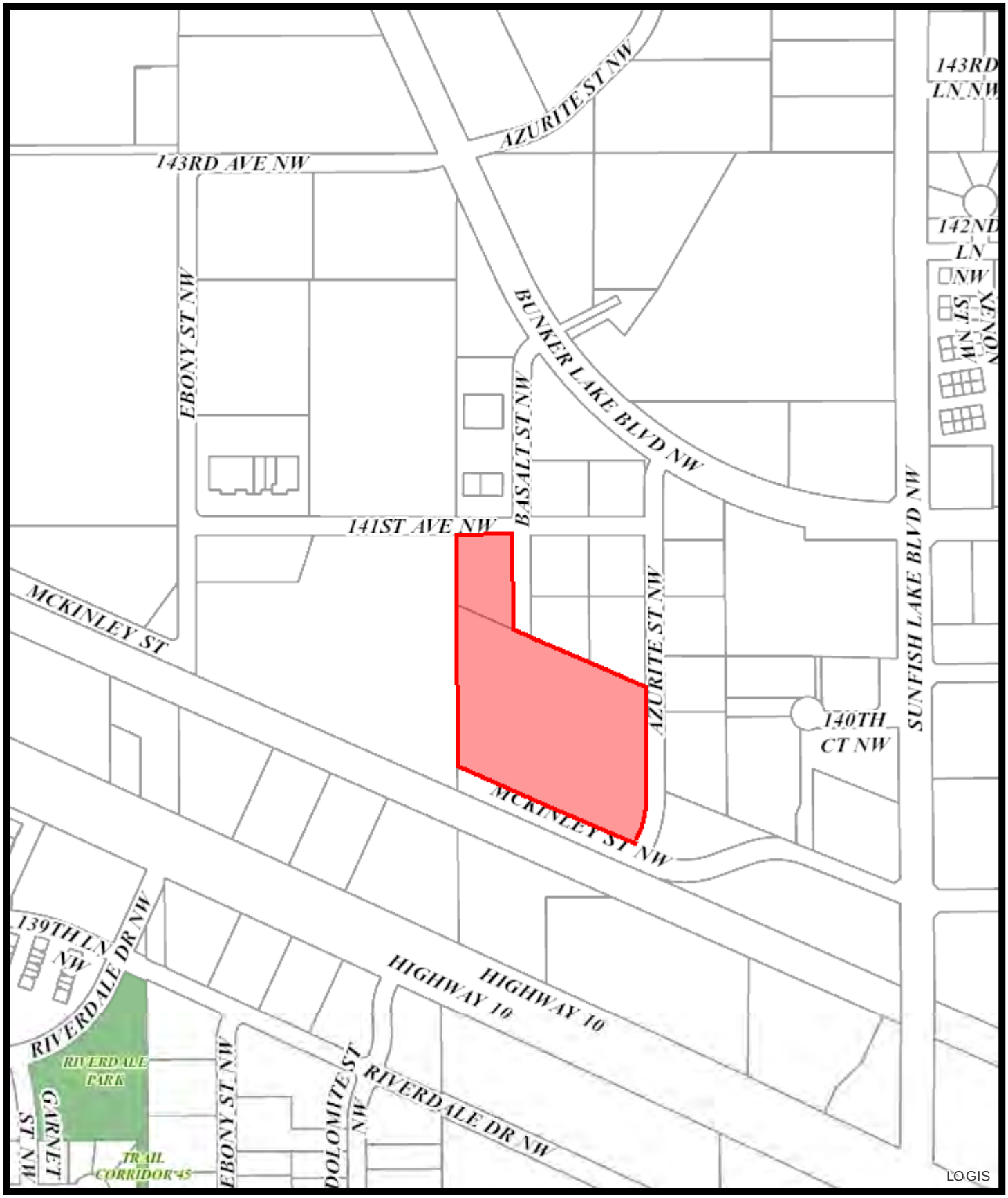
Attachments

Site Location Map
Sketch Plan
Final Plat
Easement Vacation Exhibit
Zoning Amendment Exhibit
Planning Commission Meeting Minutes Dated February 1, 2018
DRAFT City Council Meeting Minutes Dated March 13, 2018
Staff Review Letter
Ordinance #18-07: Zoning Amendment
Ordinance #18-08: Easement Vacation

Form Review

Inbox	Reviewed By	Date
Tim Gladhill	Tim Gladhill	03/21/2018 03:42 PM
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:45 PM
Form Started By: Chris Anderson		Started On: 03/20/2018 08:22 AM
Final Approval Date: 03/22/2018		

Site Location Map



Feet
0 120240 480 720 960

Print Date: January 16, 2018

Plot Date & Time: 3 January 2018 5:39 PM

SKETCH PLAN

ACE ADDITION



EXISTING LEGAL DESCRIPTION

PARCEL 1

That part of the North Half of the Northeast Quarter, Section 34, Township 32, Range 25, Anoka County, Minnesota, described as follows:

Commencing at the northeast corner of said North Half of the Northeast Quarter, thence on an assumed bearing of South 00 degrees 55 minutes 06 seconds East, along the east line of said North Half of the Northeast Quarter, a distance of 1321.75 feet to the northeast corner of Government Lot 4 in said Section 34; thence South 89 degrees 36 minutes 21 seconds West a distance of 1623.71 feet to the intersection with a line marked by judicial land marks set pursuant to Torrens Case No. T-2694; thence North 00 degrees 42 minutes 25 seconds West, along said line and its northerly extension, a distance of 379.86 feet to the intersection with the northerly railroad right-of-way line of the Burlington Northern, Inc., formerly Burlington Northern Railroad Company, said point of intersection being marked by a judicial landmark set pursuant to Torrens Case No. C7-89-6899; thence continue North 00 degrees 42 minutes 25 seconds West, along a line between the last described point of intersection and the southwest corner of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2, a distance of 87.58 feet to the point of intersection with a line lying 80.00 feet northerly of, as measured at right angles, and parallel with said northerly railroad right-of-way line of the Burlington Northern Inc., as marked by judicial land marks set pursuant to said Torrens Case No. C7-89-6899, said point being the actual point of beginning of the land to be described; thence South 66 degrees 41 minutes 37 seconds East, along the southeasterly extension of said parallel line a distance of 673.50 feet to a point 50.20 feet westerly of the most westerly line of Outlot A, FERRUM SECOND ADDITION, as measured along said parallel line; thence North 58 degrees 21 minutes 20 seconds East a distance of 31.46 feet; thence North 13 degrees 21 minutes 20 seconds East a distance of 51.00 feet; thence northerly 27.01 feet, more or less, along a tangential curve concave to the west having a radius of 712.00 feet and a central angle of 02 degrees 10 minutes 25 seconds, more or less, to the point of intersection of said most westerly line of Outlot A, FERRUM SECOND ADDITION, said point being hereinafter referred to as Point "A"; thence North 00 degrees 55 minutes 06 seconds West, along said most westerly line of Outlot A, a distance of 463.49 feet to the point of intersection with the southeasterly extension of the southwesterly line of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2; thence North 66 degrees 43 minutes 30 seconds West, along the southwesterly line of said Lot 1, Block 4, and said southeasterly extension thereof, a distance of 721.19 feet to the southwest corner of said Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2; thence South 00 degrees 42 minutes 25 seconds East a distance of 574.50 feet to said point of beginning.

(Said tract is also known as Lot 2, AUDITOR'S SUBDIVISION NUMBER 30)

And,

That part of Outlot A, FERRUM SECOND ADDITION, Anoka County, Minnesota described as follows:

Beginning at said Point "A" described above; thence North 00 degrees 55 minutes 06 seconds West along said most westerly line of Outlot A, FERRUM SECOND ADDITION, a distance of 463.49 feet to said point of intersection with the southeasterly extension of the southwesterly line of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2; thence South 66 degrees 43 minutes 30 seconds East along said southeasterly extension a distance of 17.55 feet to the point of intersection with a line 66.00 feet westerly of, as measured at right angles, and parallel with the east line of said Outlot A; thence South 00 degrees 55 minutes 06 seconds East along said parallel line a distance of 306.53 feet; thence Southerly 151.24 feet, more or less, along a tangential curve concave to the west having a radius of 712.00 feet and a central angle of 12 degrees 10 minutes 13 seconds, more or less, to the point of beginning.

PARCEL 2

Lot 1, Block 1, GATEWAY NORTH INDUSTRIAL PARK PLAT 2;

(BEING TORRENS PROPERTY)

PROPOSED LEGAL DESCRIPTION

LOT 1, BLOCK 1, ACE ADDITION, CITY OF RAMSEY,
ANOKA COUNTY MN.

CURRENT ZONING

PARCEL 1 - E-2
PARCEL 2 - E-1

PROPOSED ZONING

LOT 1, BLOCK 1, ACE ADDITION - E-2

CURRENT ADDRESSES

6601 MCKINLEY STREET NW, RAMSEY, MINNESOTA 55418.
14050 BASALT ST. WEST, RAMSEY, MINNESOTA 55418.

AREAS

PARCEL 1 AREA = 384,219 S.F. OR 8.820 ACRES
PARCEL 2 AREA = 64,842 S.F. OR 1.626 ACRES
TOTAL AREA TO BE PLATTED = 449,061 S.F. OR 10.309 ±
AREA OF 141ST AVE. WEST PROPOSED TO BE DEDICATED = 6,600 S.F.

OWNER / SUBDIVIDER

ACE SOLID WASTE, INC.
CONTACT-GEOFF STRACT
251 STARKEY STREET
ST. PAUL, MN 55107

SURVEYOR/DESIGNER

WENCK ASSOCIATES
GARY J. BJORKLUND LS
1800 PIONEER CENTER
MAPLE PLAIN, MN 55359

N

0 80 160
SCALE IN FEET

Bearings are based on Anoka County Coordinate System

LEGEND

- ○ *SET MONUMENT*
- ● *FOUND MONUMENT*
- ◉ *FOUND JUDICIAL LAND MARK*

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.
1800 PIONEER CTR
MAPLE PLAIN, MN 55359
Ph: 763-479-4200
Fax:

CLIENT NAME
ACE SOLID WASTE, INC.
6601 MCKINLEY STREET NW,
RAMSEY, MINNESOTA 55418

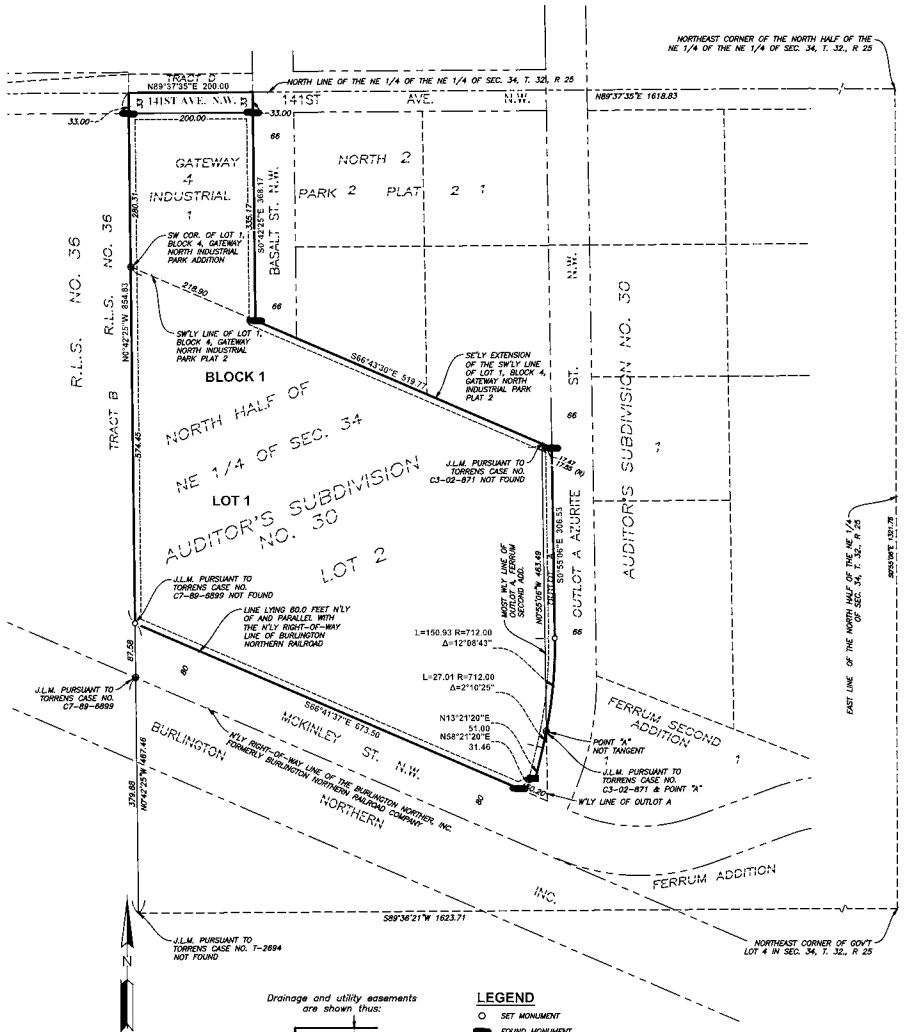
PROJECT TITLE
SKETCH PLAN

DWN BY	CHK'D	APP'D	DWG DATE
GJB	CNA	XXX	03-JAN-2018
			SCALE 1" = 80"
PROJECT NO.			SHEET NO.
3053-0102			1 OF 1

C:\Users\BjoG.0806\Desktop\3053-0102 bndry1.dwg

City of Ramsery
County of Anoka
Sec. 12, Twp. 32, Rng. 25

ACE ADDITION



KNOW ALL PERSONS BY THESE PRESENTS: That ACE Solid Waste Inc., owner of the following described property

That part of the North Half of the Northeast Quarter, Section 34, Township 32, Range 25, Anoka County, Minnesota, described as follows:

Commencing at the northeast corner of said North Half of the Northeast Quarter; thence on an assumed bearing of South 00 degrees 55 minutes 06 seconds East, along the east line of said North Half of the Northeast Quarter, a distance of 1321.75 feet to the northeast corner of Government Lot 4 in said Section 34; thence South 89 degrees 36 minutes 21 seconds West a distance of 1623.71 feet to the intersection with a line marked by judicial land marks set pursuant to Torrens Case No. T-2694; thence North 00 degrees 42 minutes 25 seconds West, along said line and its northerly extension, a distance of 379.88 feet to the intersection with the northerly railroad right-of-way line of the Burlington Northern Inc., formerly Burlington Northern Railroad Company, said point of intersection being marked by a judicial landmark set pursuant to Torrens Case No. C7-89-6899; thence continue North 00 degrees 42 minutes 25 seconds West, along a line between the last described point of intersection and the southwest corner of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2, a distance of 87.58 feet to the point of intersection with a line lying 80.00 feet northerly of, as measured at right angles, and parallel with said northerly railroad right-of-way line of the Burlington Northern Inc., as marked by judicial land marks set pursuant to said Torrens Case No. C7-89-6899; said point being the actual point of beginning of the land to be described; thence South 66 degrees 41 minutes 37 seconds East, along the southeasterly extension of said parallel line a distance of 673.50 feet to a point 50.20 feet westerly of the most westerly line of Outlot A, FERRUM SECOND ADDITION, as measured along said parallel line; thence North 56 degrees 21 minutes 20 seconds East a distance of 31.46 feet; thence North 13 degrees 21 minutes 20 seconds East a distance of 51.00 feet; thence northerly 27.01 feet, more or less, along a tangential curve concave to the west having a radius of 712.00 feet and a central angle of 02 degrees 10 minutes 25 seconds, more or less, to the point of intersection of said most westerly line of Outlot A, FERRUM SECOND ADDITION, said point being hereinafter referred to as Point "A"; thence North 00 degrees 55 minutes 06 seconds West, along said most westerly line of Outlot A, a distance of 463.49 feet to the point of intersection with the southeasterly extension of the southwesterly line of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2, thence North 66 degrees 43 minutes 30 seconds West, along the southwesterly line of said Lot 1, Block 4 and said southeasterly extension thereof a distance of 721.19 feet to the southwest corner of said Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2; thence South 00 degrees 42 minutes 25 seconds East a distance of 574.30 feet to said point of beginning.

(Said tract is also known as Lot 2, AUDITOR'S SUBDIVISION NUMBER 30)

And,

That part of Outlot A, FERRUM SECOND ADDITION, Anoka County, Minnesota described as follows:

Beginning at said Point "A" described above; thence North 00 degrees 55 minutes 06 seconds West along said most westerly line of Outlot A, FERRUM SECOND ADDITION, a distance of 463.49 feet to said point of intersection with the southeasterly extension of the southwesterly line of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2; thence South 66 degrees 43 minutes 30 seconds East along said southeasterly extension a distance of 17.55 feet to the point of intersection with a line 66.00 feet westerly of, as measured at right angles, and parallel with the east line of said Outlot A; thence South 00 degrees 55 minutes 06 seconds East along said parallel line a distance of 306.53 feet; thence Southerly 151.24 feet, more or less, along a tangential curve concave to the west having a radius of 712.00 feet and a central angle of 12 degrees 10 minutes 13 seconds, more or less, to the point of beginning.

And,

Lot 1, Block 1, GATEWAY NORTH INDUSTRIAL PARK PLAT 2;

(Being torrens property)

Has caused the same to be surveyed and platted as ACE ADDITION and does hereby dedicate to the public for public use the drainage and utility easements and public way as created by this plat.

In witness whereof said ACE Solid Waste Inc. has caused these presents to signed by its proper officer this . . . day of . . . . . , 20 .

. its

(Name Printed)

STATE OF
COUNTY OF .

This instrument was acknowledged before me on by .

(Signature) (Name Printed)

Notary Public: . County, .

My Commission Expires .

SURVEYORS CERTIFICATION

I Gary Bjorklund do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statues, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this ____ day of _____, 20____

_____
Gary Bjorklund, Land Surveyor
Minnesota License No. 46563

CITY COUNCIL

This plat was approved by the City Council of Ramsey, Minnesota, this . day of . , 20 . , and hereby certifies compliance with all requirements as set forth in Minnesota Statutes, Section 505.03, Subd. 2.

_____ _____
Mayor Clerk

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me on this day of , 20 , by Gary Bjorklund.

(Signature) (Name Printed)

Notary Public: _____ County, Minnesota

My Commission Expires .

COUNTY SURVEYOR

I hereby certify that in accordance with Minnesota Statutes, Section 505.021, Subd. 11, this plat has been reviewed and approved this day of , 20 .

By _____
Larry D. Hirsum
Anoka County Surveyor

COUNTY AUDITOR/TREASURER

Pursuant to Minnesota Statutes, Section 505.021, Subd. 9, taxes payable in the year 20 on the land hereinbefore described have been paid. Also, pursuant to Minnesota Statutes, Section 272.12, there are no delinquent taxes and transfer entered this day of 2018

Property Tax Administrator

By _____, Deputy

COUNTY RECORDER/REGISTRAR OF TITLES
County of Anoka, State of Minnesota

I hereby certify that this plat of ACE ADDITION, was filed in the office of the County Recorder/Registrar of Titles for public record on this day of , 20 at o'clock .M. and was duly recorded as Document Number .

_____
County Recorder/Registrar of Titles

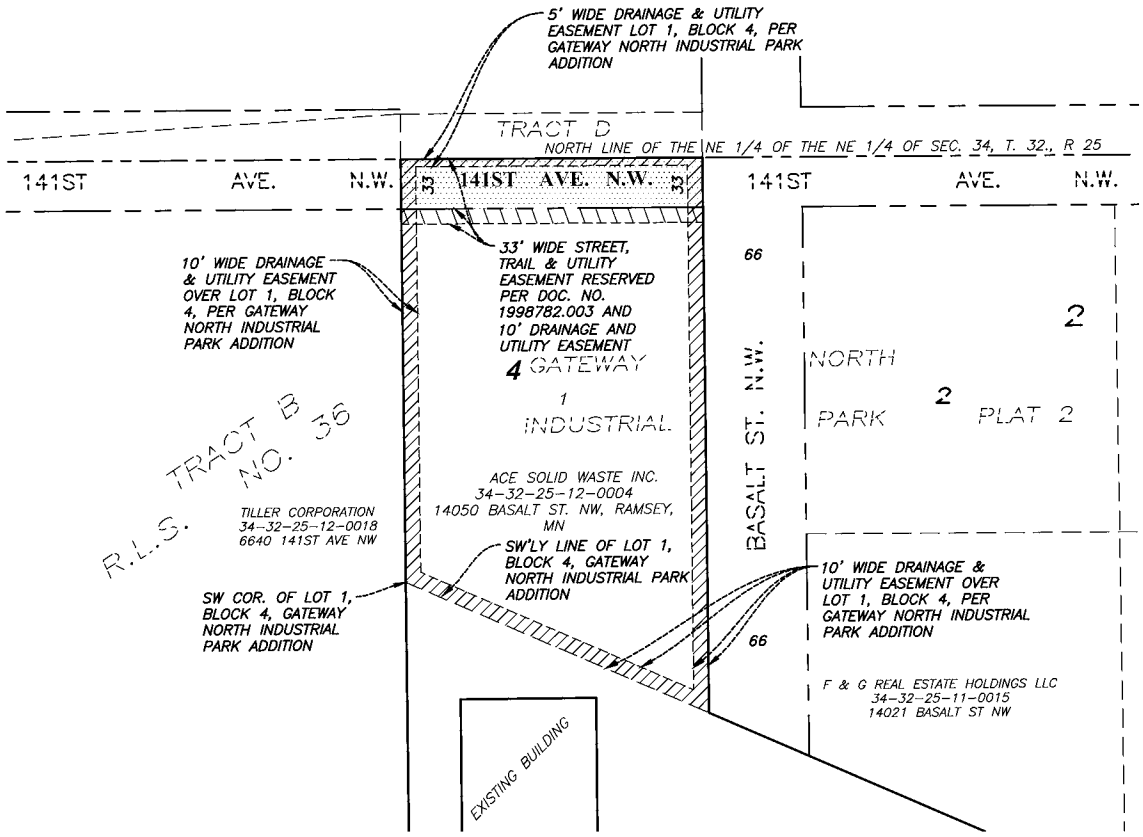
By _____, Deputy

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

Plot Date: 06 Time: 6 February 2018 - 10:00 AM

W:\30805-0100\Survey\CAD\30805-0102_final.dwg

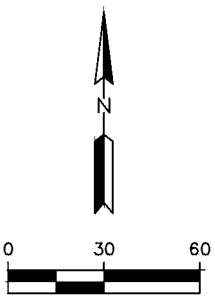


VACATION OF EASEMENTS

All those drainage and utility easements as dedicated over Lot 1, Block 4, on the plat of GATEWAY NORTH INDUSTRIAL PARK PLAT 2, according to the recorded plat thereof, Anoka County, Minnesota, recorded as Abstract Document Number 525933.0, Map Number 90105, Book 29 Page 58;

AND,

City of Ramsey non-exclusive public street, trail and utility easement over the northerly 33 feet; and, a drainage and utility easement over the southerly 10 feet of the northerly 43 feet of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2 as reserved in warranty deed filed 2/12/2008 as Doc. No. 1998782.003. (Abstract)



DENOTES 33' STREET, UTILITY EASEMENT PER DOC. NO. 1998782.003 TO BE VACATED OR RELEASED

DENOTES 10' DRAINAGE & UTILITY EASEMENT PER DOC. NO. 1998782.003 TO BE VACATED OR RELEASED

DENOTES DEDICATED DRAINAGE & UTILITY EASEMENT PER PLAT TO BE VACATED OR RELEASED

WENCK

Address
City, State, Zip
Ph:
Fax:

Responsive partner. Exceptional outcomes.

CLIENT NAME
ACE SOLID WASTE, INC.
6601 MCKINLEY STREET NW, RAMSEY, MINNESOTA 55418

PROJECT TITLE
VACATION EXHIBIT

DWN BY	CHK'D	APP'D	DWG DATE
GJB	XXX	XXX	06-FEB-2019

SCALE 1" = 80'

PROJECT NO. 3053-0102

SHEET NO. 1 OF 1


6777
6751
6751
6751
6751
6651
6651
6615
6590
6575
141ST AVE NW
EBONY ST NW
BASALT ST NW
BUNKER LAKE BLVD NW
14105
6640
14050
6588
14080
14047
14021
14040
6400
AZURITE ST NW
E-2 Employment District
E-1 Employment District
6441
6431
14021
140TH CT NW
SUNFISH LAKE BLVD NW
14000
14000
6451
6451
6451
6451
6451
14000
14000
14000
14000
14000
6781
6601
6745
6701
6701
6701
6501
MCKINLEY ST NW

5.01: Public Hearing: Consider Sketch Plan and Zoning Amendment for a Proposed Lot Combination; Case of ACE Solid Waste, Inc.

Public Hearing

Vice Chairperson VanScoy called the public hearing to order at 7:02 p.m.

Presentation

City Planner Anderson presented the staff report stating the City has received an Application for a Sketch Plan and Zoning Amendment related to two parcels owned by ACE Solid Waste, Inc. The two properties include 6601 McKinley Street (ACE's headquarters) and 14050 Basalt Street (together referred to as the "Subject Properties"). While no site improvements are proposed at this time, ACE Solid Waste is anticipating a potential future expansion of their transfer station building, which would extend across an existing property boundary between the Subject Properties, and additional parking/storage area, prompting the requested actions. Staff provided further comment on the request and recommended approval of the proposed lot combination.

Citizen Input

Dave Wiggins, Division President for ACE Solid Waste, thanked the Commission for their consideration and stated the request would allow for future expansion at this location.

Vice Chairperson VanScoy questioned how the expansion site would be accessed.

Mr. Wiggins reported the site would be accessed from the northwest corner of the current site off of 141st Avenue.

Vice Chairperson VanScoy asked if staff had addressed access issues with the applicant.

City Planner Anderson reported this matter was discussed by the engineering department and there were no concerns.

Motion by Commissioner Anderson, seconded by Commissioner Gengler, to close the public hearing.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Anderson, Gengler, and Surma. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

Vice Chairperson VanScoy closed the public hearing closed at 7:09 p.m.

Commission Business

Motion by Commissioner Surma, seconded by Commissioner Gengler, to recommend that City Council adopt Ordinance #18-07 rezoning 14050 Basalt Street to E-2 Employment District.

Motion Carried. Voting Yes: Vice Chairperson VanScoy, Commissioners Surma, Gengler and Anderson. Voting No: None. Absent: Chairperson Bauer and Commissioner Nosan.

6.01: Public Hearing to Consider Final Plat, Zoning Amendment, and Easement Vacations for a Proposed Lot Combination (Project No. 18-100); Case of ACE Solid Waste, Inc.

Presentation

City Planner Anderson reviewed the staff report and recommendation from the Planning Commission to approve the Final Plat and Zoning Amendment and noted that staff supports the Easement Vacation request contingent upon recording of the Plat.

Public Hearing

Motion by Councilmember Kuzma, seconded by Councilmember Johns, to open the public hearing.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Kuzma, Johns, LeTourneau, Riley, and Shryock. Voting No: None. Absent: Mayor Strommen.

Acting Mayor LeTourneau called the public hearing to order at 7:08 p.m.

Citizen Input

Dave Wiggins, ACE Solid Waste, stated that the business would like to combine the parcels as that will make it easier in future when the business wants to continue to grow.

Motion by Councilmember Johns, seconded by Councilmember Kuzma, to close the public hearing.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Johns, Kuzma, LeTourneau, Riley, and Shryock. Voting No: None. Absent: Mayor Strommen.

The public hearing was closed at 7:10 p.m.

Council Business

Councilmember Kuzma stated that ACE has been a great business in Ramsey and asked if there is a timeline for expansion.

Mr. Wiggins replied that there is not yet a timeline for expansion but anticipated that an expansion would be needed in the next five years and therefore this is an attempt to be proactive in planning.

Motion by Councilmember Johns, seconded by Councilmember Riley, to introduce Ordinance # 18-07 amending Section 117-90 “Map” of Chapter 117 of the City Code of Ramsey, Minnesota and #18-08 vacating drainage and utility easements and a street, trail and utility easement on Lot 1, Block 4, Gateway North Industrial Park Plat 2 and Adopt Resolution #18-052 Approving the Final Plat for ACE Addition.

Motion carried. Voting Yes: Acting Mayor LeTourneau, Councilmembers Johns, Riley, Kuzma, LeTourneau, and Shryock. Voting No: None. Absent: Mayor Strommen.

CITY OF RAMSEY LAND USE APPLICATION
TECHNICAL REVIEW FILE

DATE	JANUARY 25, 2018 REVISED: MARCH 8, 2018	**PROJECT ADDRESS**	6601 MCKINLEY ST NW
PROJECT. TITLE	18-100: ACE SOLID WASTE SKETCH PLAN AND ZONING AMENDMENT		
ESCROW #	116117		
DEPARTMENT:	Community Development: Planning Division (Zoning Code)		
TECHNICAL REVIEWER:	Name: Chris Anderson Phone: 763-433-9817 Email: canderson@cityoframsey.com		

General: The purpose of this file is to review a request for a Zoning Amendment, Easement Vacation, and Final Plat related to a proposed subdivision to combine two (2) lots into one and to rezone a portion of the property from E-1 to E-2 for a consistent, single zoning district for the newly created parcel. While there are no proposed improvements associated with this request currently, it is Staff's understanding that this is being done in anticipation of a future building expansion with additional parking area. Please note that prior to any future improvements being installed, plans must be submitted for review and approval by the City.

The following revisions and/or clarifications are required on the Final Plat submittal, prepared by Wenck Associates and dated February 6, 2018. Note that ~~strikethrough text~~ represents corrections completed from Sketch Plan review while *italicized text* still requires revisions.

Final Plat

- ~~All underlying drainage and utility easements should be vacated with new drainage and utility easements dedicated with the Final Plat.~~
- ~~The existing thirty three (33) foot wide street easement (Doc. No. 1998782.003) should be vacated and that area dedicated as right of way on the Final Plat.~~
- ~~Application, plus applicable fee ($300), shall be submitted, to process the vacation of all existing drainage and utility easements on Parcels 1 & 2 and the street easement described above.~~
- ~~The Final Plat shall dedicate new drainage and utility easements that are ten (10) feet in width along all property boundaries adjacent to right of way and unplatted lands per City Code Section 177-614(f).~~
- ~~The existing stormwater ponds may also need to be encumbered with drainage and utility easements that extend at least sixteen and a half feet (16.5') beyond the designated normal water level elevation of the pond. Input from the Engineering Department is still needed to confirm this though.~~
- ~~Many of the boundary line bearings (shown in degrees, minutes, seconds) do not appear to match the legal description provided on either sheet or a previously recorded Certificate of Survey (dated December 28, 2006). Please review the legal description and bearings and correct discrepancies.~~
- *Verify the legal description on the Plat sheet. It references Lot 1, Block 1, GATEWAY NORTH INDUSTRIAL PARK PLAT 2 rather than Lot 1 Block 4.*

Zoning Amendment

There is currently a split zoning on the two parcels, one is zoned E-1 Employment District (Parcel 1) and the other is zoned E-2 Employment District (Parcel 2). The submittal includes a request to rezone Parcel 2 to E-2 Employment so that, upon completion of the subdivision, there is a single zoning designation for the new parcel. Staff has no objection to the requested Zoning Amendment as it will still be consistent with the zoning of the surrounding area properties.

The Planning Commission held a Public Hearing regarding the Zoning Amendment at their February meeting and recommended approval. The Ordinance will be introduced at the March 13, 2018 City Council meeting and most likely considered for adoption by the City Council at their March 27, 2018 meeting.

Easement Vacation

As part of the Final Plat submittal, a request was made to vacate all underlying, existing drainage and utility easements on Lot 1, Block 4 Gateway North Industrial Park Plat 2, as well as a street, trail and utility easement (Doc. No. 1998782.003) on this same lot. The drainage and utility easements will be rededicated to the public with the recording of the Final Plat (with the exception of the easement along the common boundary line between the two parcels). Additionally, the Final Plat includes the dedication of a public way (right-of-way), a width of thirty-three (33) feet (matching that of the current street easement), for 141st Ave. Staff supports this approach. Staff has forwarded the information to the various small utilities (phone, cable, gas, and electricity) for comment and verification that there are no existing utilities within this easement area.

ORDINANCE #18-07

CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

AN AMENDMENT TO CHAPTER 117 WHICH IS KNOWN AS THE ZONING AND SUBDIVISIONS CHAPTER OF THE CITY CODE OF RAMSEY, MINNESOTA.

AN ORDINANCE AMENDING SECTION 117-90 "MAP" OF CHAPTER 117 OF THE CITY CODE OF RAMSEY, MINNESOTA.

SECTION 1. AMENDMENT

The following legally described properties or portions thereof, are hereby rezoned from E-1 Employment District to E-2 Employment District.

Lot 1, Block 4 Gateway North Industrial Park Plat 2, Anoka County, Minnesota

-Or upon recording-

Lot 1, Block 1 ACE Addition

SECTION 2. MAP

The City is hereby instructed to cause this amendment to be shown on the "City of Ramsey Zoning Map", which map was adopted pursuant to Section 117-90 of the Ramsey City Code.

SECTION 3. EFFECTIVE DATE

This ordinance becomes effective 30 days after its passage and publication, subject to City Charter Section 5.04.

PASSED by the City Council of the City of Ramsey, Minnesota the _____ day of_____, 2018.

_____
Mayor

ATTEST:

_____
City Administrator

Introduction date:
Posting dates:

Adoption date:
Publication date:
Effective date:

ORDINANCE #18-08

CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA

AN ORDINANCE VACATING DRAINAGE AND UTILITY EASEMENTS AND A STREET, TRAIL AND UTILITY EASEMENT ON LOT 1 BLOCK 4 GATEWAY NORTH INDUSTRIAL PARK PLAT 2.

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 drainage and utility easements, as indicated in Exhibit A attached, are hereby vacated, to-wit:

> All of the drainage and utility easements as dedicated over Lot 1, Block 4, on the plat of GATEWAY NORTH INDUSTRIAL PARK PLAT 2, according to the recorded plat thereof, Anoka County, Minnesota, recorded as Abstract Document Number 525933.0, Map Number 90105, Book 29 Page 58.

-and-

The following described public street, trail and utility easement, as indicated in Exhibit A attached hereto, is hereby vacated, to-wit:

> City of Ramsey non-exclusive public street, trail and utility easement over the northerly 33 feet; and, a drainage and utility easement over the southerly 10 feet of the northerly 43 feet of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2 as reserved in warranty deed filed 2/12/2008 as Doc. No. 1998782.003 (Abstract).

SECTION 3. EFFECTIVE DATE

This ordinance becomes effective 30 days after its passage and publication, subject to City Charter Section 5.04.

PASSED by the City Council of the City of Ramsey, Minnesota the 27th day of March, 2018.

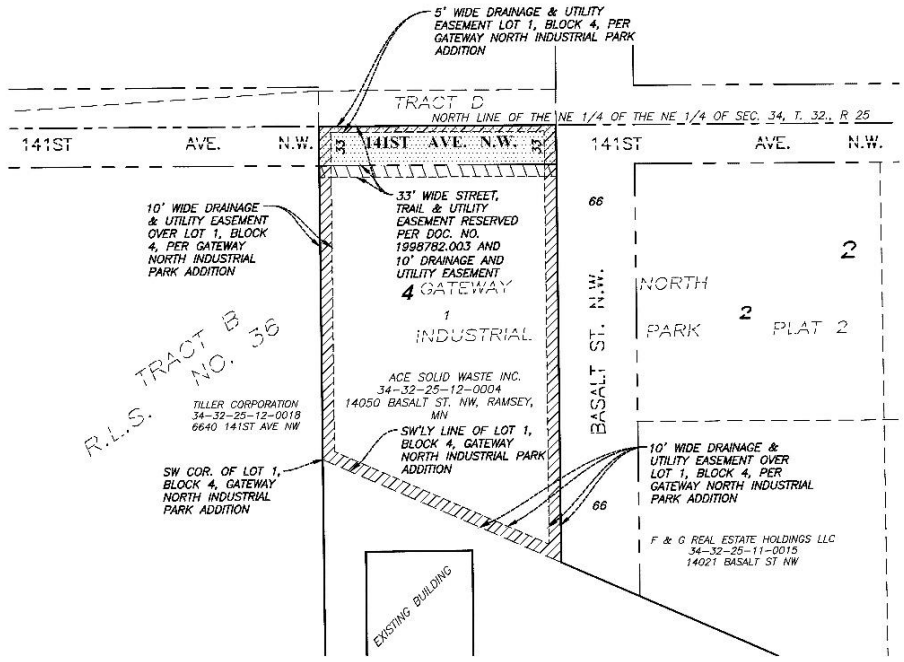
_____
Mayor

ATTEST:

_____
City Clerk

Introduction date:
Posting dates:
Adoption date:
Publication date:
Effective date:

Exhibit A

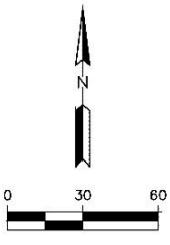


VACATION OF EASEMENTS

All those drainage and utility easements as dedicated over Lot 1, Block 4, on the plat of GATEWAY NORTH INDUSTRIAL PARK PLAT 2, according to the recorded plat thereof, Anoka County, Minnesota, recorded as Abstract Document Number 525933.0, Map Number 90105, Book 29 Page 58;

AND,

City of Ramsey non-exclusive public street, trail and utility easement over the northerly 33 feet; and, a drainage and utility easement over the southerly 10 feet of the northerly 43 feet of Lot 1, Block 4, GATEWAY NORTH INDUSTRIAL PARK PLAT 2 as reserved in warranty deed filed 2/12/2008 as Doc. No. 1998782.003. (Abstract)



DENOTES 33' STREET, UTILITY EASEMENT PER DOC. NO. 1998782.003 TO BE VACATED OR RELEASED

DENOTES 10' DRAINAGE & UTILITY EASEMENT PER DOC. NO. 1998782.003 TO BE VACATED OR RELEASED

DENOTES DEDICATED DRAINAGE & UTILITY EASEMENT PER PLAT TO BE VACATED OR RELEASED

WENCK ASSOCIATES
Address
City, State, Zip
Ph:
Fax:
Responsive partner. Exceptional outcomes.

CLIENT NAME
ACE SOLID WASTE, INC.
6601 MCKINLEY STREET NW, RAMSEY, MINNESOTA 55418

PROJECT TITLE
VACATION EXHIBIT

DWN BY	CHK'D	APP'D	DWG DATE
GJB	XXX	XXX	06-FEB-2019

SCALE 1" = 80'

PROJECT NO. 3053-0102

SHEET NO. 1 OF 1

Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

CC Regular Session **7. 2.**

Meeting Date: 03/27/2018

By: Tim Gladhill, Community Development

Information

Title:

Review Draft Comprehensive Plan Update

Purpose/Background:

The purpose of this case is to review a draft of the Comprehensive Plan Update. Staff has completed an initial draft of all Chapters, but not all are complete and ready to publish for review.

These documents are still in draft format. The focus has been organization and content. The document will be formatted into a final design prior to final approval.

Notification:

Notification is not required at this stage. The City has hosted a variety of public engagement opportunities in person and online over the past two (2) years.

Upcoming Meetings for Review

- April 9 Public Workshop
- May 3 Planning Commission
- May 22 City Council (authorize for distribution/comment)
- December 6 Planning Commission
- December 11 City Council (approve final draft for Metropolitan Council)
- Early 2019 Planning Commission and City Council (adopt Final Plan)

Observations/Alternatives:

Every ten (10) years, the City is required (as all metropolitan area communities are) to submit a Comprehensive Plan to the Metropolitan Council for review and approval. Regardless of the statutory requirements, there were a number of planning projects and updates that warranted updates to the City's long-range vision (20 years). The City has seen significant benefit in terms of securing outside funding and community consensus by having a clear vision for our community. This long-range planning also helps plan and prioritize for larger capital items such as transportation improvements, utilities, parks, trails, etc. With a limited amount of resources, it is important to plan and prioritize these important capital investments.

Please note that we are required to attach our existing Water Supply, Wastewater, and Surface Water Plans/Studies as appendices. These attachments noted by 'Appendix' are not part of the formal review. There is a DNR Water Supply Template that the City must complete as part of this update, and that is being reviewed as part of this process. This template was previously approved for distribution for comment by the City Council.

The only Chapter not published for review at this point is the Parks and Recreation Plan. A draft of this plan has been completed, and Staff is working on edits and formatting before sending for review.

The next major milestone is intended to send the draft document for adjacent community review, as required. Adjacent communities are allowed six (6) months to comment. In order to make the December 31, 2018 submittal deadline to the Metropolitan Council, the draft plan must be sent for comment by the end of May. The document will be able to be updated throughout this adjacent review period.

For more information on the update, visit www.cityoframsey.com/ramsey2040.

Funding Source:

This case is being handled as part of normal Staff duties. Assistance on various Chapters is provided by WSB Associates, Bolton and Menk, and LHB/Bruce Jacobson. Funding for these services is provided through the General Fund as part of Departmental Professional Services Budgets.

Additionally, the City received a $32,000 Planning Grant from the Metropolitan Council for aide in the completion of the update.

Recommendation:

No action is being requested. General feedback on the draft is appreciated.

Action:

No action is being requested. General feedback on the draft is appreciated.

Attachments

Vision
Community Profile
Land Use Plan
Transportation Plan
Economic Development Plan
Housing Plan
Natural Resources Plan
Critical Area Plan
Water Supply Plan
Septic Plan
Appendix: Sanitary Sewer Study
Appendix: Surface Water Management Plan
Appendix: Water Supply Study

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Tim Gladhill	03/22/2018 07:52 AM
Tim Gladhill (Originator)	Tim Gladhill	03/22/2018 07:57 AM
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:39 PM
Form Started By: Tim Gladhill		Started On: 03/19/2018 12:24 PM
Final Approval Date: 03/22/2018		

City of Ramsey 2040 Comprehensive Plan Update

Our Vision

Background on this Document

This document is a draft of the narrative to be used in the 2040 Comprehensive Plan Update. This is not a final version or actual layout. This document will be reviewed and revised multiple times. The City will try to add additional maps and figures to better tell the story of this vision.

Our Mission

It is our mission to work together to responsibly grow our community, and to provide quality, cost-effective, and efficient government services.

Our Vision

Ramsey will evolve through citizen-driven, collaborative processes that respect the balance and connectivity between its unique urban, rural, and natural environment for current and future generations.

Strategic Imperatives

1. A Balance of Rural Character and Urban Growth Balance
2. An Active Community (Parks, Recreation, and Open Space)
3. A Connected Community (Transportation)
4. A Positive Learning Environment

Core Values

These core values carry equal importance. They are not shown in a prioritized list.

- Encourage new pedestrian friendly neighborhoods and balanced transportation.
- Maintain landowner rights.
- Employ careful foresight that involves all citizens in decisions that affect their lives, property, and neighborhoods through collaborative public engagement.
- Nurture neighborhood and community interactions with flexibility to meet future needs without compromising the needs and interests of current residents.
- Develop and maintain a well-connected park and public space system for all ages.
- Attract and retain businesses that support the whole community.

DRAFT

Purpose of the Plan

Components of the Comprehensive Plan

The Land Use Plan serves as the foundation in a series of plans that guides the future of Ramsey. Policy decisions on how the community will change over the next twenty (20) years will have impacts on a variety of systems. This chapter sets the stage and tone for subsequent chapters. The Comprehensive Plan is a compilation of several chapters that are well integrated to form a vision for the community for the next twenty (20) years.

- Land Use
- Transportation
- Wastewater
- Surface Water
- Water Supply
- Parks and Trails
- Housing
- Resilience (Natural Resources)
- Economic Competitiveness
- Implementation (tying it all together in a plan of action)

Key Achievements of the Previous Plan

- Improved Public Engagement in Key Policy Decisions
- Secured the Ramsey Station on the Northstar Commuter Rail.
- Completed the Armstrong Interchange.
- Progressed on Completing The COR according to its Vision.

NOT FOR DRAFT/Topic List:

- Building in flexibility to respond to the market.
- Provide more regular updates.
- Explain the intent/purpose of this document. Ensure that it not intended to micro-manage the process.
- List out the process for amending the Comprehensive Plan.

DRAFT

City of Ramsey 2040 Comprehensive Plan Update

Community Profile

Background on this Document

This document is a draft of the narrative to be used in the 2040 Comprehensive Plan Update. This is not a final version or actual layout. This document will be reviewed and revised multiple times. The City will try to add additional maps and figures to better tell the story of this vision.

The Community

Located in the northwest Twin Cities Metro, the City of Ramsey boasts incredible outdoor recreation opportunities, a growing downtown in Ramsey COR, an impressive manufacturing sector, and a strong local government.

The City of Ramsey has experienced steady growth and development over the past 20 years. This trend is expected to continue as the City has over 1,000 acres of developable land in the COR located near U.S. Highway 10.

Our Neighborhoods

Ramsey's neighborhoods make up the fabric of our community and define the balance of Rural Character and Urban Development. Each neighborhood is uniquely connected to a variety of services.

Ramsey is a great place to live!

Ramsey boasts a robust recreation system, high-quality affordable housing, great jobs, and living wages.

Ramsey is a great place to locate a business!

Ramsey strives to provide high-quality, cost-effective government services while balancing a low tax rate. Ramsey.

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City of RAMSEY

Snapshot of the City 2017

ABOUT OUR CITY

Population Trends[2]

1970	2,360
1980	10,093
1990	12,408
2000	18,510
2010	23,668
2020	26,400[3]

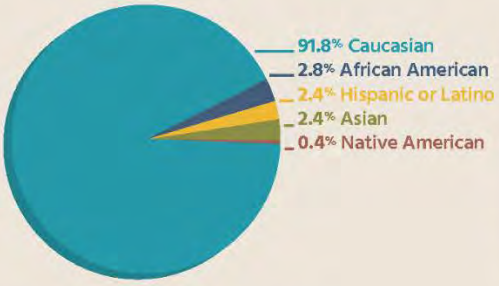
#1 Community priority is to protect the balance of rural character and new development[14]

#2 Second fastest growing city in Anoka County[1]

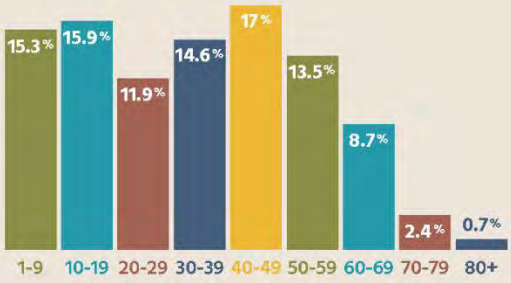


WHO WE ARE

Race and Ethnicity[4]



Population by Age[4]



Additional Demographics

49.7% Female[4]

50.3% Male[4]

34.9 Median age[4]

$86,794 Median household income[5]

4.5% Born outside of US[5]

7.6% Speak a language other than English at home[5]

City of RAMSEY

Snapshot of the City 2017

WHAT WE HAVE

5.6k Acres of undeveloped land[9]

8k Acres of developed land[9]

1k+ Acres of developable land[1]

15+% of land is protected wetland[10]

17+ Miles of shoreline[8]

50+ Miles of trail[7]

32 Parks[6]



HOW WE LIVE AND WORK

9,158 Total Number of Housing Units[4]

6,776 Single family detached

1,438 Townhome

37 Duplex, triple, quad

823 Multifamily (5 units or more)

84 Manufactured home

Septic vs. Sewer

4,000 Housing units on septic[13]

5,158 Housing units on sewer[13]

Employment

470 Places of work[11]

6,334 Number of jobs in Ramsey[12]

1. City of Ramsey Developers Document | 2. Decennial Census (1970, '80, '90, 2000, '10) | 3. Metropolitan Council Population, Households and Employment Forecast | 4. 2010 census
5. 2011 American Community Survey | 6. 2017 Ramsey New Residents Packet | 7. City of Ramsey Parks Department | 8. Google earth
9. Metropolitan Council Generalized Land Use Historical Data Set | 10. City of Ramsey Parks and Recreation webpage | 11. 2012 Economic Census
12. 2016 Quarterly Census of Employment and Wages - second quarter | 13. Rick Jarson, Ramsey Building Official | 14. City Comprehensive Plan Community Engagement

Forecasted Growth

Table 1: Forecasted Growth

	2016	2020	2030	2040
Households	8,973	9,500	11,500	13,500
Population	26,251	27,550	33,350	39,150
Employment	6,334	6,900	7,800	8,400

Ramsey acknowledges that these forecasts deviate from the approved 2040 forecasts for Ramsey. After careful consultation and analysis of recent growth trends, Ramsey requests these modifications to our 2040 Forecasts. For assistance in reviewing requested changes, the series of tables below are offered.

Requested Household Forecast Amendment

	2020	2030	2040
Published Forecast	9,400	11,300	13,000
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Difference	+700	+800	+800

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The People

Population

As of the 2010 US Census, the population of Ramsey was 18,510, and the most recent estimates from the 2015 American Community Survey (ACS) put the population at 25,362. The population has steadily increased since 1990. Although the number of households in the city has increased, the number of persons per household has decreased from 3.43 in 1990 to 2.95 in 2010. According to forecasts by the Metropolitan Council, the 2040 population is projected to nearly 40,000.

Figure 1: Historical and Future Population

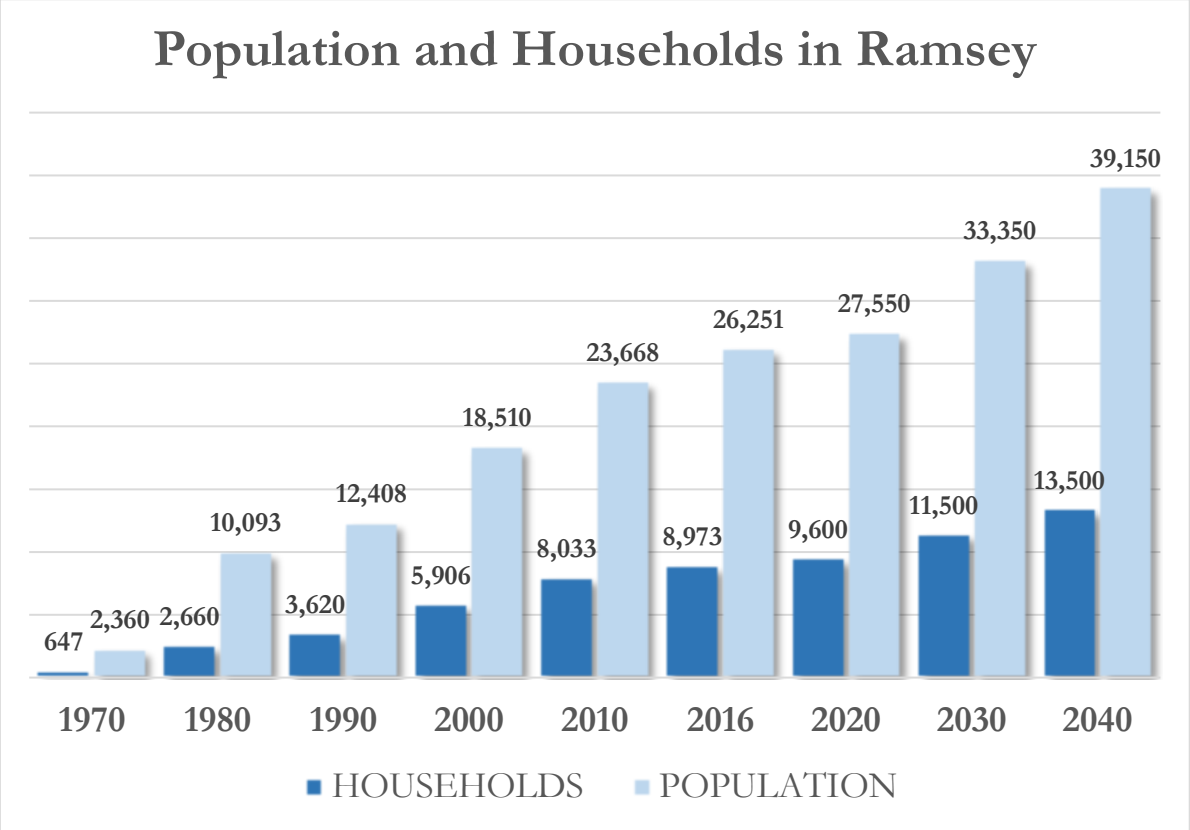
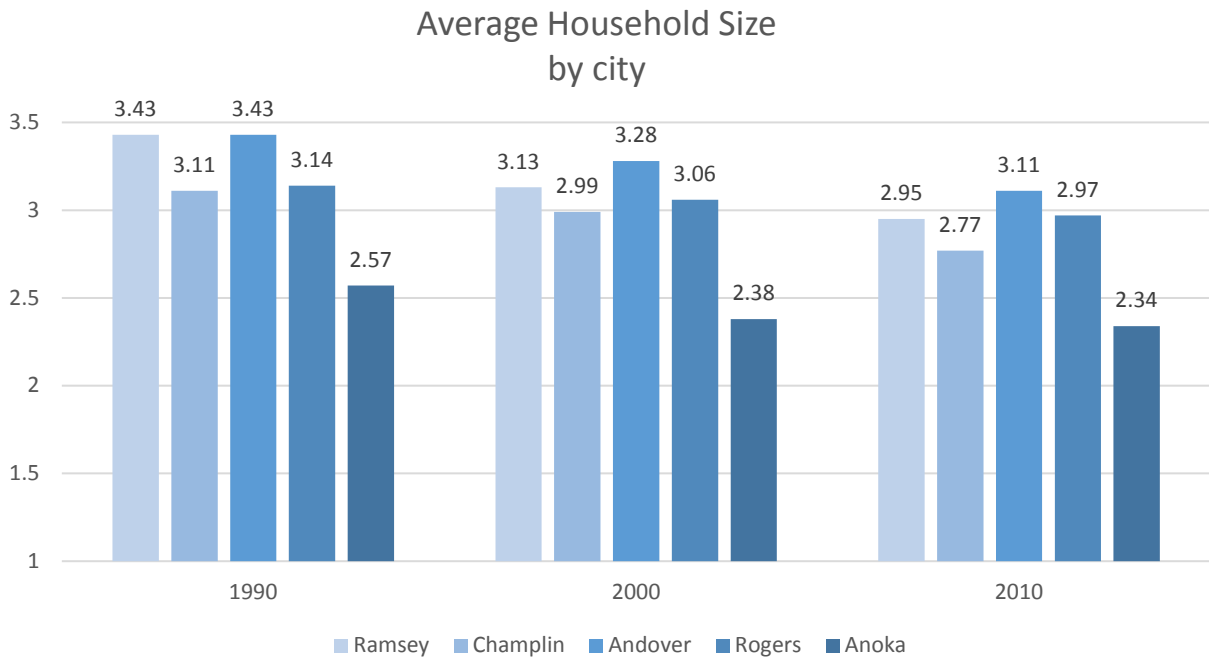


Figure 2: Average Household Size



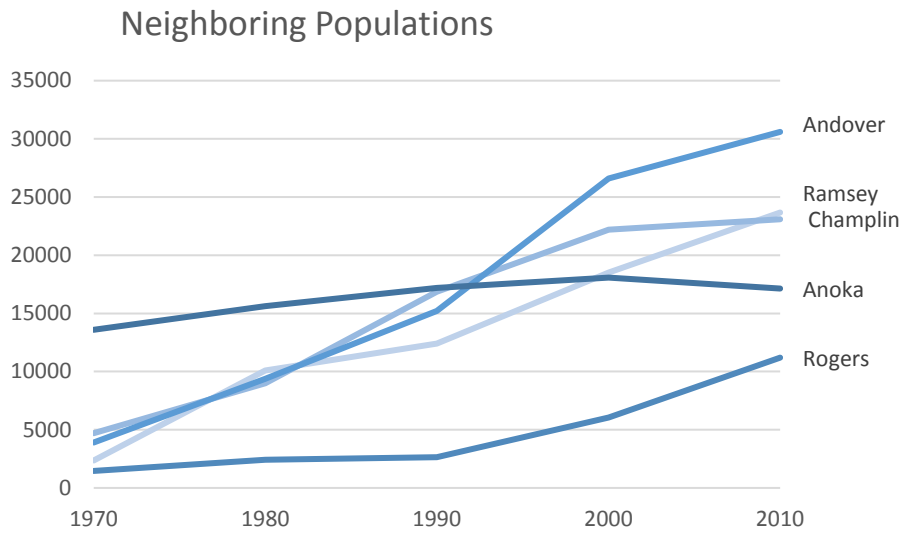
With the number of residents per household likely to continue to decline as the overall population of Ramsey ages, residential housing types will need to be accommodated through development of a variety of housing types including apartments and townhomes.

Ramsey's population experienced steady growth between 1990 and 2010, slowed from 2010 to 2015, and is projected by the Metropolitan Council to steadily increase yet again from 2020 to 2040.

As shown in Figure __-__Ramsey has been outpaced by only Andover in population growth since 1990 and has risen from to the second most populated City in the area.

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Figure 3: Population Comparison

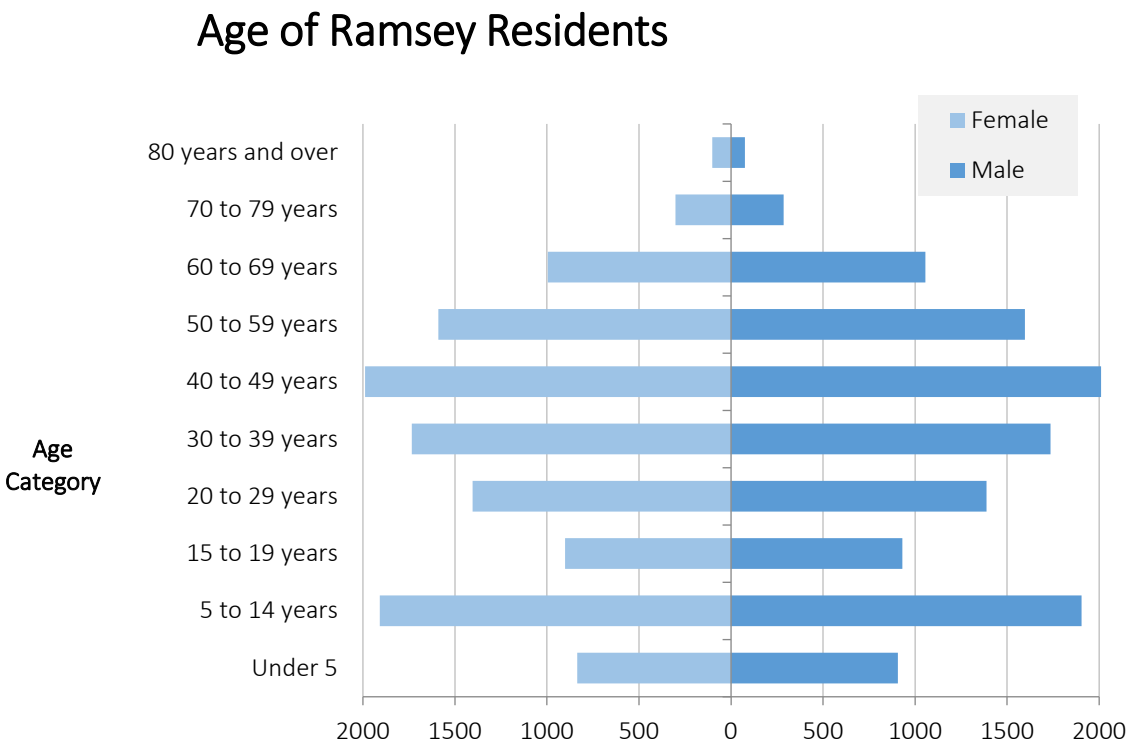


Age demographics

Consistent with most other communities across the region, Ramsey's population is aging. Figure __-__ shows that the largest segment of the population is in the 40-49 age range which is quite young compared to many other communities in the metropolitan region. It will be important for Ramsey to plan for alternative housing options for these residents as they age so that they can remain in the community. In addition, it will also remain important that Ramsey seek ways to be competitive in retaining younger residents as the data shows the second largest section of residents in the 5-14 age range.

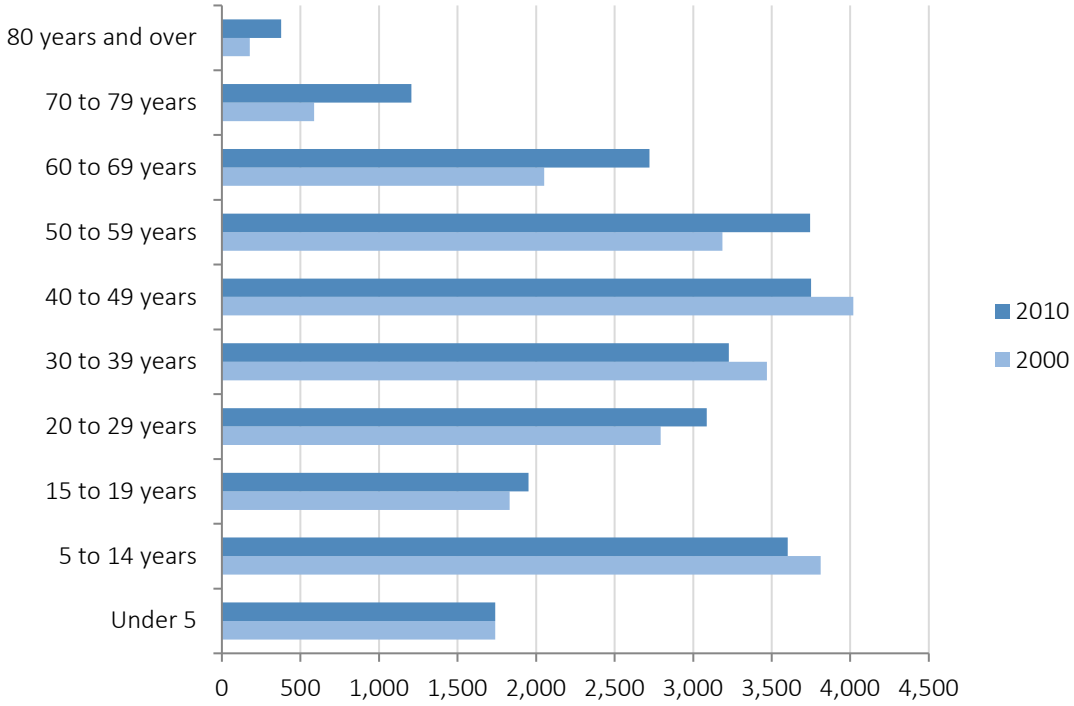
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Figure 4: Age Distribution



Looking at the changes in age demographics from 2000 to 2010, the greatest gains were in the categories of "empty nester" adults, while there were losses in population amongst 30- to 50-year-olds. This age demographic profile helps explain Ramsey's key themes pertaining to schools, parks, and recreation.

Figure 5: Age Cohort

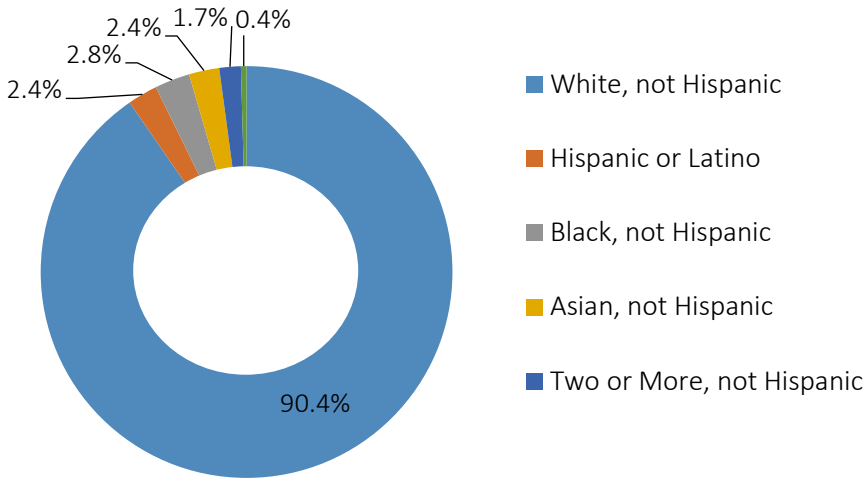


Race

At 90.4 percent, Ramsey residents are primarily white non-Hispanic individuals with the remaining 9.6% of residents being people of color. By comparison, the Twin Cities region is 24.6% residents of color, and Anoka County is 15.6% residents of color. As such, Ramsey is not diversifying at the same rate as Anoka County or the Twin Cities region. Regional trends indicate that in the Twin Cities metro area, residents of color will continue to comprise a greater share of our region's population, increasing from 24% in 2010 to 41% in 2040.

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Figure 6: Racial Demographics



The Neighborhoods

Housing Types

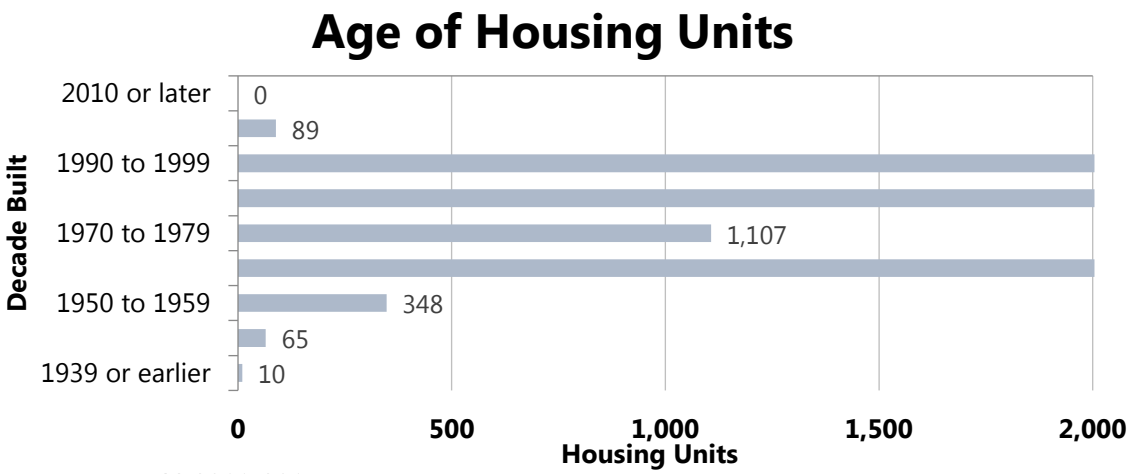
Housing is the predominant land use in Ramsey. Estimates from the Metropolitan Council indicate that there were 8,812 housing units in Ramsey in 2015. Around 75 percent of the housing units in Ramsey are single family detached homes with townhomes counting for an additional 15 percent of the total housing units.

Figure 7: Housing Type

Unit Type	Units	
Single Family Detached	6,692	75.9%
Multifamily (5 units or more)	680	7.7%
Townhomes	1403	15.9%
Duplex, triplex, quad	37	0.5%
Total:	**8,812**	100%

Source: Metropolitan Council Housing Stock Estimates (2015)

Figure 8: Age of Housing Stock

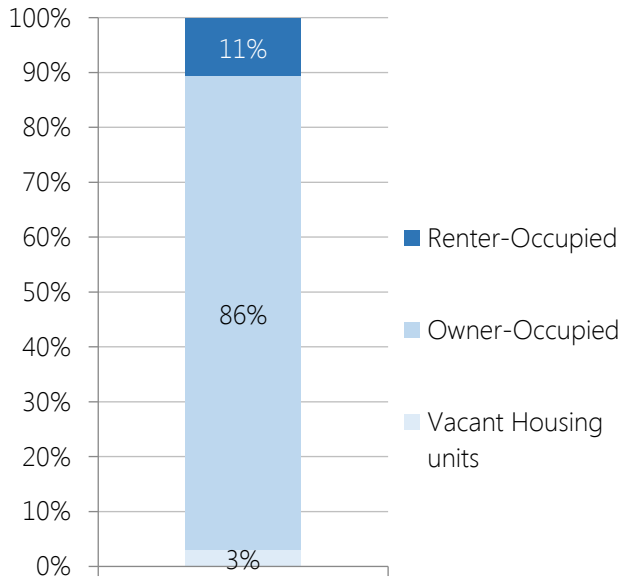


Data source: ACS 2011-2015

Housing Tenure

The City of Ramsey has a historically consistent foundation of owner-occupied housing which remains true today. Approximately 85 percent of Ramsey housing units are owner-occupied, and that percentage has remained largely the same since 1990. That percentage is higher than most of the cities surrounding Ramsey with the lowest percentage of owner-occupied housing of local communities being the City of Anoka at 52 percent.

Figure 9: Housing Tenure



The Economy

The Minnesota Department of Employment and Economic Development estimate approximately 6,150 jobs in the City of Ramsey in 2015. Average annual wages for 2015 are estimated at $46,637. A large reason for this average is likely due to the fact that manufacturing represents the largest employment industry in Ramsey at 34 percent, and these are typically living wage jobs. Anoka County as a whole has 16 percent devoted to Manufacturing.

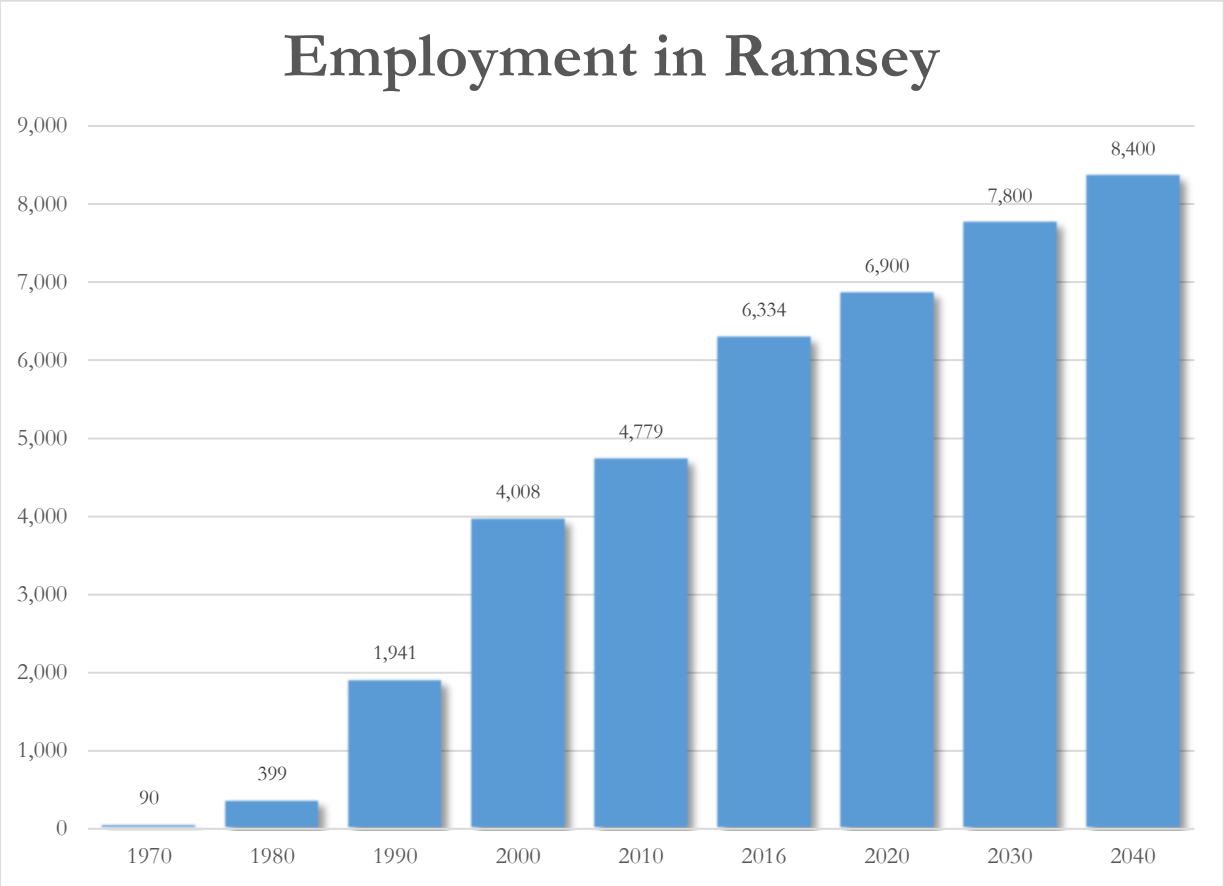
Figure 10: Jobs Located in Ramsey

Industry	Employment Total	Percentage
Retail Trade	554	9%
Health Care and Social Assistance	246	4%
Accommodation and Food Services	369	6%
Public Administration	185	3%
Manufacturing	2,091	34%
Other Services, Ex. Public Admin	308	5%
Educational Services	369	6%
Administrative and Waste Services	369	6%
Finance and Insurance	123	2%
Arts, Entertainment, and Recreation	123	2%
Information	62	1%
Wholesale Trade	308	5%
All Other Industries	1,046	17%
Total:	**6,150**	**100%**

The U.S. Highway 10 corridor is the commercial hub of Ramsey, running the length of the City. Ramsey faces the challenge of encouraging updates and redevelopment of its older and more outmoded buildings and businesses along U.S. Highway 10, while also developing greenfield properties within The COR and new business park east of Armstrong Boulevard.

Employment Forecasts

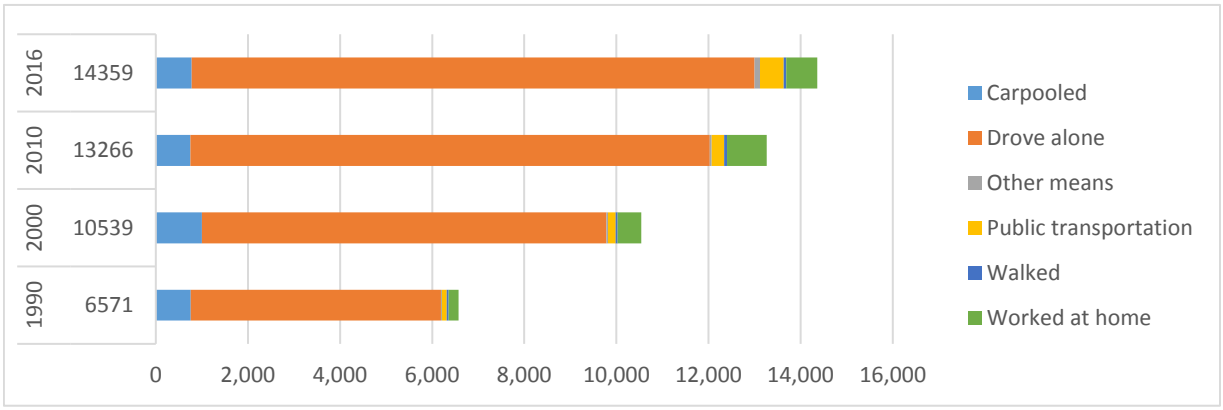
Figure 11: Employment Forecasts



Source: U.S. Census Decennial Survey, U.S. Census American Communities Survey, Metropolitan Council Forecasts

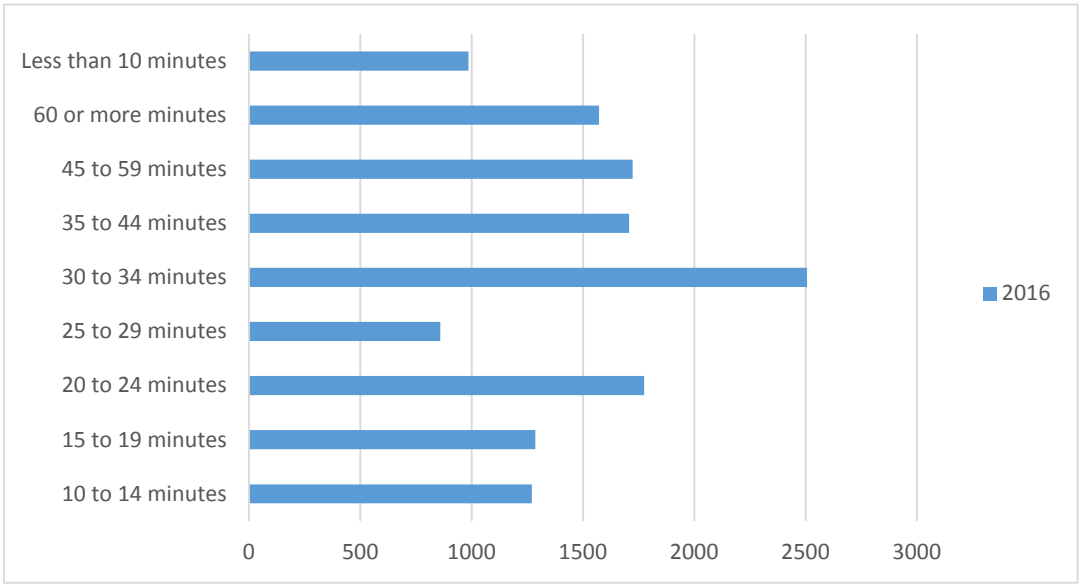
The Commute

Figure 12: Means of Commuting



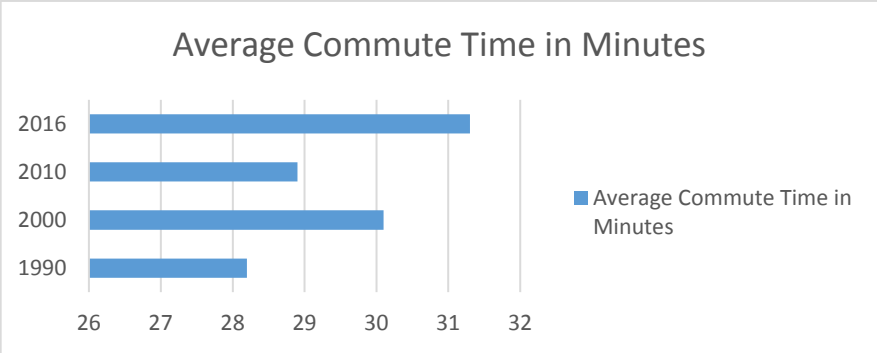
Source: U.S. Census American Communities Survey

Figure 13: Travel Time to Work



Source: U.S. Census American Communities Survey

Figure 14: Average Time to Work



Source: U.S. Census Decennial Census, U.S. Census American Communities Survey

Figure 15: Top Workplaces of Ramsey Residents

Workplace	Workers
Other	4,282
Minneapolis	1,722
Coon Rapids	1,062
Anoka	1,061
Ramsey	952
St. Paul	554
Plymouth	444
Brooklyn Park	433
Blaine	429
Fridley	425
Maple Grove	400

Figure 16: Top Residences of Ramsey Workers

Residence	Workers
Other	1,322
Ramsey	952
Coon Rapids	429
Andover	333
Anoka	280
Blaine	206
Nowthen	160
Brooklyn Park	145
Minneapolis	133
Oak Grove	121
Champlin	116

Proximity to jobs and commuting profiles are important to Ramsey's Transportation Goals and Economic Development Goals.

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City of Ramsey 2040 Comprehensive Plan Update

Land Use Plan

Background on this Document

This document is a draft of the narrative to be used in the 2040 Comprehensive Plan Update. This is not a final version or actual layout. This document will be reviewed and revised multiple times. The City will try to add additional maps and figures to better tell the story of this vision.

2030 Land Use Plan Accomplishments

The last plan was adopted in 2010. While a number of factors changed since the last plan was adopted, the City can celebrate a number of successes as it relates to our land use vision. Subsequent chapters of the 2040 Comprehensive Plan will celebrate their own successes.

- Created a collaborative development review process for land use plans and project review.
- Implemented meaningful density transition into projects that are located adjacent to existing residential neighborhoods.
- Protected Ramsey's rural character in many areas of the community, representing the largest land area category in the community.
- Responded to changing market conditions to provide a variety of housing types and prices.
- Concentrated more dense developments in or near The COR to protect the City's rural character, create walkability, and create a unique identity for the community.
- Re-assessed the effectiveness of rural reserve and rural preserve practices and policies.
- Implemented design standards for walkable streets into review practices.
- Mitigated City's financial risks associated by new developments by encouraging new development to focus near existing infrastructure.
- Developed incentives for The COR to enhance its marketability.
- Maintained high quality design standards in The COR.
- Planned for adequate retail and commercial services.
- Expanded employment and industrial opportunities by facilitating a new, private business park.
- Ensured new development protected natural resources, made trail connections, and blended in with surrounding development.
- Employed conservation subdivision practices aimed to protect existing neighborhoods and natural resources.
- Struck a balance between land use planning, policy development, natural resource protection, and private property rights.

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Goals and Strategies

The following represents goals and strategies for future land uses. Subsequent chapters will include their own goals and strategies that integrate with the above. Resources above and beyond current budget approvals are indicated in the 'Additional Resources' column.

Comprehensive Plan Strategic Imperatives

- A Balance of Rural Character and Urban Growth
- An Active Community (Parks, Recreation, and Open Space)
- A Connected Community (Transportation)
- A Positive Learning Environment

Land Use Strategic Initiatives

A Balance of Rural Character and Urban Growth

- Maintain and Expand the Rural Character of Ramsey.
- Balance vision with market forces.
- Ensure a sense of place (public art)

An Active Community

- Create a diverse and robust offering of recreation opportunities.
- Create a healthy community

A Connected Community

- Improve the safety and mobility of major corridors.

A Positive Learning Environment

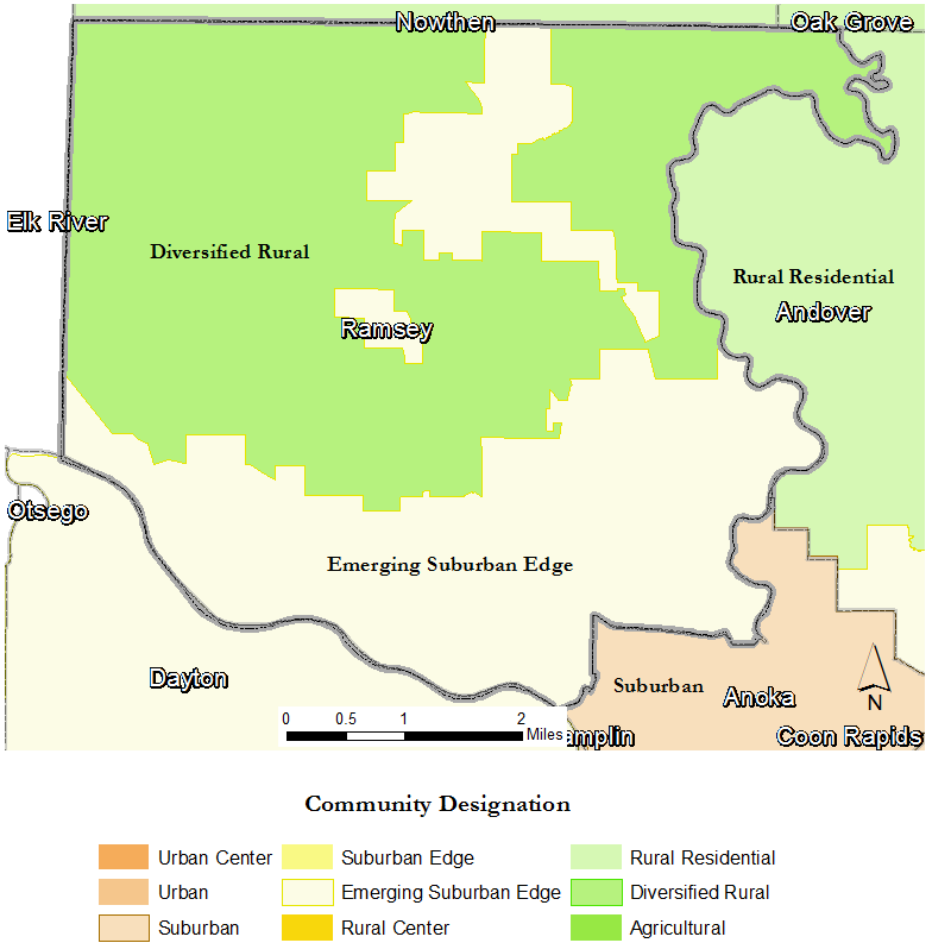
- Plan for future educational needs
- Ensure an Adequate Workforce for Business Community and Economic Development Goals

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Community Designation: Balancing Rural Character and Urban Growth

A primary theme from Ramsey public engagement and outreach efforts was the need to better plan for and communicate our vision for a balanced approach of rural preservation and urban growth. Ramsey supports continued urban growth in areas planned for growth, all while preserving some of the Rural Character that makes Ramsey unique. By guiding Ramsey in two categories, land use policies better reflect our overall vision.

Figure 1: Ramsey Community Designation



The Metropolitan Council uses community designations to group communities with similar characteristics in order to more effectively target its policies, similar to Ramsey's Future Land Use Categories and Zoning Districts. The Metropolitan Council uses these community designations to:

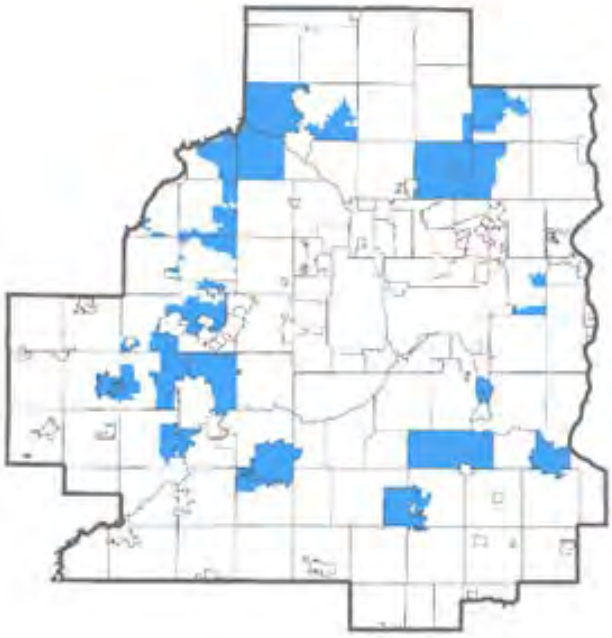
- Guide regional growth and development to areas that have urban infrastructure in place and the capacity to accommodate development and redevelopment.
- Establish land use expectations, including overall densities and development patterns, for different community designations.
- Outline the respective roles of the Metropolitan Council and Ramsey along with strategies for planning for forecasted growth.

Emerging Suburban Edge

An Emerging Suburban Edge Community is characterized as transitioning from rural to developed. It should be noted that although a portion of Ramsey certainly is transition in this manner, a significant portion of the community remains guided for larger-lot, single-family development on private well and septic along with goals to protect a significant amount of exceptional quality ecological resources.

The Emerging Suburban Edge includes cities, townships, and portions of both that are in the early stages of transitioning into urbanized levels of development. Strategically located between Suburban Edge and Rural communities, the Emerging Suburban Edge communities offer both connections to urban amenities and the proximity to open spaces that characterizes a rural lifestyle. Often, the cities and townships in the Emerging Suburban Edge are in more than one Community Designation. In the majority of Emerging Suburban Edge communities, less than 40% of the land has been developed.

Figure 2: Emerging Suburban Edge Communities



Communities in the Emerging Suburban Edge have a mix of residential, rural, and agricultural areas, often including lower-density single-family neighborhoods and small downtown service centers. The growth patterns in these communities demonstrate the challenges of changing from rural to suburban. New developments are typically built in a traditional suburban pattern, characterized by large curving streets, limited through-roadways, and auto-oriented street design. Emerging Suburban Edge communities have access to regional wastewater services (either municipally owned or regional services), access to the metropolitan highway system, and include existing or planned Regional Parks System facilities.

The Emerging Suburban Edge communities provide a variety of commercial activities along the main transportation corridors, and most encompass historic small downtowns with small town characteristics. These communities benefit from their proximity to more developed areas while retaining their local rural

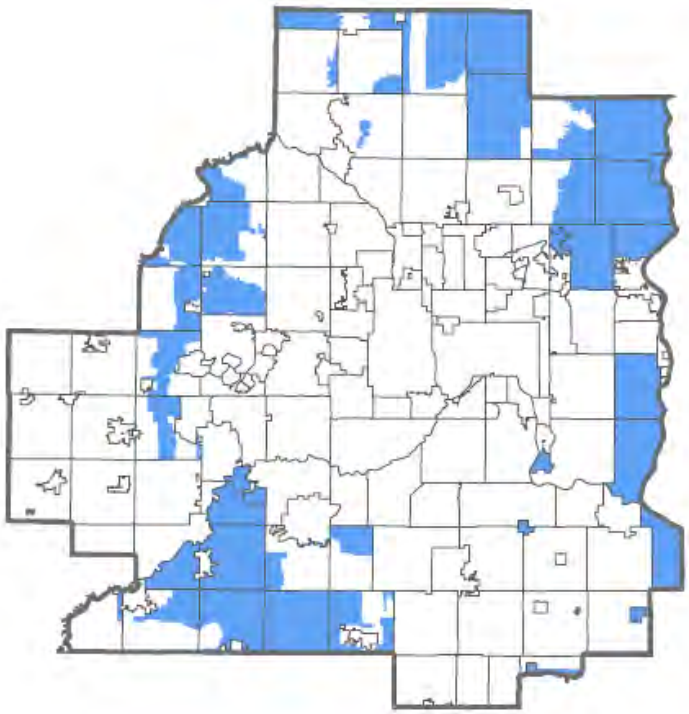
character and protecting natural resources. Commercial areas in the Emerging Suburban Edge tend to be individual large employers and smaller-scale commercial centers serving the local population.

Although these communities have some redevelopment potential in older areas such as historic downtown districts, the focus in the Emerging Suburban Edge is on greenfield development. Greenfields present opportunities to integrate natural resource preservation into site planning prior to development. Some of these communities have land available within their jurisdiction staged for future development, while others are expanding through orderly annexation agreements with neighboring townships. This mix of uses, availability of undeveloped land, and rich access to natural resources is a characteristic unique to Emerging Suburban Edge communities.

As of May 2014, the Metropolitan Council forecasts that the Emerging Suburban Edge area will add 201,000 residents, 93,000 households, and 58,000 jobs between 2010 and 2040. This represents growth of 66% in population, 87% in households, and 66% in employment over the three decades. Because most Emerging Suburban Edge communities also have areas designated as rural, these numbers are approximations. These numbers may change during the current comprehensive planning process, which will more precisely delineate how much community growth belongs inside the Metropolitan Urban Service Area.

Diversified Rural

Figure 3: Diversified Rural Communities



Diversified Rural communities are home to a variety of farm and non-farm land uses including very large-lot residential, clustered housing, hobby farms and agricultural uses. Located adjacent to the Emerging Suburban Edge of the Metropolitan Urban Service Area, the Diversified Rural Area protects rural land for rural lifestyles today and potential urbanized levels of development sometime after 2040.

Large areas of high-quality natural resources are located in these communities with some of these natural areas protected in state lands and regional parks, like Carlos Avery Wildlife Management Area in Anoka County and Carver Park Reserve in Carver County.

While these communities contain a mix of uses, large portions of communities in the Diversified Rural area contain prime agricultural soils, located primarily in Scott and Washington counties. Although these communities are not designated Agricultural communities, the Council supports the preservation of agricultural land in these areas.

Agricultural uses in Diversified Rural communities benefit from their proximity to the Metropolitan Urban Service Area and Rural Centers, but face challenges to their long-term continued use, including incompatible uses developing nearby and increased development pressures.

The Council discourages urbanized levels of residential development in Diversified Rural communities to avoid the premature demand for expansion of metropolitan systems and other urban public services.

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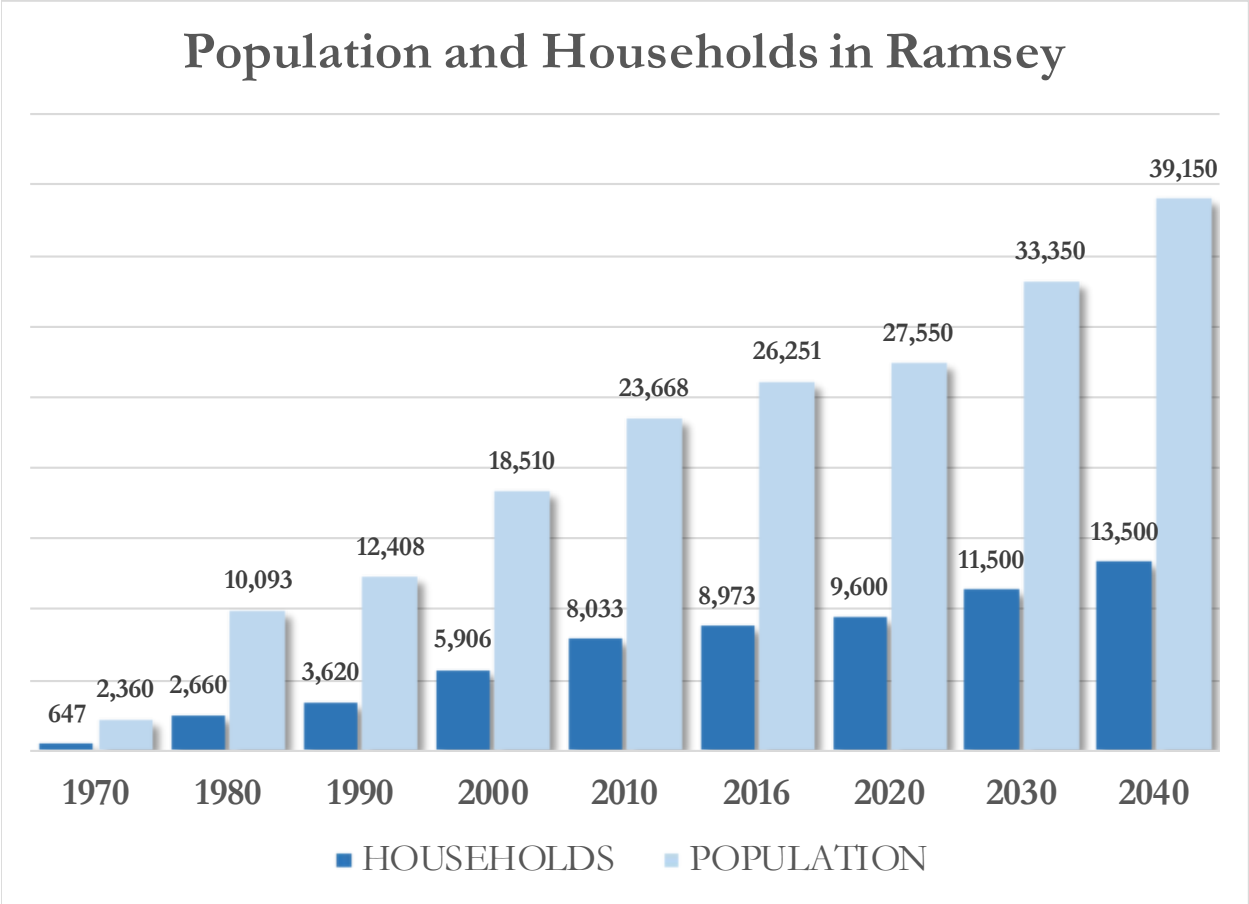
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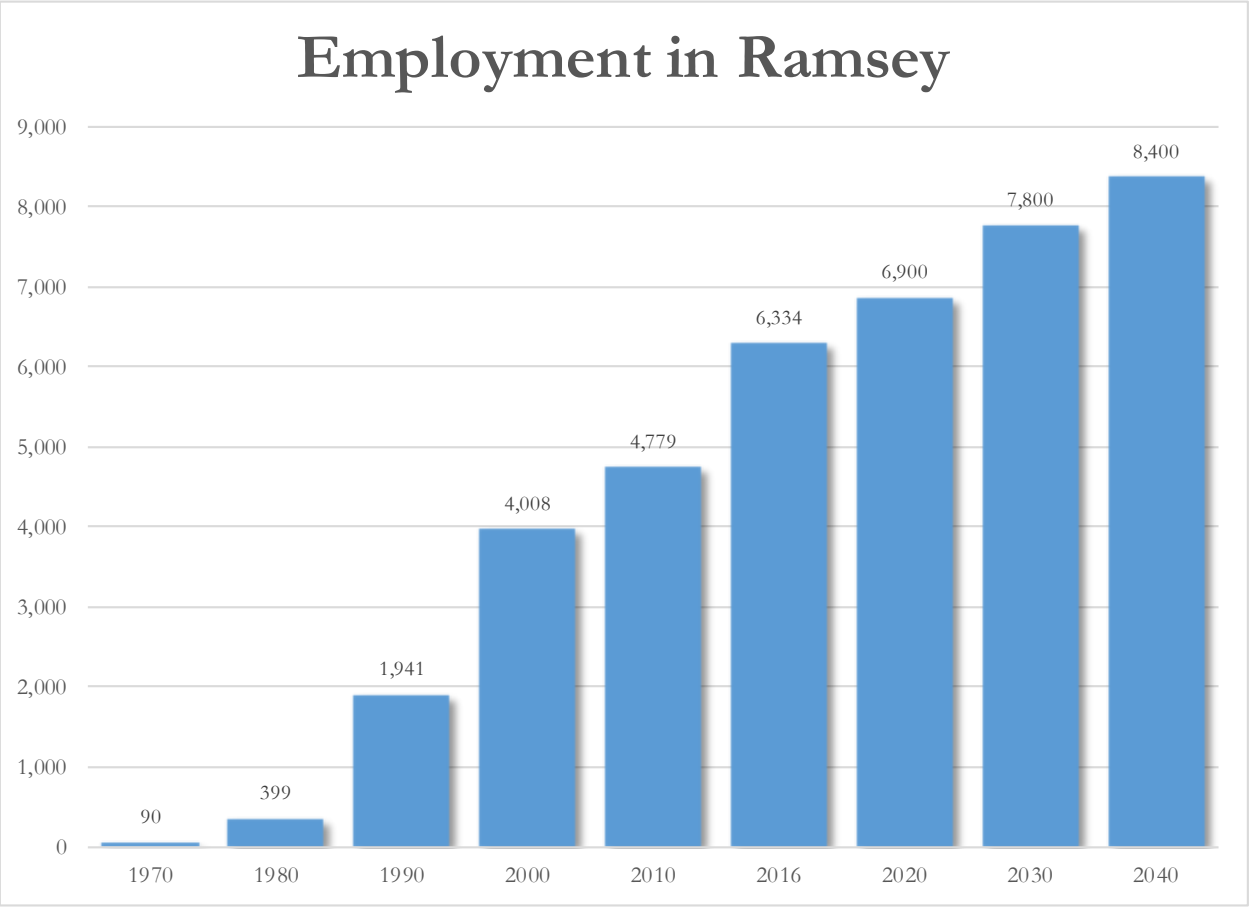
Figure 4: Forecasted Household and Population Growth



Planned Intensity of Employment

Ramsey plans for forecasting future employment growth by a metric of 45% building coverage of a parcel.

Figure 5: Forecasted Employment Growth



Existing Land Uses

Figure 6: Existing Land Use Map

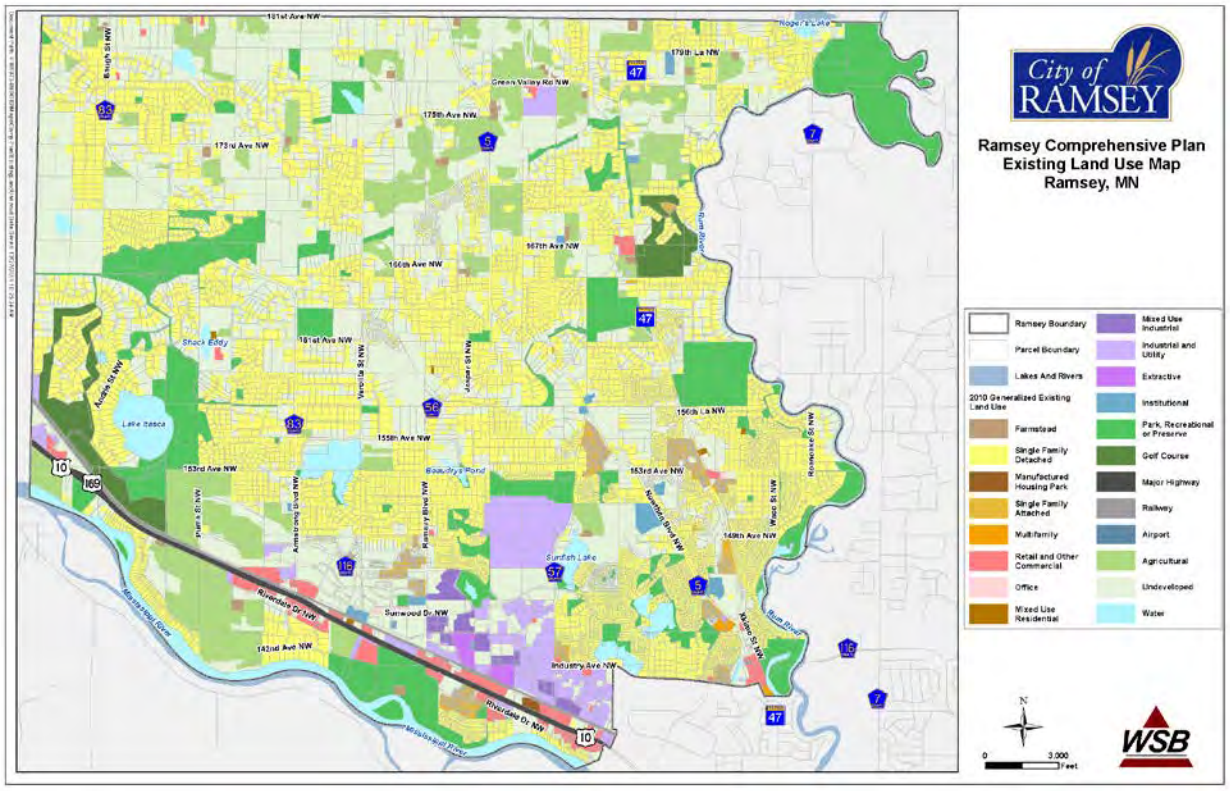


Table 2: Existing Land Use Categories

Year	Land Use	Acres	Percentage of Total
2010	Agriculture	1,659	9 %
2010	Airport	0	0 %
2010	Extractive	40	0 %
2010	Farmstead	65	0 %
2010	Golf Course	332	2 %
2010	Industrial and Utility	561	3 %
2010	Institutional	92	0 %
2010	Major Highway	144	1 %
2010	Manufactured Housing Park	7	0 %
2010	Mixed Use Industrial	107	1 %
2010	Mixed Use Residential	8	0 %
2010	Multifamily	12	0 %
2010	Office	14	0 %
2010	Open Water	753	4 %
2010	Park, Recreational or Preserve	1,960	10 %
2010	Railway	67	0 %
2010	Retail and Other Commercial	254	1 %
2010	Single Family Attached	227	1 %
2010	Single Family Detached	6,837	36 %
2010	Undeveloped Land	5,957	31 %

Note: over 8,000 acres of Ramsey is already developed.

Future Land Uses

Figure 7: Future Land Use Map

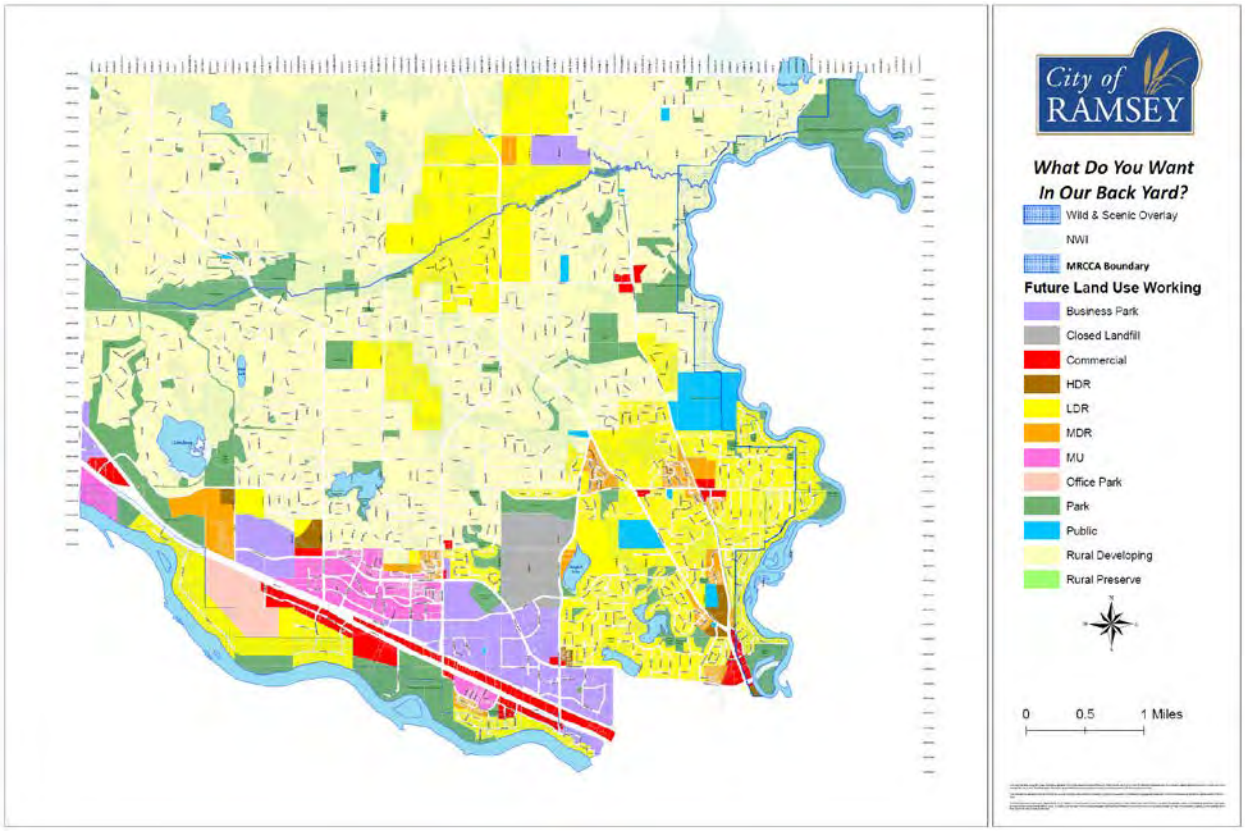


Table 3: Future Land Use Categories

To be tabulated later	

Future Land Use Descriptions

Lakes and Rivers

Low Density Residential

Areas guided Low Density Residential must have urban services before development can take place. These areas will average three (3) units per acre and contain single family, detached dwellings.

Where Low Density Residential is directly adjacent to areas guided Rural Developing that contain 2.5 acre lots, strategies for density transitioning will be employed. This means that while an area of Low Density Residential may average three (3) units per acre, those lots directly adjacent to 2.5 acre lots will be closer in size to 2.5 acres in order to provide an effective transition that maintains the existing character of the neighborhood. Screening methods, such as landscaping must also be employed to transition between very low density areas and urban lots.

Medium Density Residential

These areas are within the MUSA and intended to receive medium density housing including lower density multi-family housing and higher density single-family housing. Average density will be six (6) units per acre. Medium density detached single-family is becoming an increasingly popular development pattern for Ramsey.

High Density Residential

These areas are within the MUSA and intended to accommodate multi-family housing such as townhomes and apartment buildings. Average density will be ten (10) units per acre.

Business Park

Areas guided Business Park are reserved for office and industrial development.

Commercial

Areas guided Commercial may include a range of neighborhood and community commercial/retail development.

Mixed Use

Mixed Use areas may include a combination of residential, commercial, light industrial, open space, and a transit hub.

Public/Quasi-Public

This category generally includes city offices, public works facilities, churches, schools, other non-profit or government facilities, and bridges/major rights-of-way.

Park

Parks, trails and open space include the City Park and trail system, golf courses, regional parks, wetlands, and the greenway. Lands in this category are intended to preserve the natural resource base and provide an adequate supply of active and passive recreational lands in Ramsey.

Closed Landfill

The risk to public health and safety associated with the closed landfill in Ramsey is mitigated by implementing land-use controls that minimize public exposure to landfill hazards and protect the state's response action equipment. In other words, future use of land at and around closed landfills needs to be planned carefully and responsibly. The purpose, then, for preparing a Closed Landfill Use Plan (CLUP) for each landfill is to protect the integrity of the landfill's remediation and monitoring systems, protect human health and public

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safety at each landfill, and accommodate local government needs and desires for land use at the qualified facility with consideration for health and safety requirements.

Metropolitan Council Approved Master Plans

The Metropolitan Council has approved Master Plans for Rum River Central Regional Park and Mississippi West Regional Park (future). These Master Plan Boundaries are reflected in the Future Land Use Map and within the Parks and Recreation Plan.

Figure 8: Master Plan Boundaries

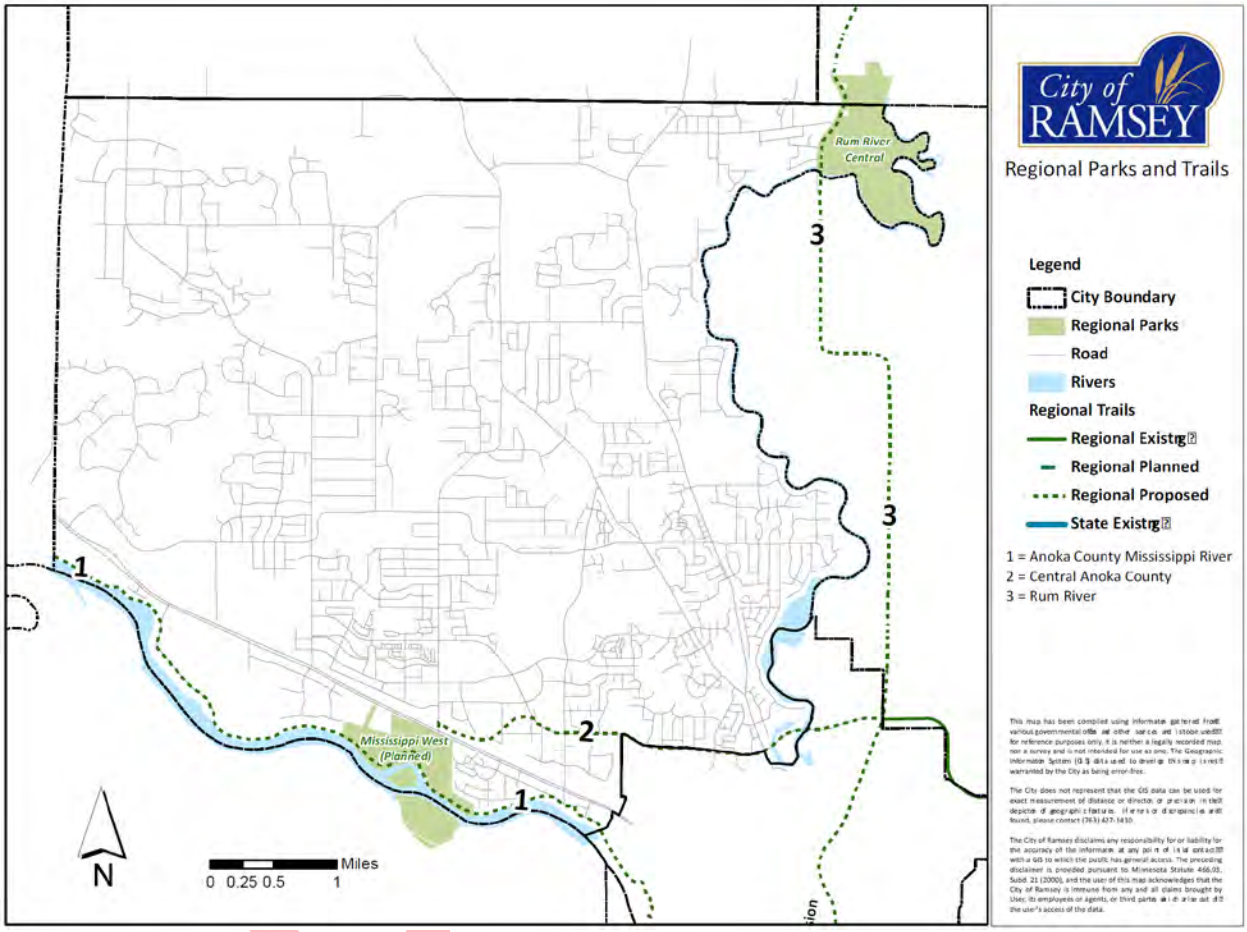


Figure 9: Local Parks

Local Park Map

Figure 10: Circle of Ramsey

Circle of Ramsey Map

Figure 11: Natural Resources

Natural Resource Inventory Map

Expected Density of Future Development

Figure 12: Expected Growth Areas (this map will be updated for better readability]

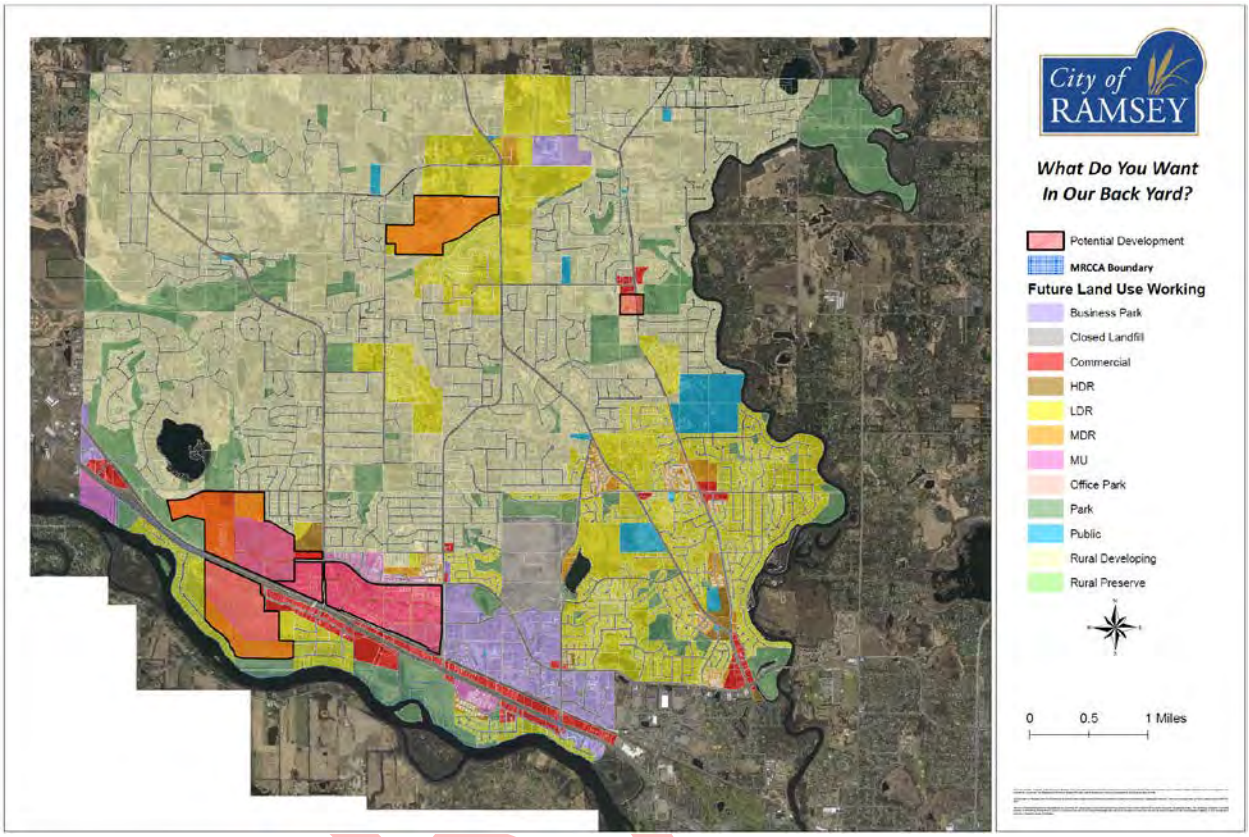


Table 4: Planned Density Ranges

	Minimum Density	Maximum Density	Average Density
Low Density Residential	2	4	3
Medium Density Residential	3	7	6
High Density Residential	7	15	10

Affordable Housing Allocation

The City participates in the Livable Communities Program of the Metropolitan Council, which provides access to a number of funding opportunities. As part of said participation, the City plans for an allocation of affordable housing. The City has confirmed that the Future Land Use Map/Plan is acceptable for anticipated affordable housing need.

The Comprehensive Plan Steering Committee should add some messaging here about what is defined as affordable housing, what is the need, and what is the benefit.

Affordable Housing Need	
At or Below 30% AMI	292
31% to 50% AMI	167
51% to 80% AMI	40
Total Units	499

AMI = Area Median Income

Staged Development Plan

Ramsey will need to complete this section on the final draft. The City needs further policy direction on the underlying assumptions before preparing a staging plan for future development. Future Development and supporting infrastructure shall be forecasted in the following periods.

- 2020
- 2030
- 2040

Planned Density

Table 5: Density Table

Land Use Category	Minimum Density	Maximum Density	Average Density
Rural Developing		0.4 units/acre	
Low Density Residential	2.5 units/acre	4 units/acre	3 units/acre
Medium Density Residential	3 units/acre	7 units/acre	6 units/acre
High Density Residential	7 units/acre	15 units/acre	12 units/acre
The COR – Low Density	4 units/acre	15 units/acre	4 units/acre
The COR – Medium Density	5 units/acre	15 units/acre	12 units/acre
The COR – High Density	15 units/acre	75 units/acre	20 units/acre

Table 6: Mixed Use Densities

Land Use Category	% Residential	% Commercial	% Office	Residential Density Range
Mixed Use	50%	25%	25%	10-15 units/acre

Staged Development and Redevelopment

Development and Redevelopment is likely to focus on the following areas.

- Armstrong West/COR West
  - Bunker Lake Industrial Park
  - Future Business Park
  - Riverstone
- Mississippi West
  - Pearson Agricultural Area
  - Riverside Farms
- Rum River Retail Node
  - Rum River Hills
  - Retail Node Revitalization
- The COR
- Trott Brook

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Armstrong West/COR West

Armstrong West is a planning area generally north of Highway 10 and west of Armstrong Boulevard. This area is approximately 350 acres and is current a mix of agricultural land, vacant land, and industrial land. Planned future land uses include a retail redevelopment area of the current industrial park, business park, low density residential, medium density residential, high density residential, and rural developing. Development is expected to commence in 2018. Full build out is expected in the next ten (10) to fifteen (15) years.

Mississippi West

Mississippi West is a planning area generally south of Highway 10 between Armstrong Boulevard and Bowers Drive. This area is predominantly agricultural.

Planned land use within this area is predominantly low density residential, with an area of natural resource protection along the Mississippi River. Development of this area is likely ten (10) to fifteen (years) in the future due to availability of infrastructure (2015 to 2025 timeframe).

Connexus Energy is planning a nineteen (19) acre solar farm within this planning district in 2018.

This area is also the location of a potential extension of Armstrong Boulevard to serve as a future river crossing to the City of Dayton. This improvement is not currently in official regional planning documents and is likely at least twenty (20) years away, if not longer. The cities of Dayton and Ramsey choose to plan for this long-term improvements to protect the necessary corridor.

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Rum River Retail Node/Rum River Hills

The Rum River Retail Node is a 1970s area rural commercial node. This node has shown evidence of blight and vacancy, with some recent renovations of existing structures. The City has excess land for sale, remnant from the construction of Water Tower #3. Rum River Hills Golf Course desires redevelop a portion of their property (two holes only) and reconfigure the two (2) holes displaced by redevelopment.

Background

The retail node located at 167th Avenue and Trunk Highway 47 has been a topic of discussion with City Councils and EDA boards for several years ("167/47 Node"). The 167/47 Node has struggled to become economically viable for some time, is experiencing high vacancy rates, an increase of blighted building conditions and escalating crime.

Goal

To improve and/or remove blight from properties-of-concern and encourage sustainable market-driven redevelopment of the 167/47 Node that will benefit the entire City of Ramsey.

Vision

A mixture of residential and retail uses. Residential users may include single family residential, townhomes, or senior living units as directed by the market. Retail will include a market driven neighborhood commercial node. Redevelopment of the 167/47 Node should include a connection to Elmcrest Park and/or nearby trails where feasible.

Rum River Hills Redevelopment Plan

Figure 13: Rum River Hills Redevelopment Plan

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The COR

The COR is a 320-acre master-planned community located adjacent to the Northstar Commuter Rail – Ramsey Station (The COR plus surrounding developable area is over 400 acres). Together with adjacent developed and developable area, there are approximately 400 acres of development of a mix of uses. Goals for this development include an identity for the community, a destination for retail to support the local community, walkability, and supportive of commuter-rail transit.

As an implementation strategy of this Comprehensive Plan Update, Ramsey will be updating the land use plans for The COR. To frame said update, the vision of the COR is as follows.

The COR will serve as a City Center primarily to bring people of Ramsey together that embraces natural market opportunities. The COR will also attract energy from the surrounding region. It will be a unique destination, technology-accessible, and serve as a gathering place. It will feature unique architecture stressing historical feel and function.

The COR is approximately 50% complete, and is likely to experience substantial completion in the next ten (10) years. Ramsey is updating this plan as a separate planning document known as The COR Development Plan Update.

Table 7: Development Progress in The COR

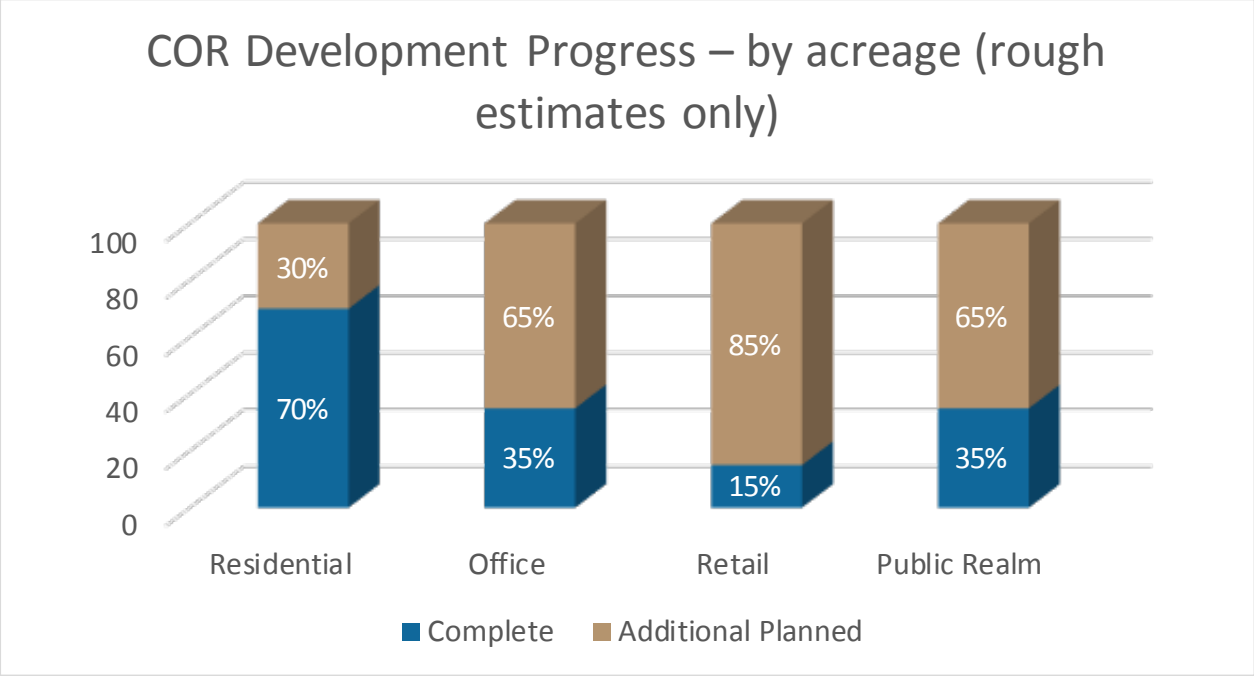
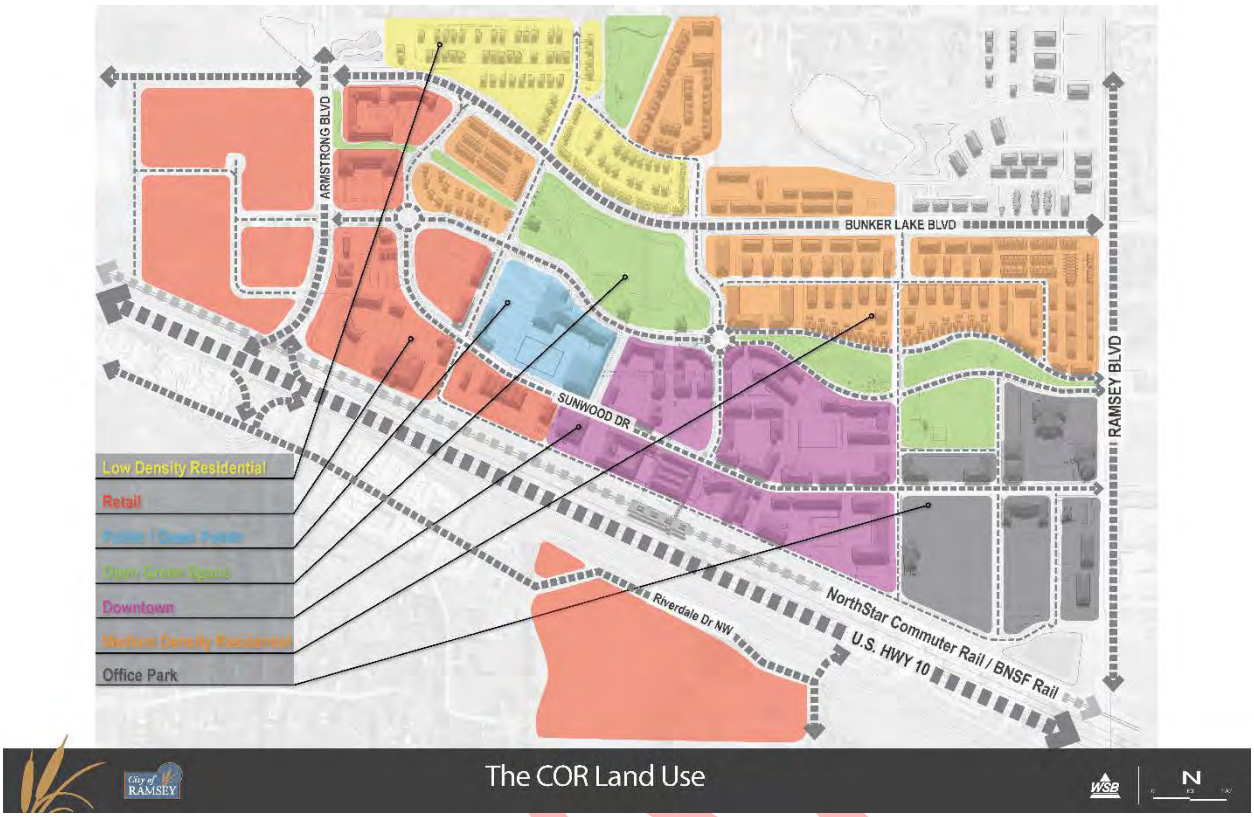


Figure 14: Land Use Plan for The COR


ARMSTRONG BLVD
BUNKER LAKE BLVD
RAMSEY BLVD
SUNWOOD DR
Riverdale Dr NW
NorthStar Commuter Rail / BNSF Rail
U.S. HWY 10
Low Density Residential
Retail
Downtown
Office Park
The COR Land Use
City of RAMSEY
WSB
N

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Trott Brook

A significant area for future development of primarily Low Density Residential uses is planned for north of Trott Brook. Trott Brook is a significant ecological resource for the City to protect, and also serves as an important recreational corridor. This development area will represent the first area in the community north of Trott Brook to receive municipal services (water and sanitary sewer).

Immediately adjacent to this area is the site of a planned second elementary school operated by Anoka Hennepin School District #11.

Natural Resources

Ramsey has established a number of land use goals focused on natural resources.

- Enhanced Protection of Natural Resources
- Enhanced Recreation Opportunities in Natural Resource Areas
- Clean Water and Clean Air
- Reduced Waste Stream in Landfills

These goals are defined within the Natural Resources Plan

There are no known aggregate resources within the community.

Special Resources Plan

Ramsey has two (2) special resources within the community.

1. Mississippi River Corridor Critical Area
2. Old Town Hall

Figure 15: Special Resources

To be added later.

Mississippi River Corridor Critical Area

The Minnesota Department of Natural Resources has adopted new rules for the Mississippi River Corridor Critical Area. Ramsey is awaiting guidance from the DNR before updating our Comprehensive Plan for this section. The City will prepare this plan as a separate chapter.

Old Town Hall

The former Ramsey Township Town Hall is the only structure within Ramsey on the National Historic Database. Ramsey is working with the Anoka County Historical Society to develop a long-term plan for this facility.

Other Opportunities

The City has partnered with the University of Minnesota through its Resilient Communities Project (RCP). One of these projects is evaluating other cultural and historical resources that may exist within the community.

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Mississippi River Corridor Critical Area

Portions of Ramsey are located within the Mississippi River Corridor Critical Area (MRCCA). Ramsey acknowledges the requirement to update MRCCA Plans based on new State of Minnesota Rules. Said Plan Amendment will be added to this document either as a section within this Chapter or as a separate chapter of the Comprehensive Plan.

Land Use Implementation

The Metropolitan Council's Regional Development Framework, ThriveMSP 2040, outlines roles for the Metropolitan Council and Ramsey for land use policy. Specific to land use policy, the Metropolitan Council has set a goal for the region to achieve Orderly and Efficient Land Use.

Ramsey Role	Metropolitan Council Role
• Plan and stage development for forecasted growth through 2040 and beyond at overall average net densities of at least 3-5 dwelling units per acre in the community. Target higher intensity developments in areas with better access to regional sewer and transportation infrastructure, connections to local commercial activity centers, transit facilities, and recreational amenities. • Ensure the efficient use of land when planning for and approving new developments and redevelopment projects.	• Support local efforts and policies to plan for growth that efficiently uses transportation and transit infrastructure and regional services. • Promote land use patterns with clear distinctions between urban and rural areas to protect natural resources and land for agricultural viability. • Provide technical assistance to communities on land use strategies and staged development to inform the local comprehensive planning process. • Partner with local communities to improve land use patterns to reduce the generation of carbon emissions.

Action	Priority	Timeframe
Amend Official Zoning Map	Required	June 1, 2019
Amend Zoning Code	Required	December 31, 2019
Update The COR Development Plan	Immediate	December 31, 2018

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Land Use Implementation Plan

Imperative #1: A Balance of Rural Character and Urban Growth

Initiative #1.1: Maintain and Expand the Rural Character of Ramsey

Tactic	Priority	Responsible Party	Resources
LU 1 Update Community Designation to Include Diversified Rural for Non-Urban Service Areas	Immediate Term	Community Development	Normal Staff Duties
LU 2 Establish a Policy for Urban Service Boundary Extensions	Immediate Term	Community Development	Normal Staff Duties
Update the Density Transitioning Ordinance	Immediate Term	Community Development	Normal Staff Duties

Initiative #1.2: Balance Land Use Vision with Market Realities

Tactic	Priority	Responsible Party	Resources
LU 3 Complete the Development Plan Update for The COR	Immediate Term	Community Development	Normal Staff Duties
LU 4 Create a Neighborhood Plan for Green Valley Greenhouse Area	Immediate Term	Community Development	$25,000
LU 5 Create a Neighborhood Plan for Mississippi West Neighborhood	Long Term	Community Development	$25,000
LU 6 Create a Neighborhood Plan for the Rum River Hills Neighborhood	Opportunity Driven	Community Development	$25,000
Complete a Comprehensive Plan Amendment/Refresh Prior to Completion of the Regional Development Framework	Long Term	Community Development	$25,000

Initiative #1.3: Ensure a Sense of Place

Tactic	Priority	Responsible Party	Resources
LU 7 Create a Public Art Plan	Long Term	Parks and Recreation	$25,000
LU 8 Complete the Community Identity and Streetscape Plan	Immediate Term	Community Development	$7,500 (already approved)

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Imperative#2: An Active Community

Initiative #2.1: Create a Diverse and Robust Offering of Recreation Opportunities

Tactic	Priority	Responsible Party	Resources
LU 9 Complete the Master Park and Recreation Plan	Immediate Term	Parks and Recreation	$50,000 (already approved)

Initiative #2.2: Ensure a Healthy Community

Tactic	Priority	Responsible Party	Resources
LU 10 Ensure all Comprehensive Plan Chapters are reviewed through the lens of Healthy Communities	Long Term	Community Development	Normal Staff Duties

Imperative #3: A Connected Community

Initiative #3.1: Improve the Safety and Mobility of Major Corridors

Tactic	Priority	Responsible Party	Resources
LU 11 Create a Corridor Plan for Highway 10	Immediate Term	Community Development and Engineering	$500,000
LU 12 Update Corridor Plan for Highway 47	Immediate Term	Community Development and Engineering	$75,000
LU 13 Create a Corridor Plan for Highway 5	Immediate Term	Engineering	$50,000
LU 14 Create a Corridor Plan for Green Valley Road	Long Term	Engineering	$50,000
LU 15 Create a Corridor Plan for Mississippi River Crossing	Opportunity Driven	Engineering	$250,000

Imperative #4: A Positive Learning Environment

Initiative #4.1: Plan for Future Educational Needs

Tactic	Priority	Responsible Party	Resources
LU 16 Advocate for a new Middle School and third Elementary School	Opportunity Driven	Administration	Normal Staff Duties
Encourage Updates to District Boundaries to	Long Term	Administration	Normal Staff Duties

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reflect neighborhood boundaries			

Initiative #4.2: Ensure an Adequate Workforce for Business Community and Economic Development Goals

Tactic	Priority	Responsible Party	Resources
LU 17 Create a Workforce Development Plan	Immediate Term	Economic Development	Normal Staff Duties

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Chapter X: Transportation

Introduction

The transportation system in Ramsey generally operates well today. The city's multimodal transportation system includes facilities for vehicles, freight, walking, bicycling and transit. Facilities are operated by a number of agencies, including the City of Ramsey, Anoka County, the Minnesota Department of Transportation (MnDOT), Metro Transit, and the Burlington Northern Santa Fe (BNSF) Railway.

This transportation chapter has been prepared in compliance with State of Minnesota Statutes and applicable Metropolitan Council guidelines. As part of this Plan, the city has reviewed existing and future conditions for each mode and identified safety, operations, and network improvements that will be important to address over the 2040 planning horizon. The city has also developed goals and strategies to preserve and improve the transportation system.

This transportation plan includes the following information:

1. Summary of Regional Strategies
2. Existing Roadway System
3. 2040 Traffic Forecasts and Roadway Network Planning
4. Existing and Planned Non-Motorized Transportation Network
5. Freight Network
6. Transit
7. Aviation
8. Goals and Multimodal Strategies
9. Proposed Short and Long Range Roadway Projects
10. Public Comments
11. Conclusion and Next Steps

Transportation Glossary

CIP: Capital Improvement Plan – five year plan for capital investments in the transportation system and in other capital assets owned by the city (equipment, buildings, etc.).

CR: County Road – county-owned roadway that does not receive State funding.

Critical Crash Rate: Statistical indicator of a safety problem at a location. If crash rates at a location are above the critical crash rate, it indicates that the location has a crash rate that is statistically significant compared to similar roadways.

CSAH: County State Aid Highway – county-owned roadway that receives State Aid funding.

MnDOT: Minnesota Department of Transportation.

RBTN: Regional Bicycle Transportation Network – existing and planned regional bicycle network established by the Metropolitan Council.

TH: Trunk Highway – State highway owned and operated by MnDOT.

TPP: Transportation Policy Plan – Regional transportation plan for the Twin Cities metropolitan region, developed by the Metropolitan Council.

1. Summary of Regional Strategies

This Plan has been prepared to be consistent with the regional transportation strategies outlined in the Metropolitan Council 2040 Transportation Policy Plan (TPP). Similar to this Plan, the TPP evaluates the existing transportation system, identifies transportation challenges to the region, and sets regional goals, objectives, and priorities to meet the transportation needs of current residents while accommodating the region's anticipated growth. The TPP also guides local agencies in coordinating land use and transportation and establishes regional performance measures and targets.

The TPP is guided by the following goals:

- **Transportation system stewardship:** Sustainable investments in the transportation system are protected by strategically preserving, maintaining, and operating system assets.
- **Safety and Security:** The regional transportation system is safe and secure for all users.
- **Access to Destinations:** People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond.
- **Competitive Economy:** The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and State.
- **Healthy Environment:** The regional transportation system advances equity and contributes to communities' livability and sustainability while protecting the natural, cultural, and developed environments.
- **Leveraging Transportation Investment to Guide Land Use:** The region leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability.

Funding is a key constraint that is acknowledged in the TPP. Current transportation revenue will not meet the region's transportation needs through 2040. As a result, the TPP includes two long-term investment scenarios: a fiscally-constrained scenario that identifies projects anticipated to be funded based on current revenue projections, and an increased revenue scenario that identifies project priorities should additional transportation funding become available.

Under the current revenue scenario, the TPP is focused on operations and maintenance of the existing transportation system. Investments in highway mobility and access are limited to those projects that address multiple TPP goals and objectives. The increased revenue scenario would allow additional investments in operations and maintenance, as well as regional mobility, access, safety, and bicycle/pedestrian improvements. However, congestion cannot be greatly reduced under even the increased revenue scenario. Under both scenarios, proposed investments are focused on areas of the metro with the greatest existing and future challenges and anticipated growth.

The Metropolitan Council classifies Ramsey under the Emerging Suburban Edge Community Designation. Based on *Thrive MSP 2040*, Emerging Suburban Edge areas are expected to plan for forecasted population and household growth at average densities of at least three to five units per acre for new development and redevelopment. These communities are also expected to target opportunities for more intensive development near regional transit investments.

2. Existing Roadway System

The sections below provide information about the existing roadway system in Ramsey, including existing number of lanes, existing roadway jurisdiction, existing functional classification, existing traffic, existing safety, and access management. This chapter also includes summary recommendations from recent plans and corridor studies.

2.1. Functional Classification

The functional classification system groups roadways into classes based on roadway function and purpose. Functional classification is based on both transportation and land use characteristics, including roadway speeds, access to adjacent land, connection to important land uses, and the length of trips taken on the roadway.

The functional classification system organizes a roadway and street network that distributes traffic from local neighborhood streets to collector roadways, then to minor arterials and ultimately the principal arterial system. Roads are placed into categories based on the degree to which they provide access to adjacent land and mobility for through traffic. Functional classification gives an indication of the relative hierarchy of roadways in the transportation network.



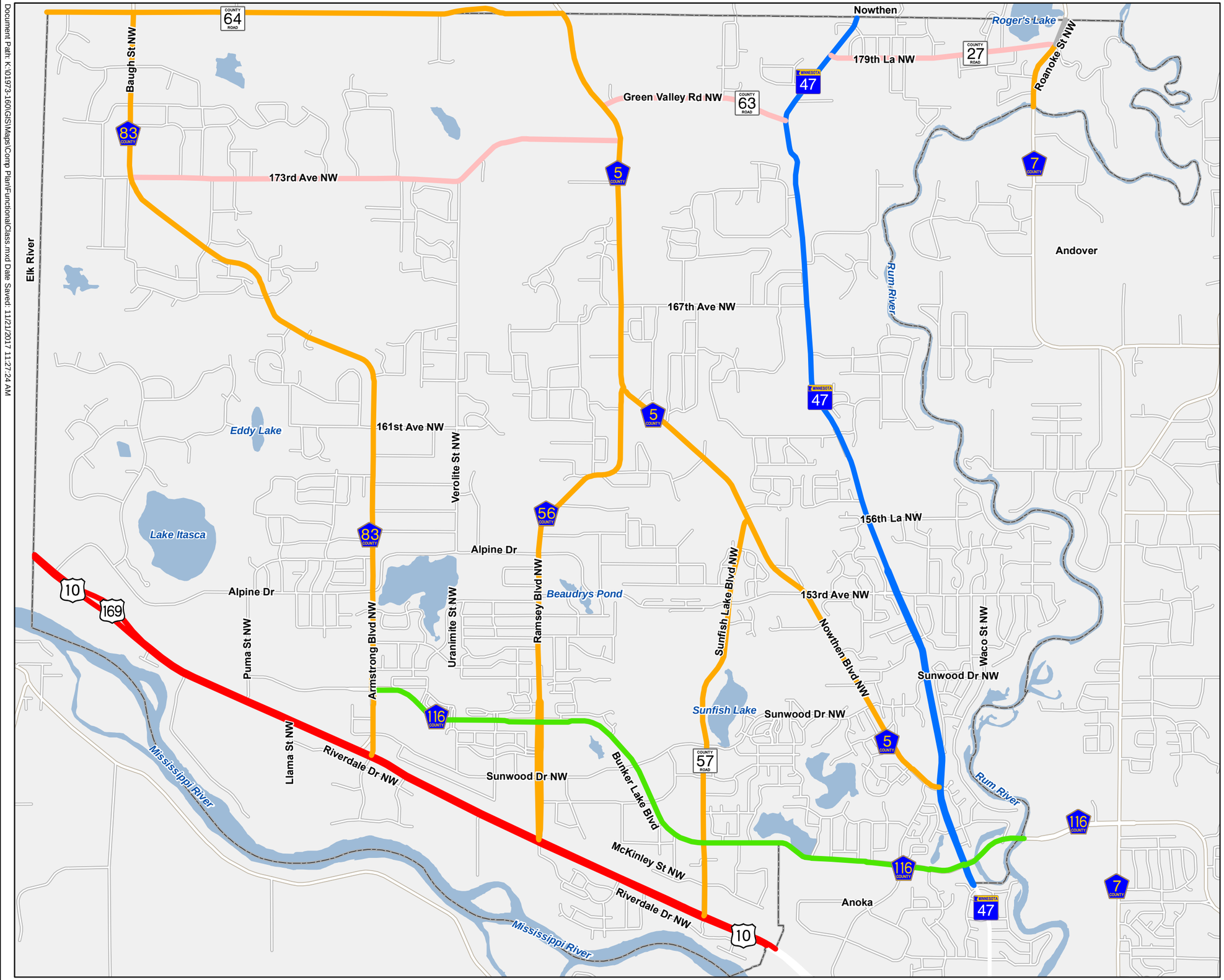
Image: MnDOT

Four classes of roadways are included in the seven-county metropolitan area functional classification system: principal arterials, minor arterials, collector streets, and local streets. **Figure 1** shows the existing functional classification of each road in the City of Ramsey and **Figure 2** shows the existing roadway jurisdiction. The following sections describe each functional class in greater detail and indicate which roadways fall into each classification.

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City of RAMSEY

Ramsey Comprehensive Plan
Figure 1: Existing Functional Classification
Ramsey, MN



Functional Classification

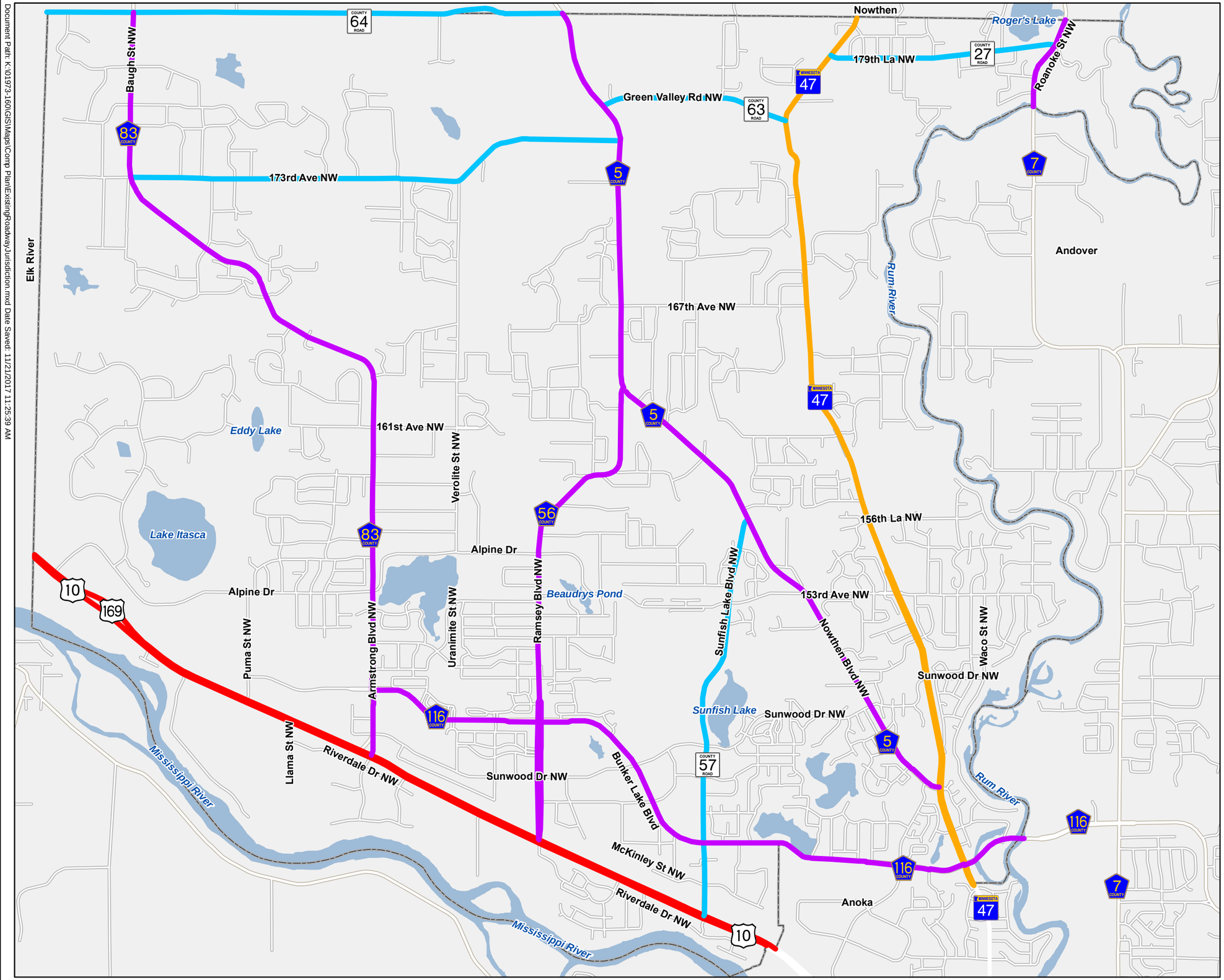
- Principal Arterial
- A Minor Reliever
- A Minor Expander
- A Minor Connector
- Other Arterial
- Major Collector
- Ramsey Boundary

N

0 3,000 Feet

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Ramsey Comprehensive Plan
Figure 2: Existing Roadway Jurisdiction
Ramsey, MN

Existing Roadway Jurisdiction

- US Highways
- State Highways
- County Roads
- County State Aid Highway
- Ramsey Boundary

N

0 3,000 Feet

2.1.1. Principal Arterials

Principal arterials are roadways that provide the greatest level of mobility and access control. Within the metropolitan area, the great majority of principal arterials are under MnDOT jurisdiction. Principal arterials are typically Interstate highways or other state or US freeways or expressways. These facilities are intended to serve trips greater than eight miles and express transit trips. Spacing of principal arterials varies within developing areas of the metropolitan area. Typically these facilities are spaced between two and six miles apart. These facilities connect regional business and commercial concentrations, transportation terminals, and large institutions within the metropolitan area. Principal arterials also connect to other cities, regions, and states outside of the metropolitan area.

Principal arterials are intended to maintain average speeds of 40 mph during peak traffic periods. To maintain mobility and speeds on principal arterials, land access and transportation system connections are limited. There is little to no direct land access from principal arterials. Intersections are limited to interstate freeways, other principal arterials, and "A" Minor arterials. Access points are typically grade-separated or controlled with a signal and are spaced one to two miles apart.

One existing principal arterial is located within Ramsey. US Highway (US) 169/US Highway 10 crosses the southern portion of the city in a northwest-southeast direction parallel to the Mississippi River. US 169 and US 10 join in the City of Elk River to the west of Ramsey and diverge again in the City of Anoka, just east of Ramsey. US 169 connects northern Minnesota with the Twin Cities metropolitan area, Mankato, and areas further south. US 10 provides a connection between the western portion of the state and the Twin Cities metropolitan area and Wisconsin. These roadways are also trunk highways (THs) on the MnDOT system, and these combined highways in Ramsey are hereafter referred to as "US 10" in this Plan. The 2040 Transportation Policy Plan does not propose any additional principal arterials within the city.

2.1.2. Minor Arterials

Minor arterials maintain a focus on mobility, but provide more land access than principal arterials. Within Ramsey, all minor arterials are under the jurisdiction of MnDOT or Anoka County. Minor arterials are intended to serve trips of four to eight miles in length. Within developing areas of the metro, these facilities are spaced between one and two miles apart. Minor arterials connect cities and towns within the region and link to regional business and commercial concentrations. Access points along minor arterials are generally at-grade and typically controlled with signals or stop signs.

During peak traffic, minor arterials in developing areas are intended to maintain 30 mph average speeds. As a result, transportation system connections are limited to interstate freeways, other principal arterials, other minor arterials, collectors, and some local streets. Land access is limited to concentrations of commercial and industrial land uses. The Metropolitan Council has established a system of "A" Minor and "B" Minor arterials. "A" Minor arterials are eligible for federal funding administered by the Metropolitan Council.

The Metropolitan Council has further split "A" Minor arterials into four types, described below:

- Relievers: Arterials located parallel to congested principal arterials. The purpose of "A" Minor Relievers is to provide additional capacity in congested corridors.
- Augmenters: Arterials that supplement the principal arterials system within urban centers and urban communities.
- Expanders: Arterials that supplement principal arterials in less-densely developed areas of the metro area.
- Connectors: Arterials that provide connections between rural towns and connect rural areas with the principal arterial system.

There are seven "A" Minor Expanders, one "A" Minor Reliever, and one "A" Minor Connector within the city:

"A" Minor Expanders:

- Anoka County State Aid Highway (CSAH) 5 (Nowthen Boulevard)
- CSAH 7 (Rum River Boulevard) south of 179th Lane
- CSAH 22 (181st Avenue)
- CSAH 56 (Ramsey Boulevard)
- CSAH/County Road 57 (Sunfish Lake Boulevard)
- County Road 64 (181st Avenue)
- CSAH 83 (Armstrong Boulevard/Baugh Street)

"A" Minor Reliever:

- CSAH 116 (Bunker Lake Boulevard)

"A" Minor Connector:

- Trunk Highway (TH) 47 (St. Francis Boulevard)

"B" Minor arterials have a similar focus on mobility above land access. These roadways connect major traffic generators in the region. "B" Minor arterials are not eligible for federal funding. "B" Minor arterials within the city include the following:

- CSAH 7 (Rum River Boulevard) north of 179th Lane

An additional B minor arterial connecting CSAH 5 with TH 47 in the northern section of the city is identified as a planned arterial in the 2040 Transportation Policy Plan.

2.1.3. Major and Minor Collectors

Major and minor collector roadways provide linkages to larger developments and community amenities. They generally do not link communities to one another. Collector roadways generally favor access to the system over mobility, but try to balance the two competing needs. Collector roadways are generally lower speed than the principal or minor arterial routes. Collector roadways are often owned and operated by cities, although counties operate some of

these facilities. Within Ramsey, two collector roadways are owned and operated by the city, and Anoka County operates two. Collectors are intended to serve trips of one to four miles in length. Collectors link minor arterials, other collectors, and local streets.

Major collectors typically serve higher density residential areas and concentrations of commercial and industrial land uses. These facilities tend to serve longer trips than minor collectors. Major collectors within the city include the following:

- 173rd Avenue Northwest
- 175th Avenue Northwest
- County Road 63 (Green Valley Road)
- County Road 27 (179th Lane Northwest)

There are no minor collectors within the city, and the 2040 Transportation Policy Plan does not propose any additional collector roadways within the city.

2.1.4. Local Roadways

The primary function of local roadways is land access. Local roadways connect individual land parcels with other local roadways and collectors. Trips on local roadways are typically under two miles. Speeds on local roadways are typically low. Longer trips are facilitated by local roadway connections to the collector and arterial systems. Local roadways are under the jurisdiction of the City of Ramsey. Local roadways are all roadways that are not arterials or collectors.

2.1.5. Planned Functional Classification

Aside from new proposed roadways, no functional classification changes are currently recommended in the city.

> **A note on transportation plan strategies:**
>
> Throughout this Plan, locations associated with numbered mode-specific strategies are identified on corresponding maps. These strategies are listed and described in further detail in **Table 8.**

2.2. Existing Roadway Capacity and Safety

Roadway capacity and roadway safety are two key indicators of how well the roadway system is meeting the city's transportation needs. The sections below provide information to better understand capacity and safety issues within Ramsey.

2.2.1. Existing Roadway Capacity

A roadway's capacity indicates how many vehicles may use a roadway before it experiences congestion. Capacity is largely dependent upon the number of lanes. **Table 1** below lists planning-level thresholds that indicate a roadway's capacity. Additional variation (more or less capacity) on an individual segment is influenced by a number of factors including: amount of access, type of access, peak hour percent of traffic, directional split of traffic, truck percent, opportunities to pass, and amount of turning traffic, the availability of dedicated turn lanes, parking availability, intersection spacing, signal timing and a variety of other factors.

Table 1: Planning-level Urban Roadway Capacities

Facility Type		Daily Two-way Volume	
		Lower Threshold	Higher Threshold
Arterials	Two-lane Undivided	10,000	12,000
	Two-lane Divided or Three-lane Divided	15,000	17,000
	Four-lane Undivided	18,000	22,000
	Four-lane Divided or Five-lane Undivided	28,000	32,000
Freeways	Four-lane Freeway	60,000	80,000
	Six-lane Freeway	90,000	120,000
	Eight-lane Freeway or Higher	Calculated on a segment-by-segment basis	

2.2.2. Existing Capacity Problems on Arterial Roads

At the planning level, capacity problems are identified by comparing the existing number of lanes with current traffic volumes. **Table 2** and **Figure 3** illustrate the existing number of lanes on collector and arterial roadways within the city. **Figure 4** illustrates existing traffic volumes on Principal Arterial, A-Minor Arterials and other significant roadways within the city.

As shown in the table, US 10 has four lanes throughout the city, as do portions of CSAH 56 (Ramsey Boulevard), CSAH 57 (Sunfish Lake Boulevard), CSAH 83 (Armstrong Boulevard), and CSAH 116 (Bunker Lake Boulevard). All other arterial roadways have two lanes. Most of the arterials in Ramsey currently exhibit traffic volumes below or within the range of the planning level capacity thresholds shown in **Table 1**; however, existing volumes on TH 47 (St. Francis Boulevard) exceed these thresholds in the southeastern area of the city. This indicates that this roadway may be experiencing some levels of congestion during peak travel periods.

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Ramsey Comprehensive Plan
Figure 3: Existing Collector/Arterial Roadway Lanes
Ramsey, MN

Ramsey Boundary

Existing Roadway Lanes

4 Lanes

2 Lanes

N

0 3,000 Feet

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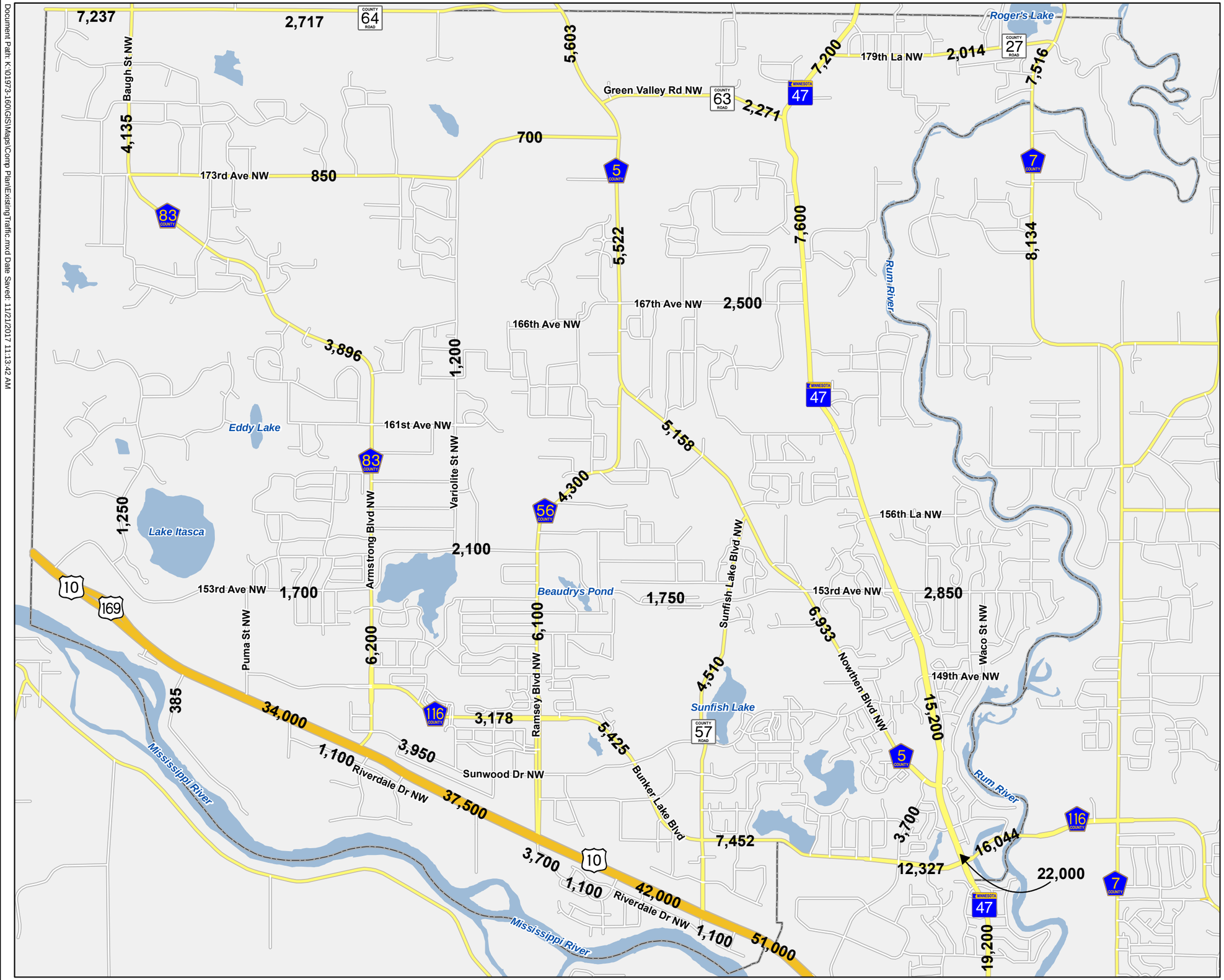
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City of RAMSEY

Ramsey Comprehensive Plan
Figure 4: Existing Traffic Volumes
Ramsey, MN

XXX- Existing AADT (2012-2015)

AADT- Average Annual Daily Traffic From MnDOT Website



N

0 3,000 Feet

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Table 2: Existing number of lanes on arterial roads

Functional Classification	Roadway Name	Location	Number of Lanes
Principal Arterial	US 10	Ramsey-Elk River border to Ramsey-Anoka border	4
"A" Minor Expander	CSAH 5 (Nowthen Boulevard)	TH 47 to Ramsey-Nowthen border	2
	CSAH 7 (Rum River Boulevard)	Ramsey-Andover border to 179th Lane	2
	CSAH 22 (181st Avenue)	Ramsey-Elk River border to CSAH 83	2
	CSAH 56 (Ramsey Boulevard)	US 10 to CSAH 5	2–4
	CSAH/County Road 57 (Sunfish Lake Boulevard)	US 10 to CSAH 5	2–4
	County Road 64 (181st Avenue)	CSAH 83 to CSAH 5	2
	CSAH 83 (Armstrong Boulevard/Baugh Street)	US 10 to Ramsey-Nowthen border	2–4
"A" Minor Reliever	CSAH 116 (Bunker Lake Boulevard)	CSAH 83 to Ramsey-Anoka border	2–4
"A" **Minor** Connector	TH 47 (St. Francis Boulevard)	Ramsey-Anoka border to Ramsey-Nowthen border	2
"B" Minor	CSAH 7	179th Lane to Ramsey-Oak Grove border	2

2.2.3. Existing Safety and Operational Issues

There are a number of intersection locations within Ramsey where safety, geometric, or operational issues have been identified for motorists and pedestrians. These locations include:

- Armstrong Boulevard (CSAH 83) and Alpine Drive
- Armstrong Boulevard (CSAH 83) and 161st Avenue
- Ramsey Boulevard (CSAH 56) and Alpine Drive

- Ramsey Boulevard (CSAH 56) and Nowthen Boulevard (CSAH 5)
- Nowthen Boulevard (CSAH 5) and Sunfish Lake Boulevard (CSAH 57)
- Nowthen Boulevard (CSAH 5) and 167th Avenue
- Nowthen Boulevard (CSAH 5) and 175th Avenue
- Nowthen Boulevard (CSAH 5) and Green Valley Road



2.3. Access Management

The purpose of access management is to provide adequate access to adjacent land development while maintaining acceptable and safe traffic flow on higher level roadways. Access management consists of carefully controlling the spacing and design of public street intersections and private access points to the public roadway system. Because they are designed for higher speed, longer distance trips, arterials generally have restricted access, while local streets can accommodate much greater access. Collector roadways fall in between arterials and local roadways regarding the amount of access that is permitted.

The agency with jurisdiction over a roadway sets access management guidelines. Access to US 10 must meet MnDOT access management guidelines. See **Tables 3.1** and **3.2** for MnDOT Access Management Guidelines.

Anoka County has established access management guidelines for county roadways, as displayed in **Table 4**.

Table 3.1 – Summary of Recommended Street Spacing for IRCs

Category	Area or Facility Type	Typical Functional Class	Public Street Spacing		Signal Spacing
			Primary Full-Movement Intersection	Secondary Intersection	
1	**High Priority Interregional Corridors & Interstate System (IRCs)**				
1F	Interstate Freeway	Principal Arterials	Interchange Access Only		⊘
1AF	Non-Interstate Freeway		Interchange Access Only (see Section 3.2.7 for interim spacing)		See Section 3.2.5 for Signalization on Interregional Corridors
1A	Rural		1 mile	1/2 mile	
1B	Urban/Urbanizing		1/2 mile	1/4 mile	
1C	Urban Core		300-660 feet dependent upon block length		
2	**Medium Priority Interregional Corridors**				
2AF	Non-Interstate Freeway	Principal Arterials	Interchange Access Only (See Section 3.2.7 for interim spacing)		See Section 3.2.5 for Signalization on Interregional Corridors
2A	Rural		1 mile	1/2 mile	
2B	Urban/Urbanizing		1/2 mile	1/4 mile	
2C	Urban Core		300-660 feet, dependent upon block length		¼ mile
3	**Regional Corridors**				
3AF	Non-Interstate Freeway	Principal and Minor Arterials	Interchange Access Only (see Section 3.2.7 for interim spacing)		Interim
3A	Rural		1 mile	1/2 mile	See Section 3.2.5
3B	Urban/Urbanizing		1/2 mile	1/4 mile	1/2 mile
3C	Urban Core		300-660 feet, dependent upon block length		1/4 mile

Table 3.2 – Summary of Recommended Street Spacing for Non-IRCs

Category	Area or Facility Type	Typical Functional Class	Public Street Spacing		Signal Spacing
			Primary Full-Movement Intersection	Secondary Intersection	
4	**Principal Arterials in the Twin Cities Metropolitan Area and Primary Regional Trade Centers (Non-IRCs)**				
4AF	Non-Interstate Freeway	Principal Arterials	Interchange Access Only (see Section 3.2.7 for interim spacing)		Interim
4A	Rural		1 mile	1/2 mile	See Section 3.2.5
4B	Urban/Urbanizing		1/2 mile	1/4 mile	1/2 mile
4C	Urban Core		300-660 feet dependent upon block length		1/4 mile
5	**Minor Arterials**				
5A	Rural	Minor Arterials	1/2 mile	1/4 mile	See Section 3.2.5
5B	Urban/Urbanizing		1/4 mile	1/8 mile	1/4 mile
5C	Urban Core		300-660 feet, dependent upon block length		1/4 mile
6	**Collectors**				
6A	Rural	Collectors	1/2 mile	1/4 mile	See Section 3.2.5
6B	Urban/Urbanizing		1/8 mile	Not Applicable	1/4 mile
6C	Urban Core		300-660 feet, dependent upon block length		1/8 mile
7	**Specific Area Access Management Plans**				
7	All	All	By adopted plan		

Table 4: Anoka County Access Spacing Guidelines

Roadway Type	Route Speed (miles per hour)	Intersection Spacing		Signal Spacing	Private Access
		Full Movement Intersection	Conditional Secondary Intersection		
Principal Arterial	50 – 55	1 mi.	1/2 mi.	1 mi.	Subject to conditions for all roadway types and speeds
	40 – 45	1/2 mi.	1/4 mi.	1/2 mi.	
	< 40	1/8 mi.	300 – 660 ft.	1/4 mi.	
Arterial Expressway	50 – 55	1 mi.	1/2 mi.	1 mi.	
Minor Arterial	50 – 55	1/2 mi.	1/4 mi.	1/2 mi.	
	40 – 45	1/4 mi.	1/8 mi.	1/4 mi.	
	< 40	1/8 mi.	300 – 660 ft.	1/4 mi.	
Collector and Local	50 – 55	1/2 mi.	1/4 mi.	1/2 mi.	
	40 – 45	1/8 mi.	NA	1/4 mi.	
	< 40	1/8 mi.	300 – 660 ft.	1/8 mi.	
Specific Access Plan	By adopted plan/agreement/covenant on land				

2.4. Recommendations from Recent Plans and Studies

A number of recent planning efforts have been completed that identify potential improvements to the City of Ramsey's transportation system. This section describes these studies and summarizes their recommendations.

2.4.1. Highway 10 Access Planning Study

In 2014, MnDOT completed the Highway 10 Access Planning Study to identify safety and mobility along the US 10 corridor between the Anoka/Sherburne County line and the Rum River. Specifically, the purpose of the study was to identify high-benefit improvements that are fiscally responsible so that improvements can be funded, programmed, and implemented incrementally. The study area was divided into subareas and concepts were developed and evaluated, and recommendations for individual projects were broken into immediate priority, short-term priority projects, mid-term priority projects, and opportunity/development/safety-driven projects. The recommended projects specific to the City of Ramsey include the following:

- Immediate Priority projects
  - Construct North Frontage Road from Sunfish Lake Boulevard to Anoka Technical College
  - Construct North Frontage Road from Ramsey Boulevard to Sunfish Lake Boulevard
  - Construct South Frontage Road from Traprock Street to Ramsey Boulevard
- Short-Term Priority projects
  - Extend Riverdale Drive east of Tungsten Street (two alignment options)
- Mid-Term Priority projects
  - Grade separation at Sunfish Lake Boulevard – Highway 10 flyover with access or overpass with right-turn access
  - Grade separation at Ramsey Boulevard – Highway 10 flyover with access or overpass with right-turn access
- Opportunity/Development/Safety Driven Priority projects
  - Purchase ROW north of US 10 and west of Ramsey Boulevard
  - Extend Civic Center Drive to Ramsey Boulevard
  - Railroad grade separation at Sunfish Lake Boulevard
  - Railroad grade separation at Ramsey Blvd
  - Extend 156th Street from Jarvis Street to Alpine Drive
  - Construct a Reduced Conflict U-Turn (RCUT) intersection at US 10 and Alpine Drive
  - Construct a Reduced Conflict U-Turn (RCUT) intersection at US 10 and Bowers Drive
  - Extend Riverdale Drive from Bowers Drive to Llama Street

2.4.2. Mississippi Skyway Preliminary Engineering Report

In 2014, the City of Ramsey completed the Mississippi Skyway Preliminary Engineering Report to identify potential alignments for a new pedestrian bridge crossing of US 10 near Riverdale Drive. This study also produced a preliminary analysis of alternative profiles and aesthetic

design options, along with impacts associated with various alternatives. This study recommended an open air bridge with a helix approach ramp located just south of Riverdale Drive. A preferred bridge concept was also identified, with a prefabricated steel truss including dual modified bowstring arches.

3. Future Roadway System

This section addresses future roadway improvement needs and roadway design guidelines.

3.1. Roadway Capacity – Traffic Forecasting

To determine future roadway capacity needs, year 2040 traffic forecasts were prepared using the Metropolitan Council travel demand model. The 2040 projections were compared against the assumed 2040 roadway network to see where roadway segment capacity deficiencies may result. The 2040 roadway network assumed for this analysis is the same as the current roadway network, as the City and County Capital Improvement Plans (CIPs) do not include any projects that add significant capacity to the roadway network.

While the travel demand model is a valuable tool for identifying future traffic based on the proposed land use impacts, it is not meant for use in detailed traffic operations studies. For a more accurate representation of the transportation impacts from specific developments, detailed traffic studies should be conducted to determine the operational impacts on adjacent roadways and intersections.

A central concept of travel demand forecasting is the use of Transportation Analysis Zones (TAZs). Each forecast study area, in this case, the City of Ramsey, is divided into a series of TAZs. Each TAZ has population, employment, and household data that is used by the model to assign trips to the various network roadways. **Figure 5** displays Metropolitan Council TAZs within Ramsey.

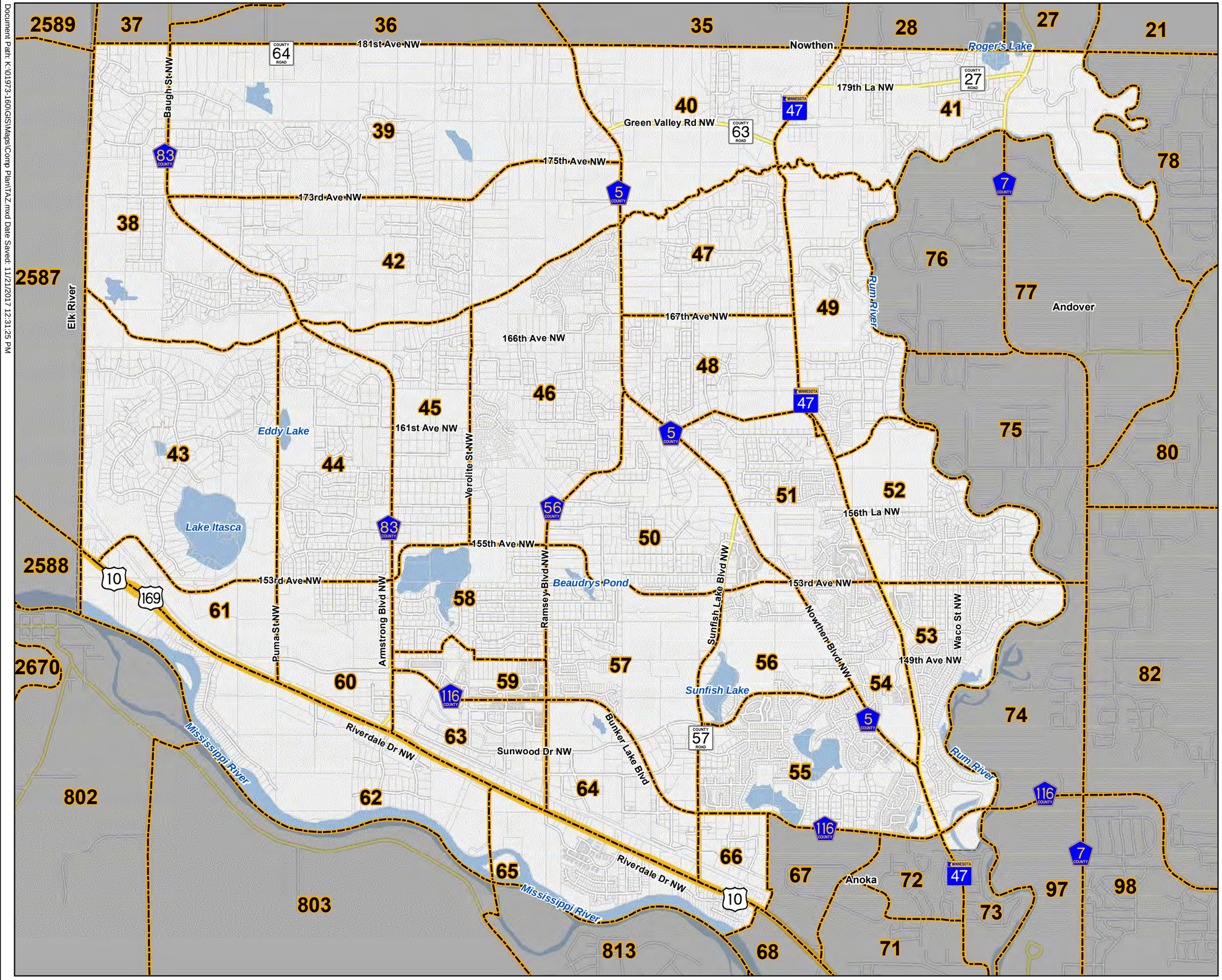
The results of the Ramsey modeling process are summarized in **Figure 6**, which displays Metropolitan Council 2040 projected average daily traffic volumes compared to the existing (2012–2015) traffic volumes.

Tables 5a and **5b** provide a summary of existing and forecasted demographic growth by TAZ for Ramsey through the year 2040. The Ramsey population is forecasted to reach slightly over X,XXX by the year 2040, with households and employment increasing by XXX and XXX respectively. Allocated demographic growth and associated land use was generally located in the XXXXXX and XXXXXXX portions of the community. High density residential was also generally allocated to the southern portion of the city, with commercial and multi-optional development areas also generally identified within the southern portion of the city, consistent with the Center of Ramsey (COR) land use plan. For more information about the demographic allocation and associated land use forecast, please refer to the Ramsey Land Use Plan in Chapter X of the Ramsey Comprehensive Plan.

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City of RAMSEY

Ramsey Comprehensive Plan
Figure 5: Transportation Analysis Zones
Ramsey, MN



Ramsey Boundary

Traffic Analysis Zone (TAZ)

N

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City of RAMSEY

Ramsey Comprehensive Plan
Figure 6: Existing Traffic Volumes & Adjusted Met Council Forecast
Ramsey, MN

XXX- Existing AADT (2012-2015)
XXX- Met Council Adjusted 2040 AADT

AADT- Average Annual Daily Traffic From MnDOT Website
AADT- Average Annual Daily Traffic Forecast from Met Council

NOTES:

* Adjusted forecast applies MET Council travel model growth to known existing volumes.

* Forecast is based on capacity constraint of existing roadway lanes: No improvements assumed.

N

0 3,000 Feet

WSB

12,037
7,237
2,717
9,203
5,603
13,600
7,200
3,914
2,014
7,516
6,835
4,135
700
2,271
850
8,722
5,522
9,500
7,600
10,334
8,134
2,500
8,996
3,896
1,200
6,858
5,158
1,250
7,500
4,300
2,100
1,700
1,750
15,300
6,200
14,100
6,100
6,933
8,633
5,210
4,510
385
44,000
34,000
1,100
3,950
3,178
5,425
51,500
37,500
7,452
3,700
1,100
58,000
42,000
67,000
51,000
12,327
16,044
22,000
22,200
19,200
2,850
15,200
17,200

Roger's Lake
Green Valley Rd NW
179th La NW
173rd Ave NW
167th Ave NW
166th Ave NW
161st Ave NW
Eddy Lake
Lake Itasca
153rd Ave NW
Beaudrys Pond
Sunfish Lake
Sunwood Dr NW
Riverdale Dr NW
Mississippi River
156th La NW
149th Ave NW
Rum River
Baugh St NW
Variolite St NW
Armstrong Blvd NW
Puma St NW
Ramsey Blvd NW
Sunfish Lake Blvd NW
Nowthen Blvd NW
Waco St NW
Bunker Lake Blvd

Table 5a: Metropolitan Council Current TAZ Data – City of Ramsey (Raw Data – Unadjusted)

Table 5b: Ramsey 2040 Land Use Plan TAZ Growth Allocation

3.2. 2040 Future Roadway Capacity Improvement Needs

To identify the need for potential future capacity improvements, Metropolitan Council 2040 forecasts were compared to planning-level roadway capacities for Principal and A-Minor Arterial Roadways. Planning-level roadway capacities used for this analysis are illustrated in **Table 6** below. Based on this comparison, most roadways in the city have adequate capacity to accommodate forecasted Metropolitan Council 2040 travel volumes with little to minimal congestion. These roadways are expected to function well through the 2040 planning horizon.

Table 6: Planning-Level Roadway Capacity

Facility Type		Daily Two-way Volume	
		Lower Threshold	Higher Threshold
Arterials	Two-lane Undivided	10,000	12,000
	Two-lane Divided or Three-lane Undivided	15,000	17,000
	Four-lane Undivided	18,000	22,000
	Four-lane Divided or Five-lane Undivided	28,000	32,000
Freeways	Four-lane Freeway	60,000	80,000
	Six-lane Freeway	90,000	120,000
	Eight-lane Freeway or Higher	Calculated on a segment-by-segment basis	

Based on these planning level roadway capacities, portions of TH 47, US 10, Armstrong Boulevard (CSAH 83), and Ramsey Boulevard (CSAH 56) are expected to exceed capacity in 2040. TH 47 is currently a rural two-lane roadway with a planning-level capacity of 10,000–12,000 and a forecasted 2040 volume of 9,500–22,200. US 10 is a four-lane divided roadway with a planning-level capacity of 28,000–32,000 and a forecasted 2040 volume of 44,000–67,000. Armstrong Boulevard (CSAH 83) and Ramsey Boulevard (CSAH 56) each vary between two and four lanes within Ramsey, but each roadway includes a segment where the forecasted 2040 volume would surpass the associated planning-level capacity for a two-lane undivided roadway of 10,000–12,000 (15,300 for Armstrong Boulevard and 14,100 for Ramsey Boulevard). Accordingly, motorists will likely experience some congestion along these roadways during the 2040 planning horizon.

4. Existing and Planned Non-Motorized Transportation Network

This section addresses network needs for walking and bicycling within Ramsey. This section also addresses the needs of people using wheelchairs and assistive mobility devices such as mobility scooters, as they are considered pedestrians.

Enhancing the non-motorized elements of the Ramsey transportation system is a key goal in terms of improving transportation sustainability in the city and in the region. This approach gives residents an alternative to driving, supports transportation options for people who do not have consistent access to a personal vehicle, and encourages healthy activities and lifestyles.

This section includes information on the existing non-motorized transportation network within Ramsey, connections to land use planning, the planned local non-motorized transportation network, and the planned regional non-motorized transportation network. This section also includes recommendations for intersection improvements and design best practices.

4.1. Existing Non-Motorized Transportation Network

The non-motorized transportation network in Ramsey is comprised of sidewalks, on-street bicycle lanes/shoulders, local multi-use trail, and regional trail. As shown in **Figure 7**, there is existing sidewalk on many of the streets in the COR and on some residential streets in other areas of the city. There are also approximately 38 miles of city trails, which are largely paved with asphalt and primarily adjacent to roadways, connecting parks, schools, and other destinations within the city.

Additionally, there are two regional multi-use trails located in the City of Ramsey. The Central Anoka Regional Trail is an existing Anoka County regional trail that, when complete, will be 26 miles long, beginning at the Mississippi West Regional Park in Ramsey and ending at the Anoka-Washington County line. The completed portions of the trail within Ramsey are located along Bunker Lake Boulevard and Ramsey Boulevard. A route for the Mississippi River Regional Trail (which is also part of a national bikeway) crosses the southern portion of the city using a combination of on-street and off-street facilities.

4.2. Connections to Land Use Planning

Ramsey has development patterns largely consistent with its designation as an Emerging Suburban Edge community. In many areas of the city, existing residential development is lower in density compared with many urban and suburban areas, reflecting a community that has developed relatively recently. As a result, most commercial land uses are separated from largely single-family residential land uses. This means that people walking and bicycling must cover greater distances to reach commercial areas from their homes. In these areas of the city, development patterns are likely better suited to bicycling than walking for transportation for most trips due to the distance between residential and commercial areas of the city. However, the COR area demonstrates existing and planned land use patterns that are more similar to urban or suburban areas, including transit facilities and a mix of land uses at higher densities,

along with a more regular street grid. In this area, development patterns are better-suited to bicycling and walking.

The city's land use planning and coordination with developers can help improve opportunities for walking and bicycling for transportation. The city can continue to encourage mixed-use development that situates residents within a short walk of commercial destinations. The city can also work with developers to construct sidewalks and trails within developments. Additionally, the city can require pedestrian and bicycle connections in areas where the roadway network does not connect, such as cul-de-sac connector trails that provide shortcuts for people walking and bicycling.

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Ramsey Comprehensive Plan
Figure 7: Non-Motorized Transportation Network
Ramsey, MN

- Ramsey Boundary

Regional Bicycle Transportation Network Alignment
- Tier 2 Alignment

Regional Bicycle Transportation Network Corridor
- Tier 1 Priority Corridor
- Mississippi River Trail Route

Regional Trails
- Existing
- Planned
- Trott Brook Trail Corridor

City Trails
- Asphalt (37.52 miles)
- Tunnel (0.05 miles)
- Wooden Walkway (0.48 miles)
- Proposed Pedestrian Crossing (Grade Separation)
- On Street Bike Lanes
- Sidewalks

Parks and Open Space
- Parks
- Open Space/Trail Corridor
- Proposed Park
- Quasi-Public
- Regional
- Proposed Trailhead
- City Hall
- Fire Station
- Existing Trailheads
- Crosswalks
- Proposed Underpass
- Existing Underpass

0 3,000 Feet

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WSB

4.3. Planned Local Non-Motorized Transportation Network

The city's planned local non-motorized transportation network includes sidewalk, paved multi-use trails, and on-street bicycle lanes or shoulders. The existing and proposed network is shown in **Figure 7**. When the network is complete, it will provide safe, convenient linkages between residential areas and commercial, institutional, and recreational areas within the city. This includes filling existing network gaps and adding facilities adjacent to developing areas. The planned network also includes completion of the Trott Brook Trail Corridor, which would generally follow Trott Brook from the city's border with Elk River to Rum River Regional Park. The network will improve options for people to walk and bicycle for transportation within the city, and facilitate regional connections (described in greater detail in the following section).

The planned non-motorized transportation network also includes construction of the planned Mississippi Skyway, a bicycle and pedestrian bridge that would cross US 10, providing a dedicated crossing between the COR and Mississippi West Regional Park for non-motorized users. While the project is being led by the City of Ramsey and is important in providing a local connection between the COR and the Mississippi River area, the Mississippi Skyway would be a key regional connection, likely becoming part of the Central Anoka Regional Trail and providing a key connection to the Mississippi River Regional Trail (MRRT).

4.4. Planned Regional Non-Motorized Transportation Network

The Metropolitan Council 2040 TPP encourages the use of bicycles as a mode of transportation and establishes a Regional Bicycle Transportation Network (RBTN) to establish an integrated network of on-street bikeways and off-road trails that complement each other to improve conditions for bicycle transportation at the regional level. The RBTN identifies Tier 1 and Tier 2 alignments where existing regional or other trails exist or where a specific alignment has been identified. The RBTN also identifies Tier 1 and Tier 2 corridors where specific alignments have not yet been defined.

Within Ramsey, the RBTN identifies one Tier 1 RBTN corridor. The corridor follows the alignment of US 10 west–east along the Mississippi River and the southern border of the city. This corridor substantially contains completed or planned off-street segments of the MRRT. In 2017, a segment of the MRRT was constructed within the US 10 right of way between Mississippi West Regional Park and the city's border with Elk River. The county's planned ultimate alignment for MRRT will include a segment closer to the river. The timing for construction of this portion of the MRRT is dependent on the pace of development in the area and available funding. The city proposes the ultimate MRRT alignment as the RBTN alignment.

The Rum River Regional Trail is a planned Anoka County trail that, when completed, would be 20 miles long stretching north to south through the county along the east side of the Rum River. A short segment of this trail is planned to pass through the City of Ramsey along CSAH 7 and connecting to Rum River Central Regional Park in the northeastern portion of the city. Anoka County also plans to complete the Central Anoka Regional Trail through the city, completing existing gaps in the trail. The city and county plan to realign Central Anoka Regional Trail to pass through the COR and over the Mississippi Skyway. This would provide an off-road connection to Mississippi West Regional Park.

The existing and proposed regional network is shown in **Figure 7**.

4.5. Roadway Crossing Improvements for Bicycling and Walking

Through public outreach, a number of intersections and other locations throughout the city have been identified for potential improvements based on safety issues for crossing pedestrians and bicyclists. In these locations, potential improvements could be made by adding or improving pavement markings or signals, constructing traffic calming elements, shortening crossing distances, and/or providing pedestrian refuges. In most cases, addition of these features would be evaluated and conducted as opportunities arise. For example, crossing improvements would be considered in concert with adjacent roadway improvements or as development/redevelopment occurs in an area.

4.6. Non-Motorized Transportation Design Considerations

Design dimensions for sidewalks are recommended to be five-feet or wider, with a minimum of a four-foot-wide boulevard between the sidewalk and the curb. Increased separation improves pedestrian comfort and provides space for street signs and snow storage.

Design considerations for bicycle facilities are somewhat more complicated due to the hierarchy of facility types. In order of their ability to provide a comfortable bicycling environment from largest improvement to smallest, facilities include: off-street facilities, protected bikeways, buffered bicycle lanes, conventional bicycle lanes, bicycle boulevards, and wide paved shoulders. **Figure 8** shows examples of these facility types.

Multi-use trails are recommended to be a minimum of eight-feet wide. Regional trails are recommended to be a minimum of ten-feet wide due to higher use and the design requirements to comply with federal funding. Trails must have a two-foot wide clear zone on either side to reduce hazards for bicyclists and provide a recovery zone if a bicyclist leaves the edge of the trail. The clear zone can be paved or turf surface. No signs, furnishings, trees, or other obstructions can be in the clear zone.

Paved shoulders should be a minimum of four-feet wide if intended for bicycle and pedestrian use. Four-foot wide shoulders are adequate on streets with traffic volumes below 1,000 vehicles per day. Six- to eight-foot shoulders are recommended when traffic volumes exceed 1,000 vehicles per day. A wider shoulder improves pedestrian and bicyclist safety and comfort when vehicle traffic speeds and volumes are higher.

As non-motorized facilities are planned and designed, the city should consult additional planning and design resources, including:

- Minnesota's Best Practices for Pedestrian/Bicycle Safety, MnDOT
- Bikeway Facility Design Manual, MnDOT
- Minnesota Manual on Uniform Traffic Control Devices, MnDOT
- NACTO Urban Bikeway Design Guide, Second Edition, National Association of City Transportation Officials

- Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials
- Guide for the Planning, Design, and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials
- Complete Streets Implementation Resource Guide for Minnesota Local Agencies, MnDOT
- Public Rights of Way Accessibility Guidelines (PROWAG), US Access Board

A Complete Streets approach to planning and implementing non-motorized facilities, as described in the MnDOT Complete Streets Implementation Resource Guide, can provide a helpful framework for creating a community-supported, safe, comfortable, and convenient transportation network that serves all modes. A Complete Streets policy or process is intended to provide design guidance and implementation clarity, allowing the community and project designers to advance individual projects in a collaborative and cost-efficient manner.

Accessibility is a very important consideration for non-motorized design. All new pedestrian and bicycle facilities must meet the ADA accessibility guidelines established in PROWAG. The guidelines in PROWAG address the design needs of people with physical and/or visual impairments. Accessibility will become increasingly important over the next 20 years due to demographic changes. Baby boomers are aging and the population over age 65 is increasing. People over 65 are more likely to have physical and/or visual impairments that affect their ability to get around.



Off-street Facility
Source: www.pedbikeimages.org / Laura Sandt



Conventional Bicycle Lane
Source: www.pedbikeimages.org / Jennifer Compos



Protected Bikeway
Source: NACTO Urban Bikeway Design Guide



Bicycle Boulevard
Source: NACTO Urban Bikeway Design Guide



Buffered Bicycle Lane
Source: www.pedbikeimages.org / Lyubov Zuyeva



Wide Paved Shoulder
Source: www.pedbikeimages.org / Laura Sandt

Figure 8:
Example Bicycle Facilities
Ramsey Transportation Plan
Ramsey, MN

5. Freight

Freight transportation in Ramsey is primarily served by one rail line and arterial roadways. **Figure 9** shows the city's freight system and potential freight generators. A Burlington Northern Santa Fe (BNSF) rail line passes through the southern portion of the city, adjacent to TH 10.

There are no large freight traffic generators or intermodal facilities within the city. Most truck and rail traffic is passing through Ramsey on trips to, from, and through the Twin Cities. Freight traffic generators within Ramsey are located along the BNSF rail line and TH 10. Freight generators include concentrations of industrial and commercial land uses along the TH 10 corridor.

Figure 9 also shows Heavy Commercial Average Annual Daily Traffic (HCAADT) within the City of Ramsey. TH 10 carries the greatest number of heavy commercial vehicles (1,600 vehicles per day). TH 47 also carries a substantial amount of heavy commercial traffic within the city. The 2017 Regional Truck Highway Corridor study identifies TH 10 as a Tier 2 Corridor on the regional freight network.

As of January 2015, the BNSF rail line carries approximately 54 trains per day. The Metropolitan Council 2040 TPP notes that freight rail traffic has increased substantially since 2010. Throughout the region, freight rail traffic is expected to increase, especially as the regional population continues to grow.

With the recent construction of a grade separation at Armstrong Boulevard, there are three remaining locations in the city where the BNSF rail line crosses public roadways at grade: Alpine Drive, Ramsey Boulevard, and Sunfish Lake Boulevard. Each of these crossings is controlled by flashing lights and gates. The Ramsey Boulevard crossing includes sidewalk and the Sunfish Lake Boulevard crossing includes multi-use trail.

The Metropolitan Council 2040 TPP acknowledges several freight challenges that impact the city and the region. As mentioned above, freight traffic is expected to increase and place pressure on the region's highway and rail systems. East-west traffic on the BNSF lines has increased in recent years in part due to growth in the Bakken oil fields of North Dakota and Montana. Safety is also an increasing concern, particularly rail safety as related to Bakken crude oil being transported through the region on the BNSF lines. The volume of rail traffic has therefore raised concerns about compatibility between freight traffic and adjacent land uses. While land use adjacent to the city's primary freight routes is generally compatible with these uses (industrial, commercial, etc.), there are several areas of existing and planned multi-family residential housing or mixed use that lie adjacent to the rail lines, particularly in the COR area.

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City of RAMSEY

Ramsey Comprehensive Plan
Figure 9: Freight Facilities and HCADT
Ramsey, MN

Potential Freight Generators

- Business District
- Employment District
- Railroads
- XXXX — Heavy Commercial Average Daily Traffic (HCADT) Sources: MnDOT (2012), Counts and estimates (2017)

N

0 3,000 Feet

WSB

6. Transit

Ramsey is located within the Transit Capital Levy District as shown in the Metropolitan Council 2040 TPP. The TPP further classifies the metropolitan area into transit markets based on demographic and urban design factors. Ramsey is located in Market Area IV. Market Area IV generally supports public dial-a-ride services and can support beak-period express bus services if a sufficient concentration of commuters likely to use transit service is located along a corridor. However, with the presence of the Northstar transitway, Ramsey has a unique level of transit service for a city in Market Area IV.

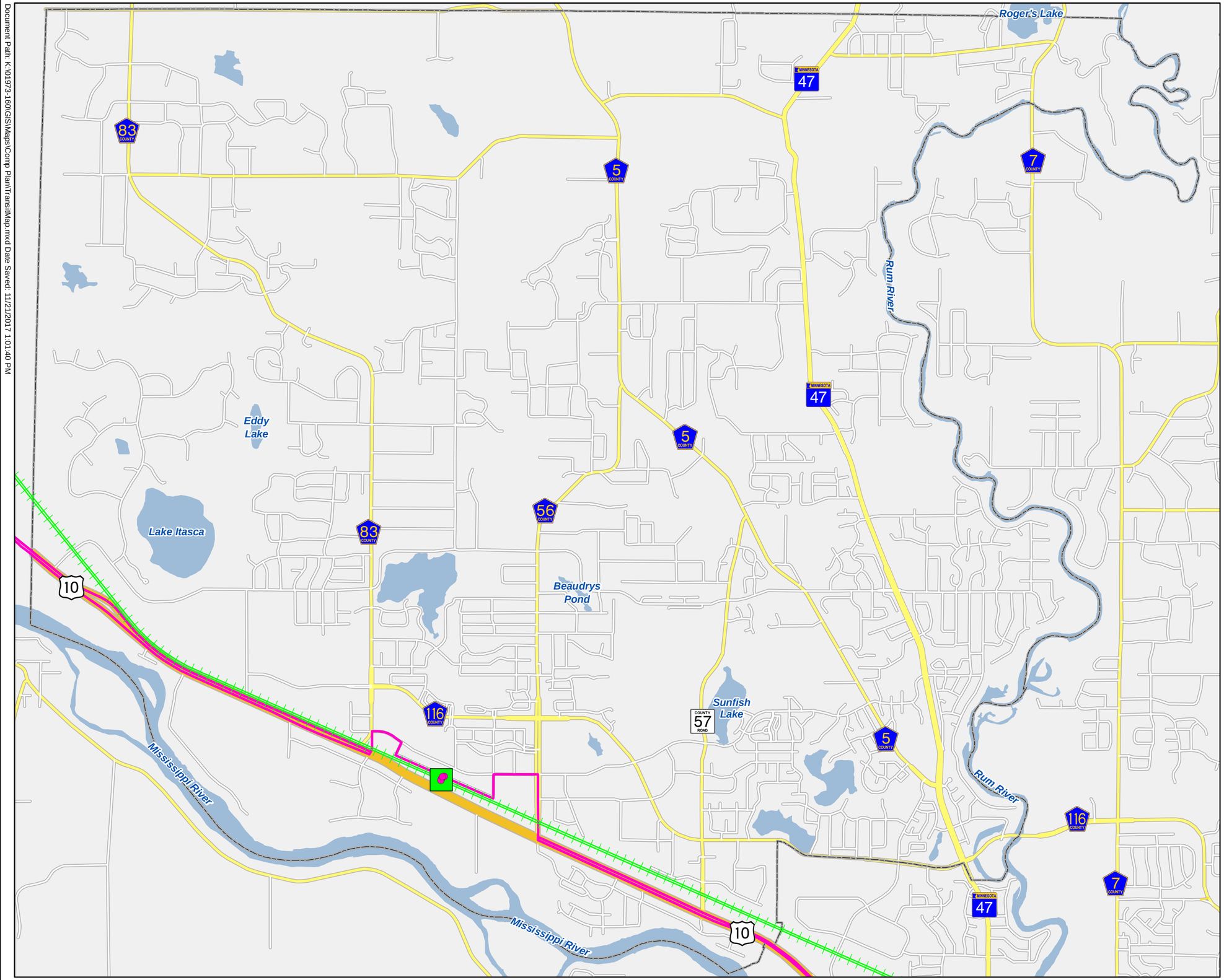
The Northstar transitway is a commuter rail line that runs six daily round trips between Big Lake and downtown Minneapolis, with stations in Elk River, Ramsey, Anoka, Coon Rapids, and Fridley. It uses the BNSF rail corridor, and the Ramsey station is located within the COR area, supporting transit-oriented development and providing an alternative for Ramsey residents commuting to Minneapolis. The station includes a park-and-ride lot with 350 free parking spaces as well as ticket machines, seating, and covered and enclosed waiting areas. The Northstar Link also provides commuter bus service to Ramsey on Fridays. Transit facilities in Ramsey are shown on **Figure 10**.

In addition to the fixed-route transit options, the city is also served by Anoka County Transit Link, a dial-a-ride service for the general public. Transit Link provides connections to destinations within Anoka County. Transit Link also connects to regular route transit for trips within the metro area, including outside of Anoka. Ramsey residents also have opportunities to participate in the Metro Vanpool program. This program provides financial assistance for vanpools to serve areas with limited regular-route transit service.

The TPP's transit investment plan does not show any additional regional transitway investments planned for Ramsey in the current revenue scenario. The city is interested in exploring the feasibility of future bus service between Ramsey Station and Anoka Technical College. Following additional growth in the COR, demand may be sufficient in the future to provide this service. There is also interest in partnering with Anoka Commuter Solutions in the future to provide circulator-type service between the city and Anoka and Coon Rapids, connecting the Northstar station and the COR with employment areas in neighboring communities.



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Ramsey Comprehensive Plan
Figure 10: Transit Facilities
Ramsey, MN

- Northstar Commuter Rail
- Northstar Station
- Northstar Link (Fridays Only)
- Northstar Link Bus Stop
- Ramsey Boundary

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7. Aviation

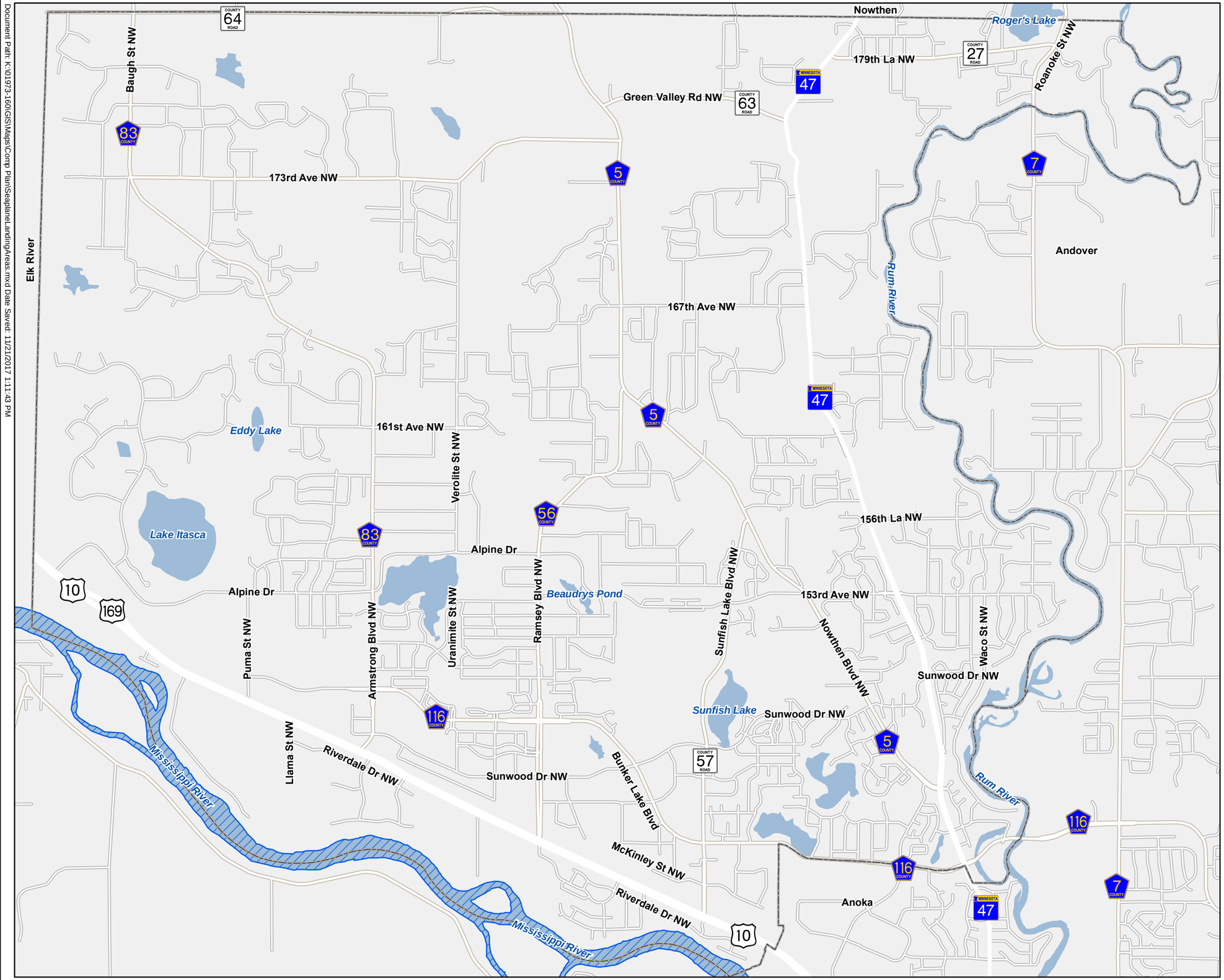
There are currently no existing or planned aviation facilities within Ramsey. However, the city is responsible for airspace protection in order to reduce hazards to air travel within the region. The closest airport is the Anoka County-Blaine Airport, approximately 10 miles southeast of Ramsey.

Due to the distance to the nearest airport, there are no radio beacons or other air navigation aids located in off-airport locations in Ramsey. The city is not within an area of influence, and is therefore not subject to associated land use restrictions.

Any person or organization who intends to sponsor the construction or alteration of a structure affecting navigable airspace as defined in Federal Regulation Title 14; Part 77 needs to inform the Federal Aviation Agency (FAA) of the project. This notification is accomplished through the completion and submittal to FAA of Form 7460-1, Notice of Proposed Construction or Alteration. In Ramsey, this requirement applies to any construction or alteration exceeding 200 feet above ground level. The city's zoning code also requires the zoning administrator to provide notification to MnDOT when an applicant proposes construction or alteration of a structure that would exceed 200 feet.

There are currently no heliports in Ramsey or any known plans to construct one. As shown on **Figure 11**, the Mississippi River within the city is identified by MnDOT as an authorized landing site for seaplanes.

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Ramsey Comprehensive Plan
Figure 11: Surface Waters Allowed for Seaplane Use
Ramsey, MN

8. Goals and Multimodal Strategies

This Plan, and the city's actions over the next 20 years, will be guided by the following transportation goals, objectives, and strategies.

8.1. Goals and Objectives

Table 7 below displays the goals and of the Ramsey Transportation Plan. These goals represent the city's overall vision for transportation over the next 20 years. The strategies listed in the following section provide guidance that the city can use to reach the transportation objectives.

Table 7: Transportation Plan Goals and Objectives [placeholder for Goals and Objectives]

Goals	Objectives
1. Facilitate efficient movement of people within and through the city	1.1. Improve local roadway system connectivity to county roadways and state highways.
	1.2. Provide safe and efficient routes for emergency and public safety vehicles.
	1.3. Provide adequate capacity to relieve congestion.
	1.4. Encourage sound access management.
	1.5. Preserve necessary rights-of-way for the 20-year planning horizon and beyond.
2. Facilitate efficient movements of goods within and through the city	2.1. Maintain a safe and effective network of roadways for freight movement.
	2.2. Coordinate with MnDOT and Anoka County to proactively address freight safety.
3. Provide a transportation system that is integrated with land use and development	3.1. Coordinate transportation system investments with the City of Ramsey Land Use Plan.
	3.2. Connect land use districts and provide safe access to major activity areas.
	3.3. Design, construct, and maintain roadways that fit the character of the adjacent land use (rural vs. urban development areas).
	3.4. Require private residential streets be designed to city standards.
4. Improve transportation safety for all users and modes of transportation	4.1. Implement safety improvements to address high crash locations.
	4.2. Proactively address bicycle and pedestrian safety concerns along roadways and at crossings.

	4.3. Bring sidewalks, trails, and intersections into compliance with ADA.
	4.4. Support traffic calming and design to minimize speed on minor city collectors and local roadways.
5. Develop a safe and convenient multimodal transportation system	5.1. Invest in multi-modal transportation solutions including bicycle and pedestrian infrastructure.
	5.2 Consider a "complete streets" approach to designing and constructing roadways in high pedestrian and bicycle traffic corridors.
	5.2. Preserve adequate right of way for sidewalk and trail construction.
6. Conserve and enhance environmental resources	6.1. Support investments in bicycle, pedestrian, and transit infrastructure to reduce environmental impacts of transportation.
	6.2. Manage storm water effectively and minimize the construction of new impervious surfaces.
	6.3. Support native plant landscapes along roadways.
	6.4. Design new roadways to preserve natural features.
7. Maintain the Existing Transportation System	7.1. Regularly assess transportation maintenance needs and include roadway, trail pavement, and other transportation infrastructure maintenance in the City of Ramsey Capital Improvement Program.

8.2. Multimodal Strategies

The multimodal strategies listed in this section are specific, actionable steps that the city can take in support of the goals of this Plan. These strategies are based upon existing and future transportation needs as described in detail in the previous sections of this Plan.

Each strategy is tied to one or multiple goals; however, not all goals are associated with a specific strategy. In these cases, the city's goals apply across individual projects, and the city will identify opportunities to achieve them throughout its existing project and policy development processes. **Table 8** on the following pages describes each strategy, notes which goal(s) is/are related to each strategy [placeholder for Table 8 goals column], and identifies the lead agency for the strategy. **Figures 12–13** following the tables illustrate the location-specific strategies geographically.

Table 8: Transportation Implementation Strategies

Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
CR 63/TH 47/179th Avenue NW (CR 27 from CSAH 83 to Roanoke Street NW	Corridor Study	Conduct a multimodal safety/operations corridor study to evaluate potential elimination of intersection jog at Green Valley Road NW/County Road 5/175th Avenue NW. Also evaluate overall safety operations along entire corridor to evaluate speed, shoulder adequacy, signing, bicycling and pedestrian safety, traffic enforcement etc.	Figure 12	Anoka County/ City of Ramsey	
East/West Collector between CR 63 (Green Valley Road) and Bunker Lake Boulevard (CSAH 116)	Corridor Study	Conduct a multimodal corridor feasibility study to evaluate purpose and need and potential alignment alternatives for a new east/west collector roadway connecting Armstrong Boulevard (CSAH 83) to TH 47.	Figure 12	City of Ramsey	
Rum River Crossing	River Crossing Study	Conduct a feasibility study to evaluate purpose and need and potential alignment alternatives for a new Rum River bridge crossing connecting the City of Ramsey to the City of Andover somewhere between CR 27 and Bunker Lake Boulevard (CSAH 116)	Figure 12	City of Ramsey/ City of Andover	

Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
Mississippi River Crossing	River Crossing Study	Conduct a feasibility study to evaluate purpose and need and potential alignment alternatives for a new Mississippi River crossing connecting the City of Ramsey to the City of Dayton	Figure 12	City of Ramsey/ City of Dayton/ Anoka County/ Hennepin County	
Bunker Lake Boulevard (CSAH 116) and Puma Street NW from Alpine Drive to CSAH 7	Corridor Study	Conduct a multimodal corridor study to evaluate safety, operations, and capacity deficiencies. As part of this study, the segment between Ramsey Boulevard (CSAH 56) and Sunfish Lake Boulevard (CSAH 57) should specifically be considered for a four-lane divided expansion and signals at Sunwood Drive NW	Figure 12	Anoka County/ City of Ramsey	
Armstrong Boulevard (CSAH 83) from Sunwood Drive to 161st Avenue NW	Corridor Study	Conduct a multimodal corridor study to evaluate safety, operations, and capacity deficiencies. As part of this study, a four-way stop or other intersection control options should be considered at Alpine Drive and updates/enhancements to the pedestrian crossing and associated signage will be considered at 161st Avenue NW.	Figure 12	Anoka County/ City of Ramsey	

Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
TH 47 from north city limits to south city limits	Corridor Study	Conduct a multimodal corridor study to evaluate safety, operations, and capacity deficiencies.	Figure 12	MnDOT/ City of Ramsey	
TH 10/Ramsey Boulevard (CSAH 56)	Interchange and Railroad Grade Separation	Construct full access grade-separated interchange including railroad grade separation of BNSF mainline railroad per Highway 10 Access Planning Study Report (September 2014) and Metropolitan Council Principal Arteria Intersection Conversion Study (January 2017) – "low priority" in Metropolitan Council Study	Figure 12	MnDOT/ City of Ramsey/ Anoka County	
TH 10/ Sunfish Lake Boulevard (CSAH 57)	Interchange and Railroad Grade Separation	Construct full access grade-separated interchange including railroad grade separation of BNSF mainline railroad per Highway 10 Access Planning Study Report (September 2014) and Metropolitan Council Principal Arterial Intersection Conversion Study (January 2017) – "high priority" in Metropolitan Council Study	Figure 12	MnDOT/ City of Ramsey/ Anoka County	

Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
TH 10	Frontage Roads	Construct north and south frontage roads through the City of Ramsey consistent with the Highway 10 Access Planning Study Report (September 2014)	Figure 12	City of Ramsey/ MnDOT/ Anoka County	
Alpine Drive and Armstrong Boulevard (CSAH 83)	Intersection Control	Explore need for intersection control and/or geometric improvements	Figure 12	City of Ramsey	
Sunfish Lake Blvd/157th Lane and Nowthen Boulevard	Safety/ Operations	Evaluate intersection for potential left-turn lane or other geometric improvements	Figure 12	City of Ramsey	
Bunker Lake Boulevard (CSAH 116)	Freight – Intelligent Transportation Systems (ITS)	Evaluate feasibility of installing advanced warning system to notify drivers of approaching trains along BNSF mainline to allow drivers time to consider alternate routes	Figure 12	Anoka County/City of Ramsey	
TH 10/Tungsten Street NW	Freight – Truck Ingress and Egress	Coordinate with MnDOT to explore solution to truck ingress/egress	Figure 12	City of Ramsey/MnDOT	

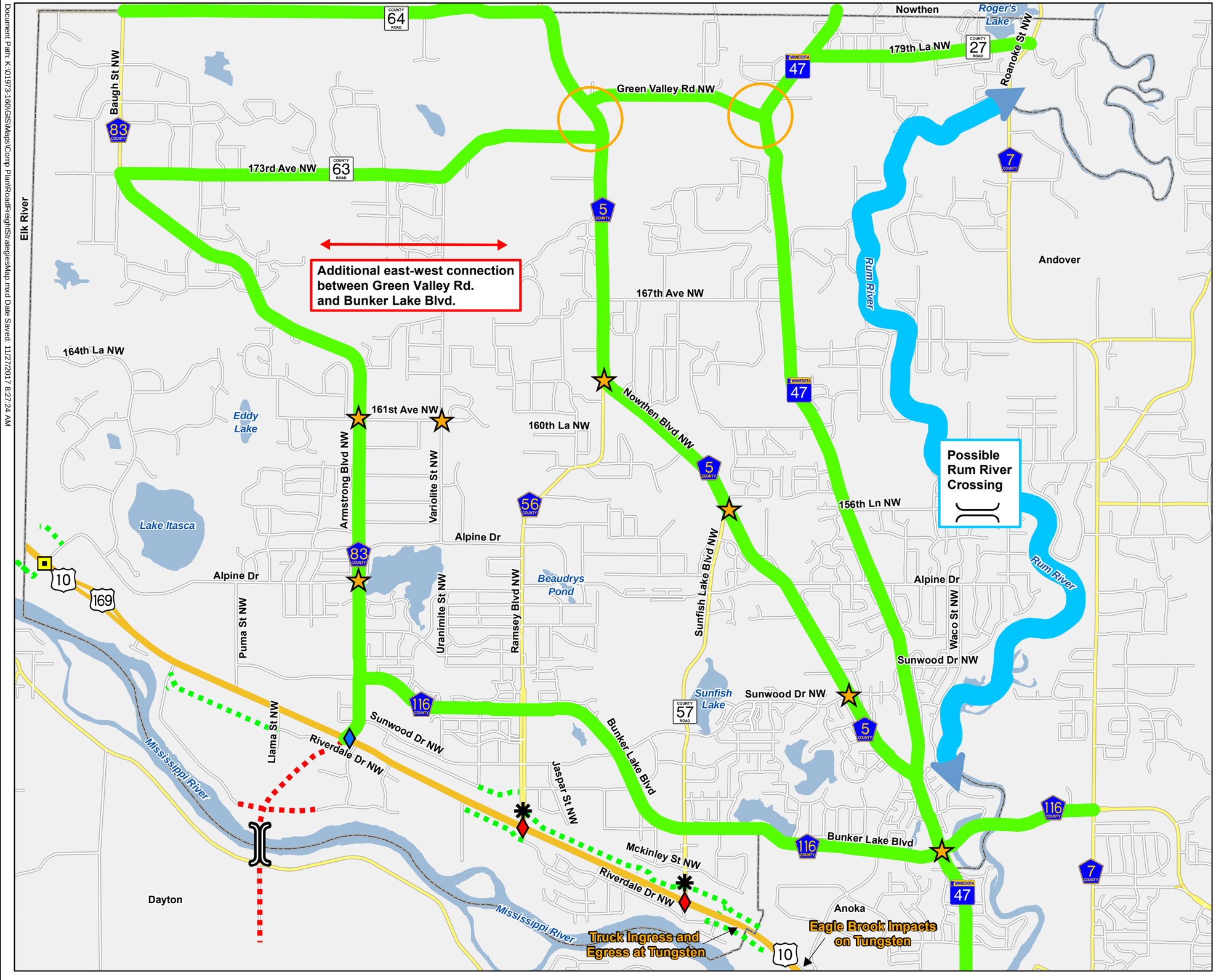
Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
Ramsey Northstar Station	Transit Improvement	Consider long-term improvement of circulator shuttle bus service by Anoka Commute Solutions between Anoka businesses and the Ramsey Northstar Station	Figure 13	Anoka County/ Metro Transit	
Ramsey Northstar Station	Transit Improvement	Consider long-term improvement of adding shuttle bus service between Anoka Techncial College and the Ramsey Northstar Station	Figure 13	Anoka County/ Metro Transit	
COR Area	Transit-Oriented Development	Continue to implement urban design and land use policies (including the Design Framework for the COR) supportive of transit use within the COR area, including compacted, mixed use development patterns and convenient multimodal connections to Ramsey Northstar Station	Figure 13	City of Ramsey	
TH 10/Ramsey Northstar Station	Bicycle and Pedestrian Bridge	Construct Trunk Highway 10 pedestrian bridge extension of existing Ramsey Northstar Station pedestrian bridge between Ramsey Boulevard (CSAH 56) and Armstrong Boulevard (CSAH 83) consistent with the Mississippi Skyway Preliminary Engineering Report (December 2014)	Figure 13	City of Ramsey/MnDOT	

Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
Rum River Regional Trail Corridor	Bicycle and Pedestrian Improvements	Construct trail between Ramsey–Anoka border and Ramsey–Oak Grove border as opportunities arise	Figure 13	Anoka County	
Mississippi River Regional Trail Corridor	Bicycle and Pedestrian Improvements	Construct final trail alignment along river as opportunities arise. Designate as Tier 1 RBTN alignment.	Figure 13	Anoka County/ City of Ramsey	
Central Anoka Regional Trail Corridor	Bicycle and Pedestrian Improvements	Realign regional trail along Bunker Lake Blvd. and E. Town Center Dr. through COR and over Mississippi Skyway to Mississippi West Regional Park	Figure 13	Anoka County	
Various Locations	Bicycle and Pedestrian Improvements	Sidewalks shall be installed with any street reconstruction project occurring within the City's urban service area		City of Ramsey	

Location	Type of Improvement	Strategy	Map Reference	Lead Agency(ies)	Goal(s)
Various Locations	Bicycle and Pedestrian Improvements	Continue to proactively pursue opportunities to make off-road multiuse trails and on-road bicycle lane and wide shoulder network connections to existing trails, schools, parks, commercial nodes, and residential areas		City of Ramsey	
Various Locations	Bicycle and Pedestrian Safety	Evaluate intersections for potential safety improvements such as intersection controls, crosswalks, etc.		City of Ramsey	
Various locations	Bicycle and Pedestrian Maintenance	Continue to monitor and maintain bicycle and pedestrian facilities to provide safe and convenient conditions for users		City of Ramsey/ Anoka County	

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Ramsey Comprehensive Plan
Figure 12: Roadway and Freight Strategies
Ramsey, MN

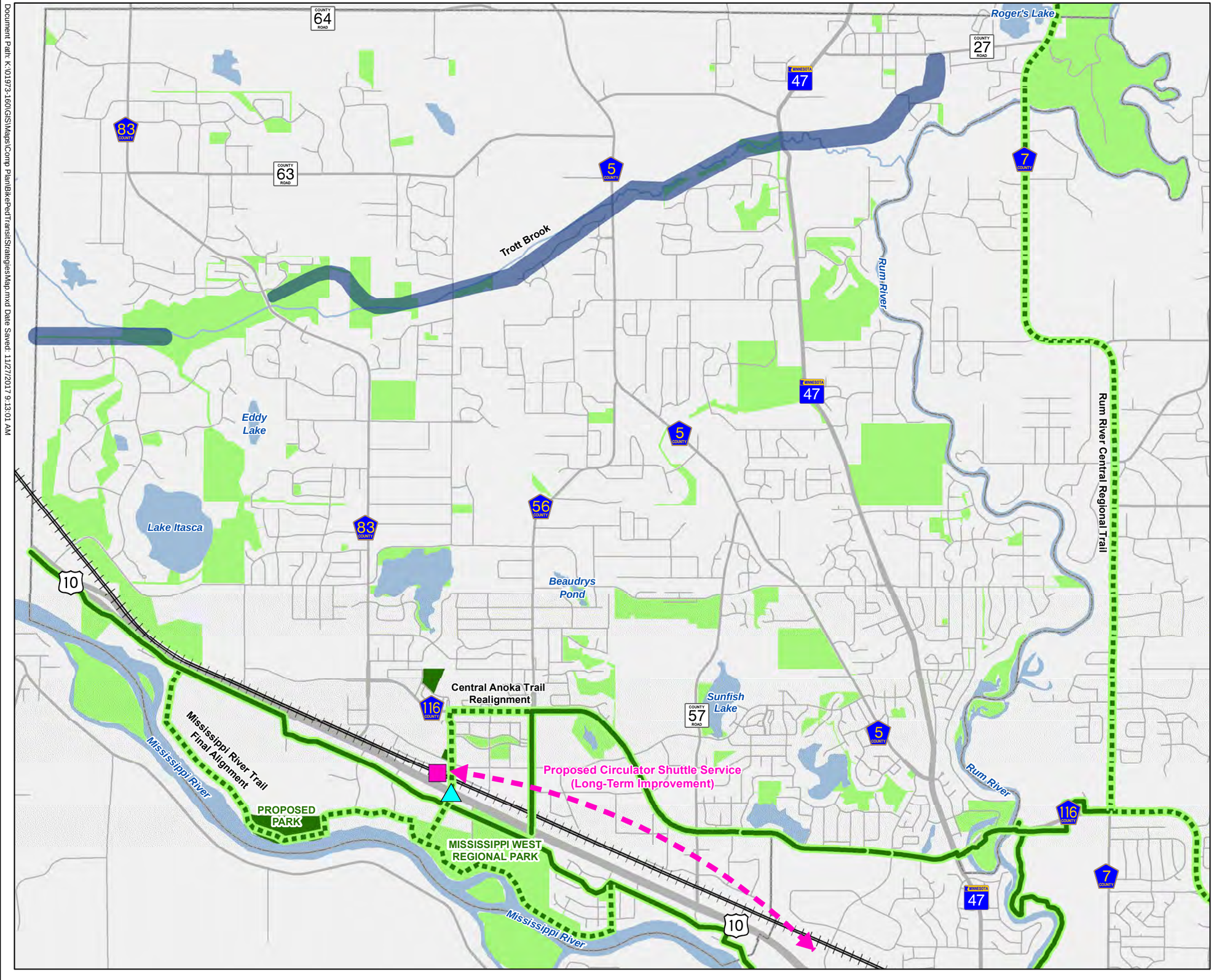


- Intersection Realignment
- Potential Intersection Improvements
- Existing Interchange
- Proposed Interchange
- Proposed Railroad Grade Separation
- Proposed RCUT Intersection
- Possible River Crossing (Long Term)
- Potential Capacity & Safety Improvements
- Proposed Connection
- Proposed Frontage Road
- Ramsey Boundary
- Parcel Boundary

N

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Ramsey Comprehensive Plan
Figure 13: Proposed Non-Motorized and Transit Strategies
Ramsey, MN

- Northstar Commuter Rail
- Northstar Station
- Proposed Pedestrian Overpass

Regional Trails

- Existing
- Planned
- Trott Brook Trail Corridor
- Existing Parks and Open Space
- Proposed Park
- Ramsey Boundary

N

0 3,000 Feet

9. Proposed Short and Long Range Roadway Projects

The sections below identify proposed short and long range roadway projects identified in the city's CIP and based on the proposed land use and redevelopment activities described in previous sections of this Plan. This section does not include information on proposed projects from the Metropolitan Council 2040 TPP, as the TPP does not include any planned improvements to principal arterials in Ramsey (aside from the completed interchange at TH 10 and Armstrong Boulevard (CSAH 83). No additional interchanges, MnPASS lanes, dedicated busways, or bus-only shoulders are proposed in the Current Revenue Scenario of the 2040 TPP.

9.1.1. Proposed Projects from CIPs

The city's CIP identifies a number of roadway projects. These projects are primarily reconstruction and overlay projects intended to improve and maintain the roadway surface. However, there are also several projects that will extend or expand the operational capacity of the roadway network within the COR area, including improvements along Zeolite Street and Bunker Lake Boulevard. A number of projects identified in the Highway 10 Access Planning Study are also included in the CIP, including extension of Riverdale Drive, construction of a BNSF railroad underpass on Ramsey Boulevard, construction of north and south frontage roads along TH 10. Other road improvement projects included in the CIP include projects for striping, lighting, and landscaping.

There are also a number of non-motorized transportation projects identified in the city's CIP. These include completion of the off-road Mississippi River Regional Trail within the city, construction of a trail connection to McKinley Street in the City of Anoka, a number of other high-priority trail connections, and a pedestrian underpass at Alpine Drive.

9.1.2. Proposed Projects based on Land Use and Development

Transportation needs in the city will shift as development occurs. Narrow rural roadways may no longer be suitable in certain areas. Additionally, there may be areas where development occurs and requires new connecting roadways to ensure that roadways and intersections can accommodate additional traffic volumes. Similarly, areas with new development may require non-motorized transportation facilities to provide safe access to the transportation system for pedestrians and bicyclists. Consideration of roadway modifications, intersection traffic control improvements, and non-motorized facilities will continue as individual proposals for development move forward.

10. Public Comments

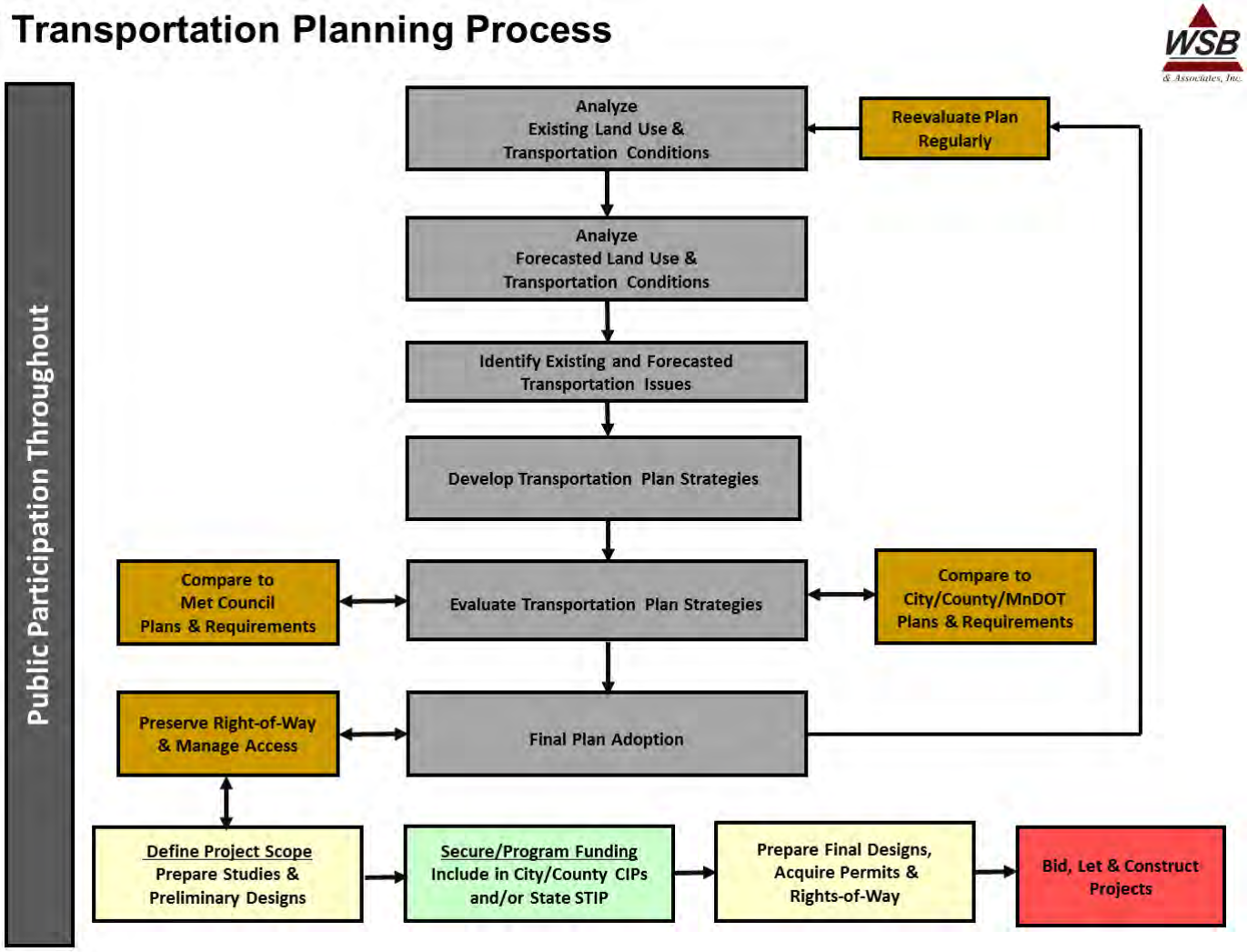
The city held a workshop to gather public input on the transportation plan. At this workshop, members of the public identified issues and opportunities related to transportation as well was parks, trails, and recreation. A wide range of topics was raised, including roadway speeds, pedestrian safety, congestion, enforcement of speeding/stop signs, general support for trails, support for additional river crossings, and a request for a new east/west road connection in the community. These comments were compiled and used to inform the strategies identified in **Table 8**.

11. Conclusion and Next Steps

The purpose of this Transportation Plan is to set a multimodal transportation vision for the City of Ramsey through the year 2040. Goals and specific strategies have been identified collaboratively by the city, Anoka County, MnDOT, and members of the public within the framework of Metropolitan Council requirements. The vision and associated strategies outlined in this Plan were established by considering existing and forecasted conditions, City of Ramsey priorities, regional travel patterns and a variety of other factors.

As the owners of the transportation network in Ramsey (i.e. City of Ramsey, Anoka County, MnDOT, Metro Transit, and the BNSF railway) advance their respective Capital Improvement Programs (CIPs), this Plan is intended to serve as an important resource and reference in establishing priorities and advancing transportation projects for implementation. Advancing these projects from a planning to implementation phase will require collaborative discussions among facility owners, adjacent communities, the Metropolitan Council, residents and others to conduct traffic studies, finalize designs, preserve rights-of-way, obtain environmental clearances and leverage necessary financial resources. **Figure 14** on the following page outlines the entire planning and project development process required for transportation projects from concept plans to construction implementation.

Figure 14
Transportation Planning Process



City of Ramsey 2040 Comprehensive Plan Update

Economic Development Plan

Background on this Document

This document is a draft of the narrative to be used in the 2040 Comprehensive Plan Update. This is not a final version or actual layout. This document will be reviewed and revised multiple times. The City will try to add additional maps and figures to better tell the story of this vision.

Ramsey's Long Range Imperatives

Four key themes have emerged as part of this Comprehensive Plan Update that transcend each section our Vision. Each Initiative, Tactic, and Policy should relate to one of these four Imperatives.

1. Rural Character and Urban Growth Balance
2. An Active Community (Parks, Recreation, and Open Space)
3. A Connected Community (Transportation)
4. A Positive Learning Environment



Economic Development Initiatives

1. Maintain and Expand our Employment Base
2. Increase and Construct Retail Options for Residents and Businesses
3. Improve Highway 10
4. Complete Built-Out of The COR according to the approved Development Plan.

5. Improve the Image of Ramsey and its Neighborhoods, Business Districts, and Key Corridors
6. Create a Robust Offering of Recreational Opportunities that benefit Businesses.









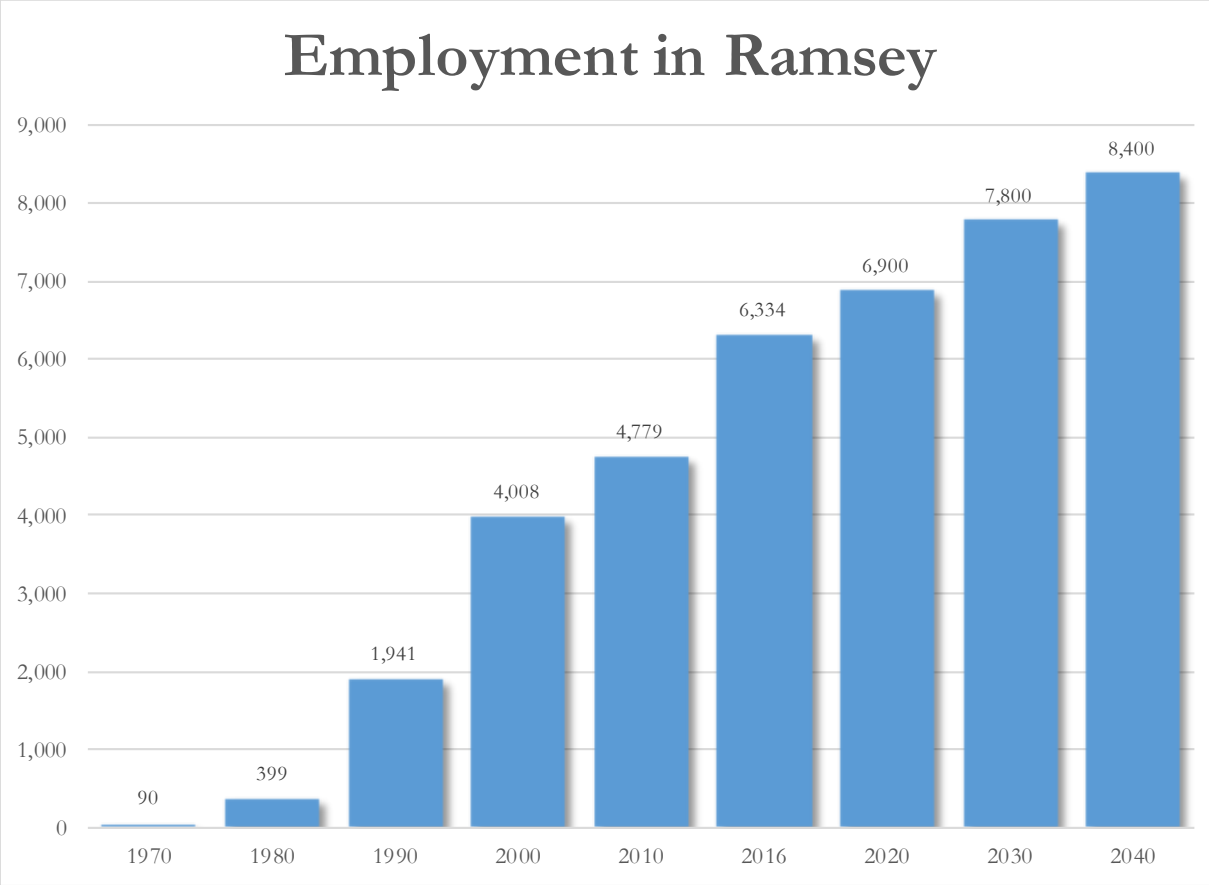




Economic Development Outlook

Ramsey has an estimated employment base of 6,334 employees working in Ramsey and approximately 634 acres of industrial land.

Figure 1: Employment Forecasts



Source: U.S. Census Decennial Survey, U.S. Census American Communities Survey, Metropolitan Council Forecasts

Industrial Development

Existing Industrial Conditions

Ramsey/Anoka Industrial Park.

Ramsey's existing industrial park area borders another large industrial park in the City of Anoka. Highlights of the combined industrial park area are below.

- Approximately 1,000 acres
- Approximately 15,000 jobs
- Hundreds of businesses, with a high concentration of manufacturing

Future Industrial Opportunities

Employment growth is expected to continue to grow through 2040. The current estimated employment within Ramsey is 6,334 jobs. The number is expected to grow 8,100 jobs in the year 2040.

Ramsey has been fortunate to be extremely successful in both greenfield development and redevelopment. Ramsey's supply of industrial land guided by the 2030 Comprehensive Plan is extremely low. In response, Ramsey amended its 2030 Comprehensive Plan to guide an additional 115 acres for future employment growth.

Highlights of existing employment growth opportunities include, but are not limited to the following.

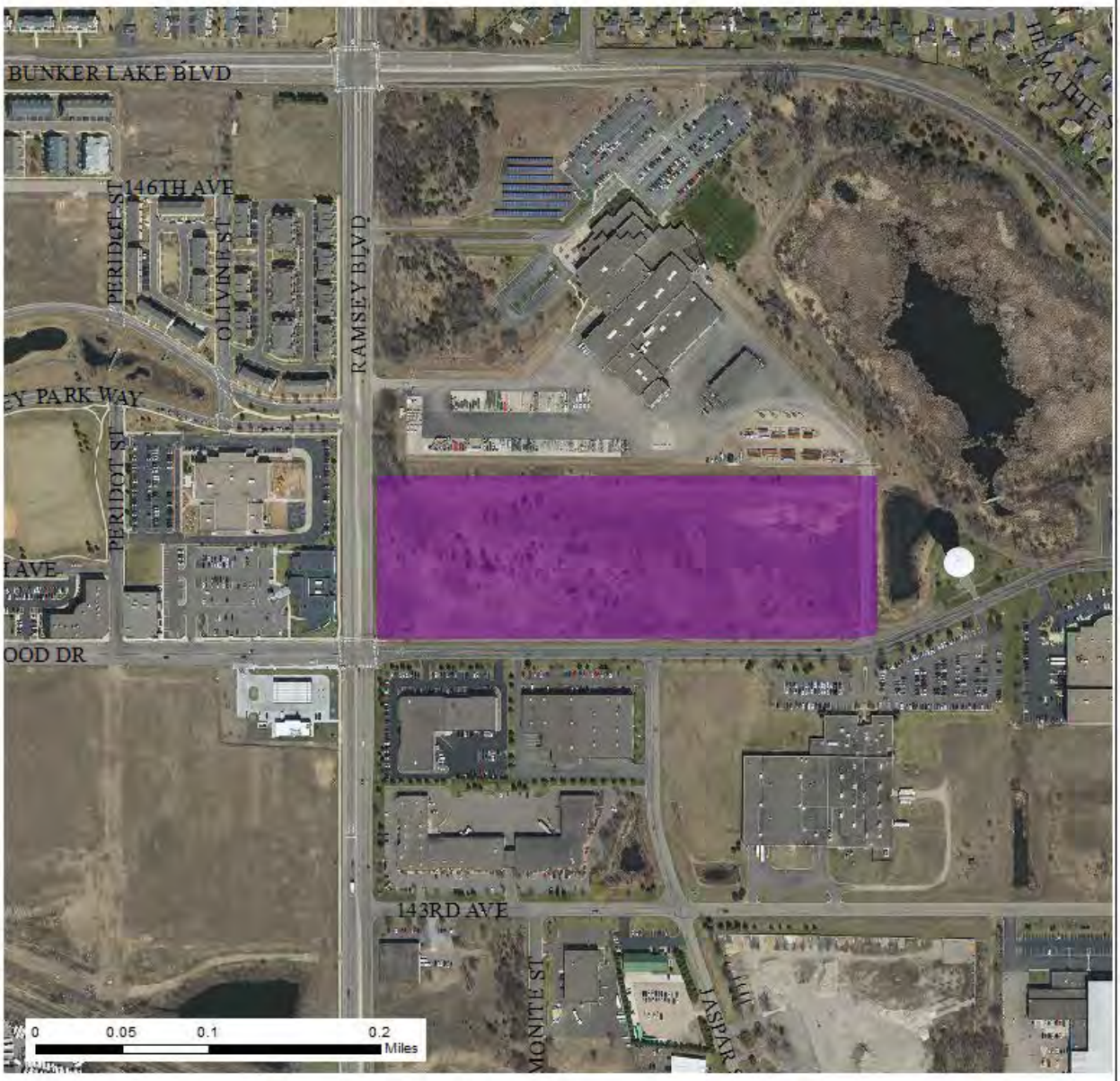
- AEC Energy Park (15 Acres)
- Bunker Lake Industrial Park (140 Acres)
- Highway 10 Business Park (150 Acres)
- Jaspar Industrial Park (9 Acres)





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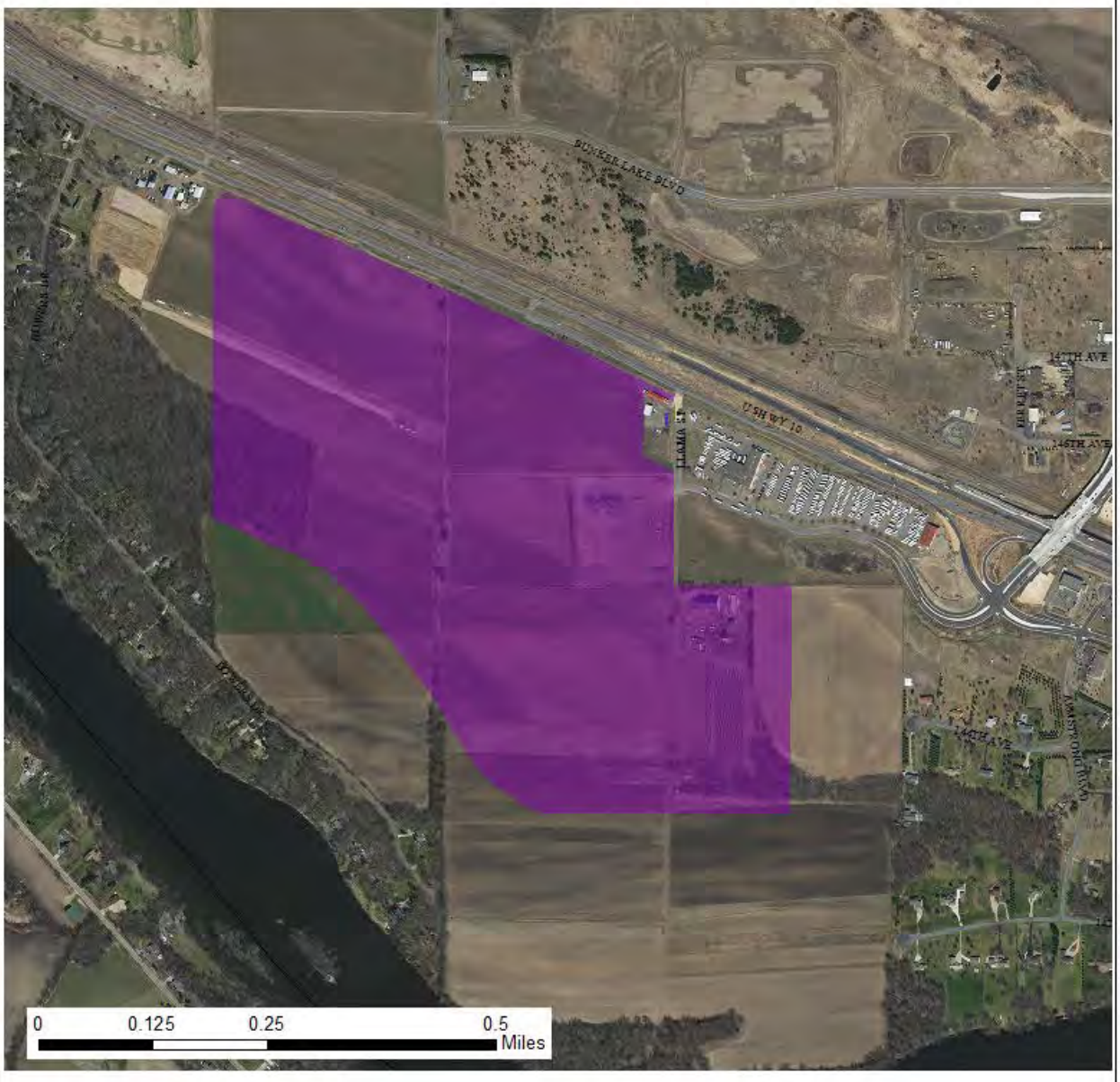
Future Industrial Opportunities



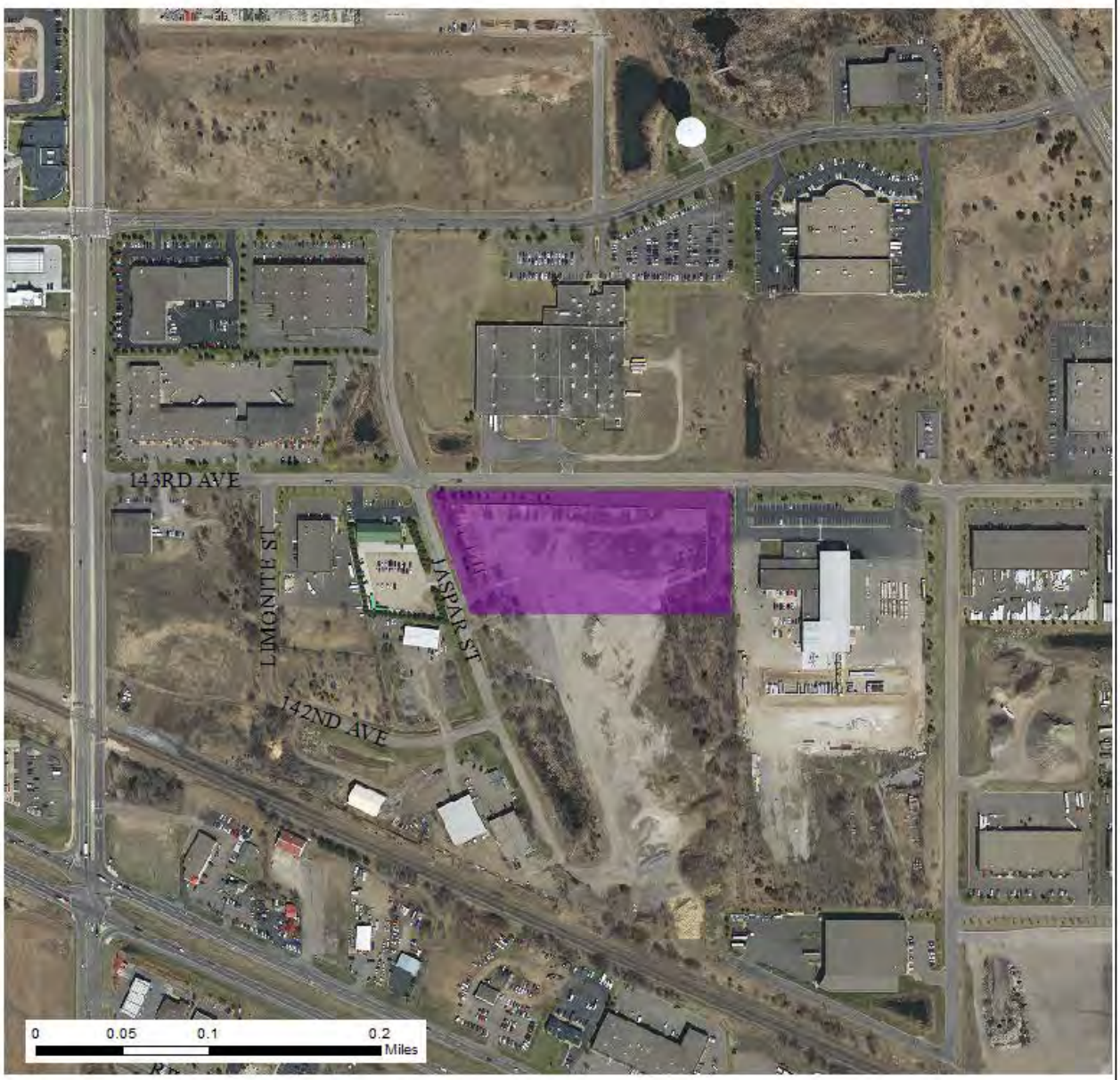
Future Industrial Opportunities



Future Industrial Opportunities



Future Industrial Opportunities



Retail Development

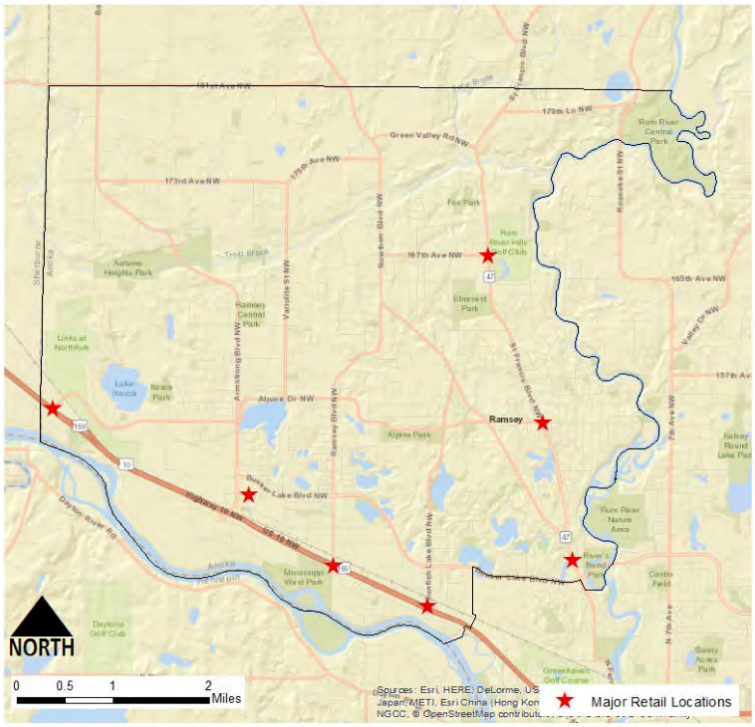
Existing Retail

Primary retail nodes are indicated on the map below. The City has approximately 125 acres of developable land available for development of new retail opportunities.

Market Conditions in Ramsey

Ramsey's Market Area for retail growth has a positive outlook, but is constrained by several factors. While the Mississippi River and Rum River are some of Ramsey's primary assets, they do constrain Ramsey's Retail Market Area, as these physical barriers restrict access for many in close proximity.

Retail Opportunities





Future Retail Opportunities

The COR

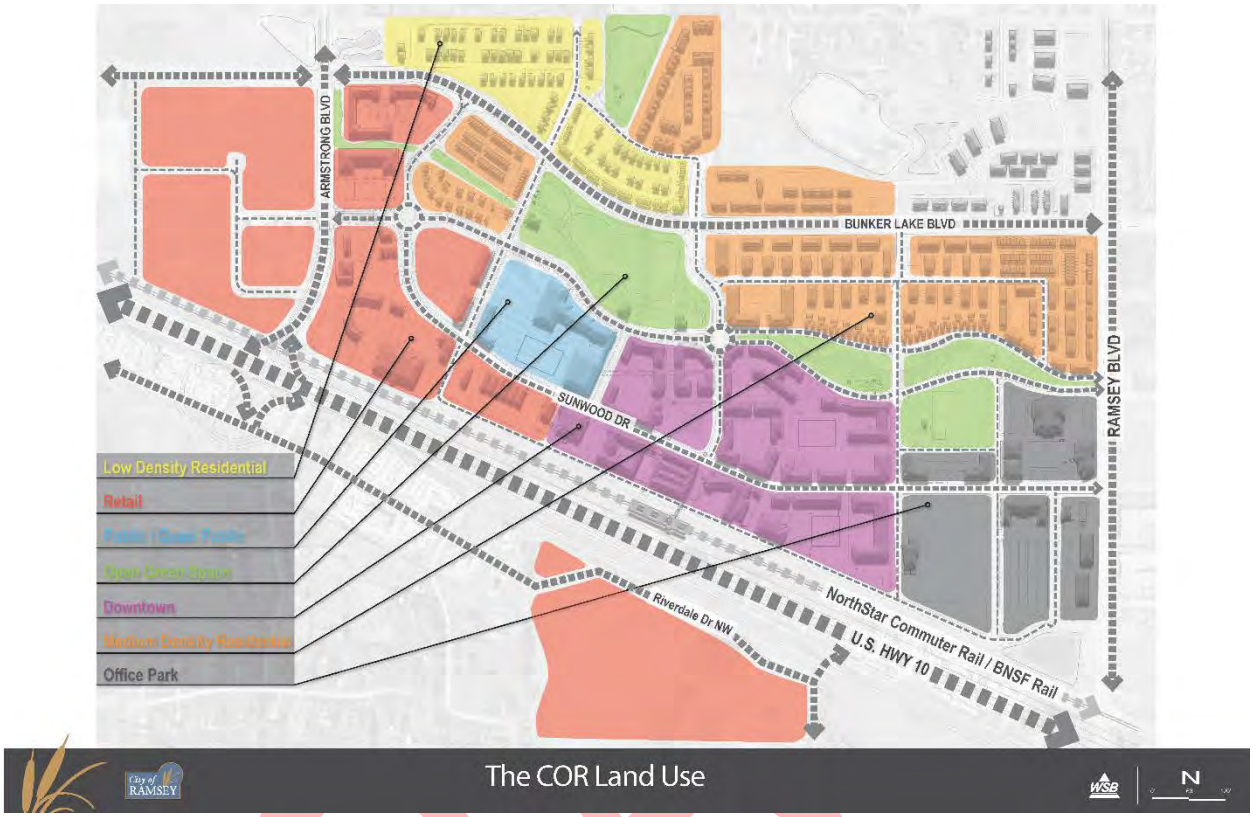
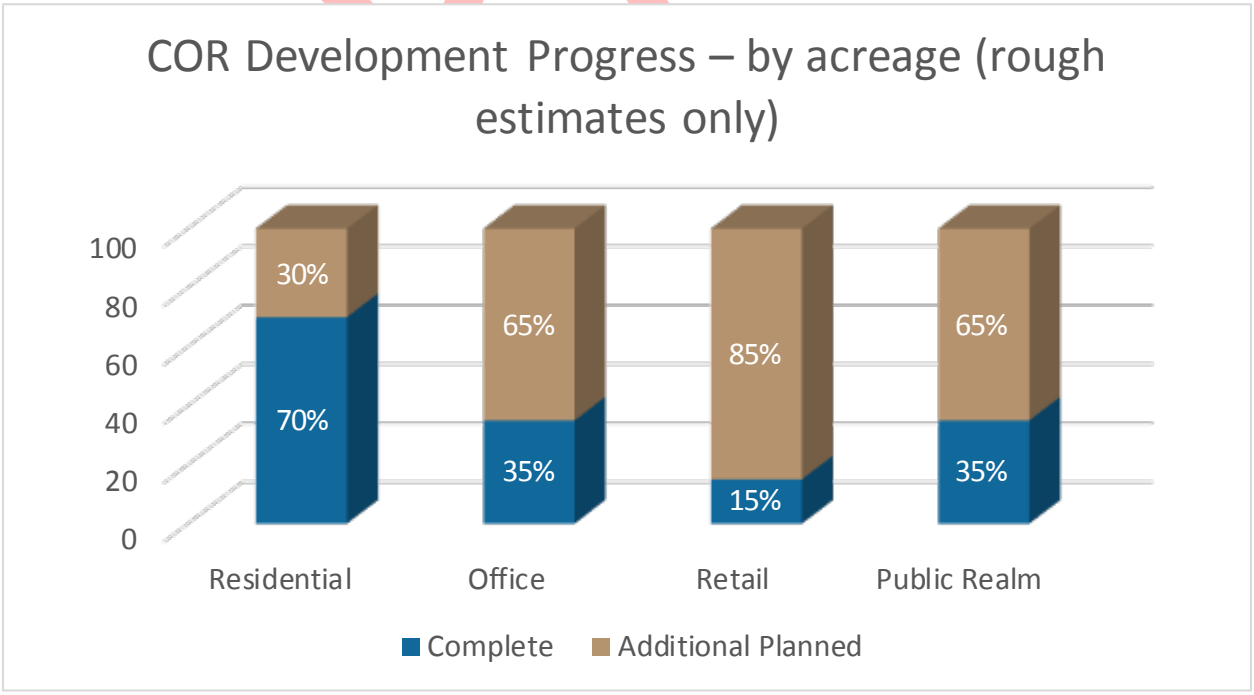


Table 1: Planned Growth in The COR



Rum River Hills (167th Avenue/TH 47 Retail Node)

The Rum River Hills Neighborhood is anchored by a small retail node at the intersection of 167th Avenue and Saint Francis Boulevard (T.H. 47). For a number of years, Ramsey has analyzed how to best revitalize this node that has experienced a high rate of vacancy and blight. This node has seen some private reinvestment in recent years. The Rum River Hills Golf Course has also expressed an interest in redeveloping a small portion of their land for residential development.

Rum River Hills Neighborhood Goal

To improve and/or remove blight from the retail node and encourage sustainable market-driven redevelopment that will benefit the entire City of Ramsey.

Rum River Hills Neighborhood Vision

Ramsey's vision for the neighborhood is a mixture of residential and retail uses. Residential users may include single family residential, townhomes, or senior living units as directed by the market. Retail will include a market driven neighborhood commercial node. Redevelopment should include a connection to Elmcrest Park and/or nearby trails where feasible.

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Final Draft Note:

A series of 'Site Profile Maps' will be added here. These 'Site Profile Maps' are similar to the individual site maps in the Industrial section of this Chapter.

- The COR
- South of Highway 10/South of Rail Station
- Highway 10 Corridor
- Bunker Lake Boulevard/TH 47
- Alpine Drive/TH 47
- 167th Avenue/TH 47
- Anoka Border – Highway 10
- Elk River Border – Highway 10

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Economic Development Tools

The City of Ramsey has a number of financial tools available for economic development projects. Below is an overview of the most commonly used economic development tools.

GAP FINANCING:

The City's RLF and the DEED MIF programs are used to fill the financial "gap" of a particular project. A financial gap occurs when private financing and/or owner equity cannot fund an entire project. Commonly, these programs are used to purchase equipment; however, other eligible uses exist. Interest rates and terms are negotiable.

DEED JOB CREATION FUND:

DEED assistance to projects that have capital investment and provide well-paying jobs. Program would allow for a company to receive a 5% rebate on capital expenditures (construction costs, materials etc.) up to $500,000. In addition, this program allows for up to $500,000 in job creation rebates based upon jobs created and their salary levels.

PROPERTY TAX PROGRAMS:

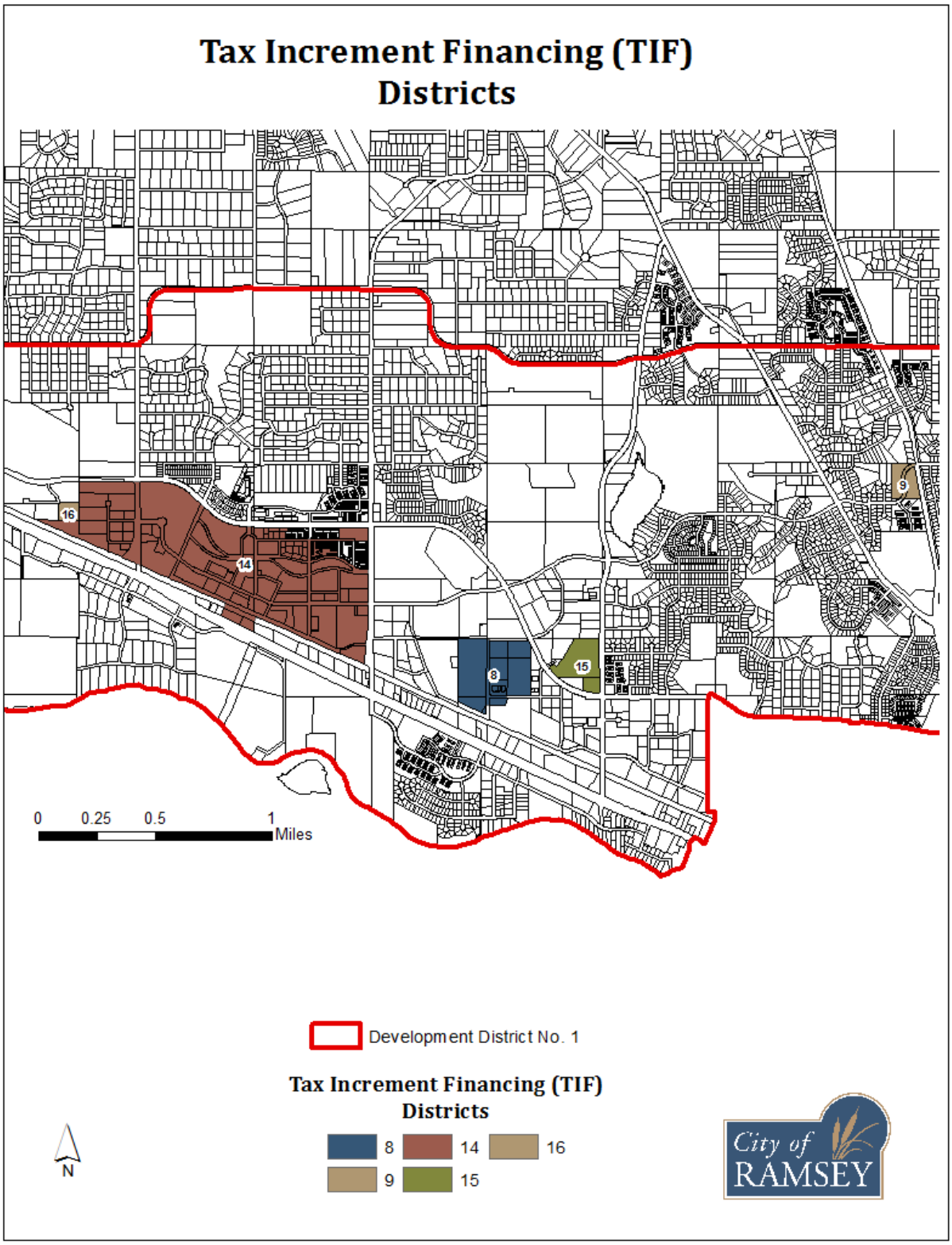
Tax abatement and TIF are local tax programs typically used for public infrastructure or land acquisition costs. In general, both programs work by capturing property taxes generated by a particular parcel then dedicating said tax revenue for a specific project cost.

Eligibility for financing tools based on the merit of an individual project, compliance with specific program requirements and in many cases approval from the Ramsey EDA and City Council. The City of Ramsey targets quality projects with high quality job growth. Typically, projects require owner equity and/or private financing. Most programs require specific job creation goals and annual reporting.

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Tax Increment Financing

Figure 2: Tax Increment Financing District



Economic Development Implementation

The Metropolitan Council's Regional Development Framework, ThriveMSP 2040, outlines roles for the Metropolitan Council and Ramsey for land use policy. Specific to land use policy, the Metropolitan Council has set a goal for the region to achieve Economic Competitiveness.

Ramsey Role	Metropolitan Council Role
• Consider how local efforts to focus economic development strategies along existing commercial centers (historic downtowns or commercial corridors) can contribute to the region's overall economic competitiveness through enhanced integration of local and regional planning efforts. • Protect sites for highway-, river- and rail-dependent manufacturing and freight transportation needs from incompatible uses and identify local land supply and transportation needs for effective use of those sites. • Identify important multimodal intersections, alternative freight routes, key intersections, and other existing opportunities that may contribute to local and regional economic competitiveness.	• Invest in regional amenities and services, including transit, regional parks and trails, and bikeways to support the Emerging Suburban Edge area as an attractive place to locate and do business. • Promote local planning around key intersections, regional infrastructure, and business needs. • Support the development of workforce housing to provide nearby housing options for employees of local employers. • Convene interested partners to further strategies towards increasing regional competitiveness and include discussion of how Emerging Suburban Edge communities can contribute to the region's overall economic growth.

Economic Development Tactics

- Maintain and Expand our Employment Base
  - Continue our Business Retention and Expansion Efforts.
  - Build Out the Bunker Lake Industrial Base.
  - Plan for the Highway 10 Business Park (next Business Park after Bunker Lake Industrial Park).
  - Make sites shovel ready.
  - Provide incentives to achieve our economic development goals.
  - Be flexible with zoning.
- Increase Retail Options for Residents and Businesses
  - Continue and Expand Current Marketing and Recruitment Efforts for New Retailers.
  - Improve Access and Visibility for Retailers from Key Corridors.
  - Consider free land and incentives.
  - Directly recruit businesses.
  - Execute a marketing campaign to draw businesses.
  - Coordinate with existing efforts (Anoka County, DEED, Chambers of Commerce, etc.)
- Improve Highway 10
  - Establish a Stakeholder Group for Highway 10.
  - Improve Traffic Conditions (Complete Highway 10 Traffic Plan).
  - Create a sustainable funding plan for right-of-way acquisition and construction.

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    - Remove Blight and Public Nuisances (Complete Highway 10 Land Use Plan).
- Complete Built-Out of The COR according to the approved Development Plan.
    - Complete the Development Plan Update.
    - Continue Current Recruitment Efforts.
- Improve the Image of Ramsey and its Neighborhoods, Business Districts, and Key Corridors
    - Improve signage.
    - Grade separate rail crossings to eliminate physical barriers.
    - Remove Blight and Public Nuisances at the Rum River Hills Node.
    - Remove Blight and Public Nuisances at the Highway 47 Corridor.
    - Improve Relationships Communitywide to Remove Blight and Public Nuisances.
- Create a Robust Offering of Recreational Opportunities that benefit Businesses.

Ongoing Policies

- Organization should be business-friendly (City Council, Advisory Boards, Staff)

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City of Ramsey 2040 Comprehensive Plan Update

Housing Plan

Background on this Document

This document is a draft of the narrative to be used in the 2040 Comprehensive Plan Update. This is not a final version or actual layout. This document will be reviewed and revised multiple times. The City will try to add additional maps and figures to better tell the story of this vision.

Our Mission

It is our mission to work together to responsibly grow our community, and to provide quality, cost-effective, and efficient government services.

Our Vision

Ramsey will evolve through citizen-driven, collaborative processes that respect the balance and connectivity between its unique urban, rural, and natural environment for current and future generations.

Imperatives

- A Balance of Rural Character and Urban Growth
- A Connected Community
- An Active Community
- A Positive Learning Environment

What We Heard

Through the City of Ramsey's Open Houses, Workshops, and updates to the Planning Commission and City Council regarding the 2040 Comprehensive Plan Update, as well as working directly with the Housing Committee, the City of Ramsey has created the following vision statement:

> "We envision a community with a variety of housing options, with options for residents of all socioeconomic statuses, races, income levels, preferences, and ages. We envision a community where residents can age in place, but also one where young families want to live. Our community provides homes with rural character, homes for those who prefer a more urban environment, and amenities for homeowners and renters."

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Imperative: A Balance of Rural Character and Urban Growth

Initiative 1: Rehabilitate and Improve Housing Stock to Preserve Rural Character and Enhance Existing Neighborhoods

Initiative 2: Provide Sufficient Housing Options for all Types of Residents; Provide Lifecycle Housing Options

Initiative 3: Promote Development that Preserves the Natural Environment and Respects Residential Health

Initiative 4: Support Affordable Housing Development

Imperative: A Connected Community

Initiative 1: Ensure that discrimination does not occur against persons seeking housing in Ramsey based on age, religion, race, ethnic origin, sexual preference, gender, status with regard to public assistance, marital or familial status, or disability.

Initiative 2: Ensure that individuals of similar income levels have equal access to Minnesota Housing programs, regardless of race, color, creed, religion, national origin, sex, marital status, status with regard to public assistance, disability, familial status, gender identity, or sexual orientation.

Imperative: An Active Community

Initiative 1: Plan for multi-family and senior residential developments near transit, bicycle routes, trails, sidewalks, etc. in order to reduce building footprints, energy consumption, and reliance on automobiles.

Initiative 2: Ensure new development projects support an active lifestyle.

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Existing Housing Supply

The following tables and figures represent the current context of the City of Ramsey. The data for the following tables, graphics, and narratives were provided by the Metropolitan Council or the American Community Survey 2016 5-Year Estimates. The City of Ramsey had approximately 8,776 units in 2016, as estimated by the American Community Survey 2016 5-Year Estimates. The Metropolitan Council estimated a slightly higher number for housing units in Ramsey – 8,896.

Total Housing Units

According to the American Community Survey (ACS) 2016 5-Year Estimates, the City of Ramsey has 8,776 units. The majority of these, 97 percent, are occupied housing units. Total housing vacancy was approximately 2.6% in 2016. This low vacancy rates shows a demand for existing housing units. Due to movement in and out of units, housing vacancy cannot reach zero percent. 2.6% vacancy is an extremely healthy vacancy rate for the City of Ramsey and is on par with other cities in the region.

Table 2:

Unit Type	**Total Units**
Occupied Housing Units	8,544
Vacant Housing Units	232
Total Housing Units	8,776

Source: ACS 2016 Estimates

Total Existing Affordable Housing Units

Affordable housing is based upon the Area Median Income (AMI) of the region. Half of those in the region earn more than the AMI, and half earn less than the AMI. Housing policies for affordable housing are based upon income thresholds related to this AMI.

In the Twin Cities Metropolitan Region, the U.S. Department of Housing and Urban Development (HUD) has defined the following affordability levels for a family of four.

Table 3:

Affordability Level	**Number of Units**
Affordable at 30% AMI	128
Affordable from 31 – 50% AMI	990
Affordable from 51 – 80% AMI	5,606
Total Affordable Units	6,724

Source: Metropolitan Council Existing Housing Assessment, total housing units 8,896

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Owner vs. Renter Occupied Housing Units

The majority of Ramsey units, around 87%, are owner-occupied housing units. In these owner-occupied housing units, the average household size is approximately 3.01. Renter-occupied housing units are approximately 11% of the total housing units in Ramsey. These renter-occupied housing units have an average household size of approximately 2.58. On average, gross rent in 2016 was $1,313 per month.

Table 1:

Unit Type	**Number of Units**
Renter-Occupied Housing Units	951
Owner-Occupied Housing Units	7,593
Vacant Housing Units	232
Total Housing Units	**8,776**

Source: ACS 2016 Estimates

Unit Type	**Vacancy Rate**
Owned Housing Units	1.5%
Rental Housing Units	0.3%

Source: ACS 2016 Estimates

Housing Types

The vast majority of Ramsey residents, over 80%, live in single family detached housing. While only 4 percent of residents live within multi-family housing, over half of those that do live in a building with 20 or more units. Very few residents live in multi-family buildings with less than 20 units.

Table 5:

Housing Type	**Number of Units**	**Percent of Total**
Single Family Housing Units	**8,462**	**96%**
1-unit, detached	7,169	82%
1-unit, attached	1,293	15%
Multi-Family Housing Units	**314**	**4%**
2 units	0	-
3 to 4 units	13	<1%
5 to 9 units	47	<1%
10 to 20 units	7	<1%
20 or more units	174	2%
Mobile home units	73	<1%
Total Housing Units	**8,776**	

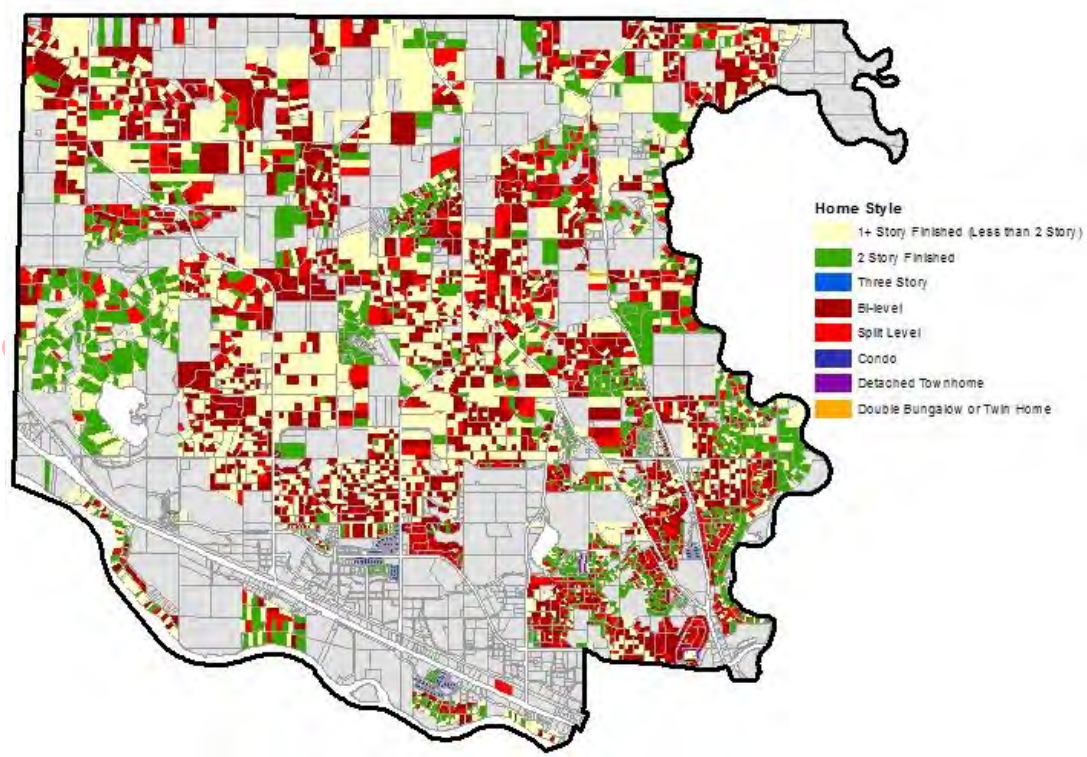
Source: ACS 2016 Estimates

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Single Family Housing Type	Count
One Story +, Less than 2 Story	2,205
2 Story	2,249
3 Story	43
Bi-Level	2,343
Split Level	1,156
Condo	580
Detached Townhome	56
Double Bungalow or Twin Home	3
No Data	576
Total	**8,635**

Source: Metropolitan Council GIS data, 2016

According to the Metropolitan Council data from 2016, the vast majority of homes in Ramsey are detached single family homes – bi-level, one story, or two story. Very few homes in Ramsey are double bungalow, twin homes, or three story homes. The map shows the geographic breakdown of these housing types. Almost all three story homes are near The COR, while one and two story homes are scattered throughout the City.

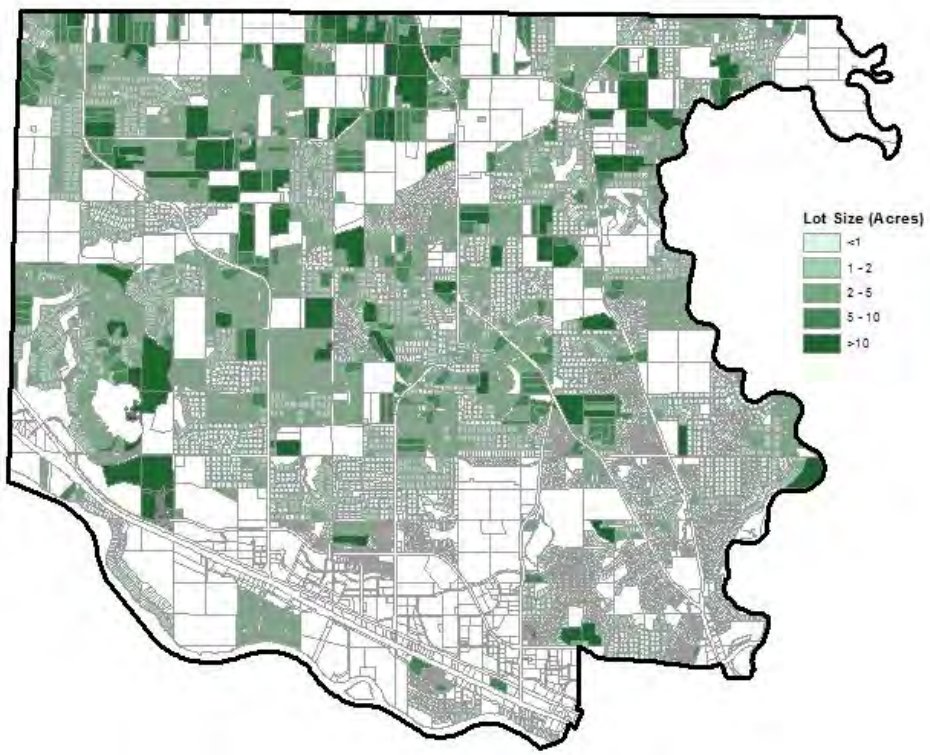


Lot Sizes

Of the residential lots with one unit (detached townhomes, single family homes, etc.), the majority are on lots less than one acre according to 2016 Metropolitan Council data. The map below shows the geographic distribution of different sized single-family residential lots. The larger lots are generally not near The COR, but are instead in the west, north, and northeast portions of the City. Lots in residential subdivisions are generally less than 5 acres, and usually less than 2 acres. Lot sizes tend to increase in the northern portion of the City, and are smaller in the central and southern portions of the City. This shift in lot size reflects the shift from rural character in the north into a more urban growth pattern in the central and southern parts of the City.

Lot Size	**Count**
Less than 1 acre	6,456
1 acre – 2 acre	1,417
2 acre – 5 acre	1,037
5 acre – 10 acre	181
10 acres or greater	111
Total	**9,202**

Source: Metropolitan Council GIS data, 2016



Publicly Subsidized Housing Units

Table 6:

Housing Type	Number of Units
Senior Housing	0
Housing for People with Disabilities	0
All other Publicly Subsidized Units	102
Total Publicly Subsidized Housing Units	102

Source: Metropolitan Council Existing Housing Assessment and HousingLink Streams Data, total housing units 8,896

Information on Publicly Subsidized Units:

The Seasons

Funding: LIHTC 9% Tax Credit
7436-7600 147th Cir NW
Year Built: 2013
Total Units: 50
Affordable Units: 49

Affordability by Bedroom
2 BR: 22
3 BR: 27

Affordability by AMI
60%: 49

Funding Dates & Programs
First known closing: 07/01/2013
Most recent closing: 07/01/2013
Earliest expiration: 07/01/2043
Last Activity: New construction

MHFA: Housing Tax Credits 9%
Close Date: 07/01/2013
Est. Expiration: 07/01/2043

Property Identifiers
HousingLink 10893
MHFA D7574
HUDLIHTC MNA2013019

Sunwood Village

Funding: Other
7550 Sunwood Dr NW
Year Built: 2016
Total Units: 47
Affordable Units: 47

Affordability by Bedroom
1 BR: 9
2 BR: 26
3 BR: 12

Affordability by AMI
30%: 4
50%: 43

Property Identifiers
HousingLink 10924
MHFA D7721

Funding Dates & Programs
First known closing: 09/24/2015
Most recent closing: 12/21/2016
Earliest expiration: 01/01/2017
Last Activity: New construction

County: County
Close Date: 12/21/2016
Expiration: 03/01/2047

MHFA: LHIA
Close Date: 12/21/2016
Expiration: 03/01/2047

MHFA: LMIR
Expiration: 03/01/2047
Close Date: 12/21/2016

MHFA: Bonds
Close Date: 12/21/2016
Expiration: 03/01/2047

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Sunwood Townhomes

Funding: LIHTC 9% Tax Credit
5350 – 5444 Sunwood Dr NW*

Year Built:	2003
Total Units:	34
Affordable Units:	27

Affordability by Bedroom

1 BR:	2
2 BR:	12
3 BR:	12
4 BR:	1

Affordability by AMI

60%:	49

Property Identifiers

HousingLink	4521
MHFA	D2743
TC9:	D2743, MNA2002095

*Some addresses within City of Anoka
Source: HousingLink – Streams Search, data through 12/31/2016

Funding Dates & Programs

First known closing:	07/01/2002
Most recent closing:	07/01/2003
Earliest expiration:	05/16/2023
Last Activity:	New construction

County: County

Close Date:	05/16/2003
Est. Expiration:	05/16/2023

MHFA: LHIA

Close Date:	05/16/2003
Est. Expiration:	05/16/2023

MHFA: ARIF

Close Date:	05/16/2003
Est. Expiration:	05/16/2023

MHFA: Housing Tax Credits 9%

Close Date:	07/01/2002
Est. Expiration:	07/01/2021

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Housing Cost Burden

According to the Metropolitan Council in 2018, 1,537 households in Ramsey are cost-burdened. Being cost-burdened is defined as spending more than 30% of your annual income on housing costs. Being cost-burdened by housing costs affects lower income residents at a higher rate than higher income residents.

In 2016, the ACS data showed that of those households making less than $35,000 annually (which is almost one third of Ramsey households), around 22% of those households spend more than 30% of their annual income on housing costs. The percent of households who spend more than 30% of their annual income on housing costs is much higher for lower income residents. Households that make more than $75,000 per year rarely pay more than 30% of their income to housing costs – less than 2%.

Approximately 17% of all households in Ramsey are cost-burdened to some extent.

Table 7:

Income Levels	Number of Households	Percent of Total
< 30% AMI	354	4%
31 – 50% AMI	438	5%
51 – 80% AMI	745	8%
Total	1,537	17%

Source: Metropolitan Council Existing Housing Assessment, total housing units 8,896

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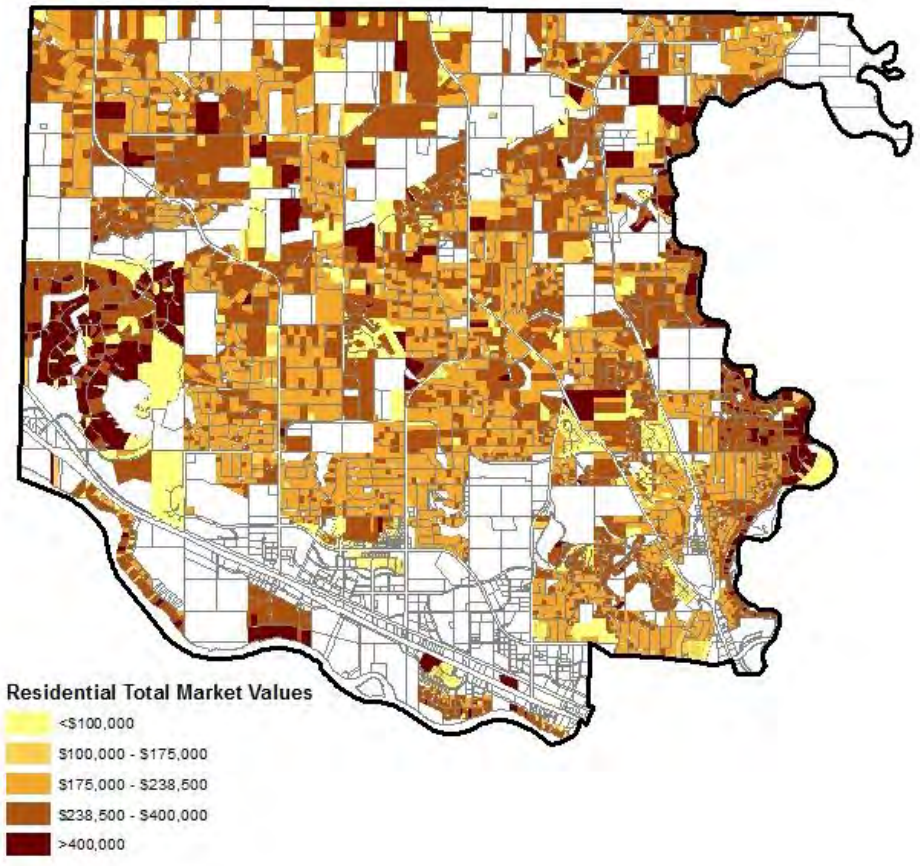
Assessed Values of Owner-Occupied Housing Units

Values above and below $238,500 are shown in the figure below. $238,500 represents the affordable purchase prize for a housing unit in 2015 for those at 80% of AMI. 2015 AMI was $86,600 for a family of four in the Minneapolis-Saint Paul-Bloomington Metropolitan Area. The median value for a home in Ramsey was approximately $210,200 in 2016.

Table 8:

Assessed Value	Number	Percent of Total
Less than $50,000	329	4%
$50,000 - $99,999	141	2%
$100,000 - $149,999	851	11%
$150,000 - $199,999	2,109	28%
$200,000 - $299,999	2,965	39%
$300,000 - $499,999	1,067	14%
$500,000 - $999,999	131	2%
$1,000,000 or more	0	-
Total Units:	7,593	
Median Value:	$210,200	

Source: ACS 2016 Estimates



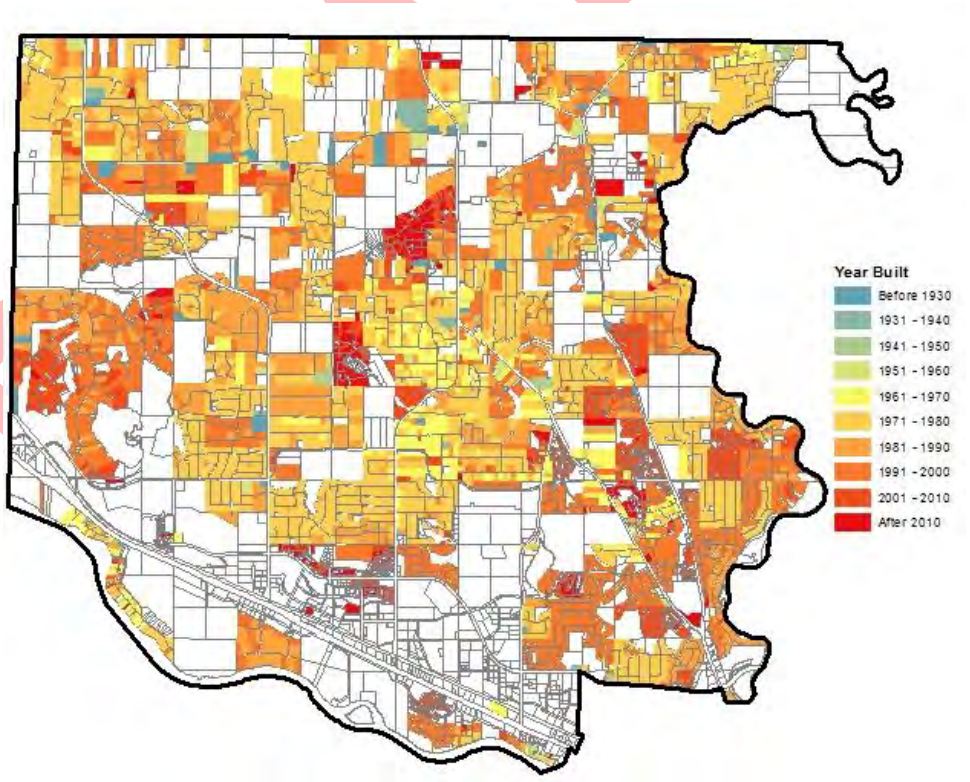
Housing Age (Single Family Homes)

The majority of single family homes were built between 1970 and 2009. Less than 10% of all single family homes in Ramsey were built outside this time period.

Table 5:

Year Built	Number of Houses	Percent of Total
Before 1939	53	<1%
1940s	16	<1%
1950s	56	<1%
1960s	375	4%
1970s	2,017	23%
1980s	1,322	15%
1990s	2,381	27%
2000s	2,397	27%
2010 to 2013	134	2%
2013 or Later	23	<1%
Total Housing Units	**8,776**	

Source: ACS 2016 Estimates



Summary of Existing Housing

Within Ramsey, most of the homes are owner-occupied, and rentals are approximately 11% of the total housing units. Ramsey has a healthy vacancy rate, less than 3%, showing the high demand for housing units within Ramsey.

Approximately 96% of all housing units in Ramsey are single family homes, both attached and detached. Only 4% of all housing units are multi-family units. Likely, future housing growth will be single family in the northern portions of the City, which represent and maintain Ramsey's rural character. Areas near The COR represent areas where multi-family housing is more likely to occur in the future, this area represents the urban, transit-oriented growth around the Northstar Commuter Rail Station.

The Future Land Use Map and Development Maps show future areas that are likely to change in land uses. There are areas in the northern half of the City that will likely accommodate future single family housing development projects.

17% of all Ramsey households are cost-burdened, and the percent of lower income residents who are cost-burdened (spending more than 30% of their income on housing) is much higher than higher income residents. Creating and maintaining affordable housing options is a key priority for the City of Ramsey, in order to support these residents.

In summary, the existing housing assessment shows that there are residents who could use assistance from the City in order to reduce their housing costs. One route to reduce the number of cost-burdened residents is to provide additional housing options, including affordable housing options, across the City. The existing housing assessment also shows that housing in Ramsey is sought-after. There is a low vacancy rate, and a low rental rate, which means that those who want to move to Ramsey likely have to buy a single family home in order to move to the community. In order to provide options for all types of residents, at all stages of life, different housing options, including multi-family options and single family rentals, the City should support these types of projects.

Most of the homes in Ramsey were built in 1970 or after, with very few built after 2010. Many of these homes will likely need reinvestment in coming years, such as putting in a new roof, updating well and septic, or upgrading the interior finishes in the home. The City could consider options to providing incentives for homeowners to make these improvements.

Land Supply

The Future Land Use Map guides the future land uses for the entire City of Ramsey. The areas designated low density, medium density, and high density residential are sufficient to absorb the City's necessary growth in housing and affordable housing allocations. The mass of the affordable housing allocation will likely be in The COR area, which provides flexibility and density bonuses for projects near the Northstar Commuter Rail Station.

With the City of Ramsey's knowledge of the area and land that is likely to develop, or projects that have been started on vacant land, the City does not expect to have any issues meeting the projected growth or affordable housing allocation.

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Existing Housing Programs

Anoka County Programs

When we would use these: The City of Ramsey cannot actively maintain or manage these programs; however, they are important to note as the City of Ramsey actively supports these programs and will lend their support to maintaining these programs in any way possible. Additionally, these tools are included in this section to provide additional resources for residents, and potential residents, of the City.

1. **Anoka County Community Action Program (ACCAP) for Affordable Housing**

Affordable Housing is a partnership between ACCAP and Anoka County Corrections to construct affordable housing in Anoka County. The goal of the program is to build two new homes each year using inmate labor to reduce construction costs making homeownership for eligible buyers very affordable. These homes are available to buyers who have completed the Home Ownership Program offered by ACCAP.

2. **Anoka County – Housing & Redevelopment Authority**

Anoka County Housing and Redevelopment Authority (ACHRA) was created in December 1994 and is responsible for the administration of federal, state, and Anoka County programs. They provide housing and redevelopment services to many communities in Anoka County, including Ramsey.

3. **Anoka County – Senior Housing**

Anoka County owns four properties, managed by Great Lakes Management Company, with market rate rental units for residents 55 years and older.

4. **Anoka County – MN Housing Rehabilitation Loan Program (MNRLP)**

Owner-occupied properties in Anoka County that are either single-family detached home, townhome, duplex, or condominium, or manufactured homes that are taxed as real or personal property can apply for eligible improvements including: Roof, furnace/boiler, insulation, radon mitigation, lead paint hazards, siding, handrails, plumbing, smoke/CO detectors, well and septic systems, electrical wiring, windows/doors. Applicants must meet the income requirements based on household size and other borrower requirements.

Regional Programs

Livable Communities Demonstration Account – Metropolitan Council Grant Fund

1. The Livable Communities Demonstration Account (LCDA) funds innovative projects that efficiently link housing, jobs, services, and transit.

   When we would use this: The City of Ramsey is actively seeking projects that align with the mission of the LCDA. Due to the funding schedule and timeline, partners in these types of applications must be able to wait approximately 6 months from application to award letters. Because of this timeline, City-initiated projects, affordable housing projects (likely for those less than 50% AMI), and senior living projects are likely the prime candidates for this program.

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2. Section 8 Housing

Section 8 programs for Anoka County are administered by the Metropolitan Housing and Redevelopment Authority (HRA), located in Saint Paul, MN.

When we would use this: The City of Ramsey attempts to support affordable housing projects that utilize the Section 8 Program by writing letters of support in their applications. In addition, the City of Ramsey will advocate for continuing this program to ensure its continuity.

3. Home Energy Loan Program

Center for Energy and Environment (CEE) offers low-interest home energy loans for homeowners to make improvements to their homes. Examples of eligible projects include: heating system upgrades, central air conditioning, light fixtures, window and exterior door replacement, attic air sealing and insulation, wall insulation and heater, and geothermal and heat pumps. Loans are typically from $1,000 - $2,000 dollars. There is no maximum income limit for these loans.

When we would use this: The City of Ramsey does not manage this program, but they do support this program. The City has resources available to residents of all income levels, and is able to point residents to Center for Energy and the Environment for additional information on which they are not experts (such as insulating attics). Specially, the City is able to direct residents whose homes have code enforcement issues to this type of program to help increase the safety, value, and appearance of the home. Because these loans do not have income limits, these are options for all residents, developers, and others throughout the City. This type of program supports small upgrades to homes that long-term increase cost savings and environmental savings. This program not only represents the City of Ramey's commitment to maintaining existing properties, but also our commitment to environmentally sensitive housing and design.

Statewide Programs

When we would use this:

1. Minnesota Housing – Coordinated Entry

Coordinated Entry is a HUD initiative to those who may be at-risk of losing their housing, or who are homeless. The Coordinated Entry initiative supports people in connecting their housing needs with the appropriate resources. Anoka County has a separate resource line to assist residents.

When we would use this: The City of Ramsey does not maintain this program, but does believe this program is an important tool they are able to point residents towards. The City of Ramsey provides a connection to this resource for residents who are at risk, or afraid of, losing their housing. They can also direct homeless individuals towards this program. The City of Ramsey will continue to support this program as they believe it is an important part of supporting their residents and maintaining their mission of equity.

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2. Minnesota Housing – Start Up Program

This first-time homebuyer program is meant to promote affordable interest rates and help homeowners better tackle their down payments and closing costs. Qualified first-time homebuyers must have a credit score of at least 640, they must meet certain income limits and must be able to obtain a mortgage from a lender. Borrowers must also attend a homebuyer education course.

In order to be eligible for this program, residents must be first-time homebuyers, have a credit score of at least 640, and meet the income requirements.

When we would use this: The City of Ramsey does not maintain this program, but believes it to be a great opportunity for potential homebuyers. Because so much of the City has naturally-occurring affordable housing, the City expects to see first time homebuyers purchasing properties in Ramsey. This type of program is an excellent tool to point those types of residents towards. Additionally, this type of program supports low-income individuals, and supports the City of Ramsey's goal and mission to provide lifecycle housing options and affordable housing options.

3. Minnesota Housing - Step Up

This is a loan can be used for home purchase or to help homeowners refinance. The loan is meant to promote affordable interest rates in the state of Minnesota. The monthly payment portion of this Minnesota Housing program is available to help buyers afford closing costs and the down payment of a home purchase. The loan allows borrowers to reduce or eliminate mortgage insurance costs. Qualified borrowers need to have a credit score of at least 640, they must meet program income limits and in some cases, borrowers must attend homebuyer education courses.

Summary:

- Loan can be used for home purchase or refinancing.
- Must have a credit score of at least 640.
- Must meet income limits.

When we would use this: The City of Ramsey does not maintain this program.

4. Minnesota Housing - Deferred Payment Loan

This loan is meant for first-time homebuyers to help ease the cost of home ownership. There are two loan options, a deferred payment loan and a plus loan. The deferred payment loan starts at $5,000 and up to $7,500. The maximum for the plus loan is higher, up to $10,000 for those borrowers who fit target criteria. Minimum credit score for qualified borrowers is 640. The borrowers must also attend a homebuyer education course. The loan term is equal to the first mortgage and has 0% interest - the loan is repaid when the property is sold, no longer the homestead of the homeowners, or the loan is refinanced.

Summary:

- Must be first-time homebuyers
- Two loan options — can borrow from $5,000 to $10,000
- Minimum credit score of 640

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5. Minnesota Housing - Monthly Payment Loan

This program is designed to help Minnesota homebuyers afford the costs of purchasing a home. Minnesota Housing has a monthly payment loan to help with 5% of the purchase price or $5,000, whichever is greater, to be put towards closing costs and the down payment. Borrowers need to get a Minnesota Housing first mortgage loan as well, which is either a Start Up (first-time homebuyers), Step Up (refinancing), or MCC (mortgage credit certificate). The ten-year loan term comes with monthly payments with an interest rate equal to first mortgage rate. Qualified borrowers need a minimum 640 credit score and must meet program income limits. Borrowers also need to attend a homebuyer education course.

Summary:

- Loan towards closing costs and home down payment
- Ten-year loan term with monthly payments
- Minimum 640 credit score
- Qualified borrowers must attend homebuyer education course

When we would use this: The City of Ramsey does not maintain this program.

6. Minnesota Housing - Mortgage Credit Certificate

This program was designed to help Minnesota homeowners better afford their mortgages. This Mortgage Credit Certificate allows homeowners to claim 35% of their mortgage interest paid every year as a federal income tax credit — this can provide households with up to $2,000 in tax savings. This certificate can used in conjunction with a Minnesota Housing mortgage, as well as the Monthly Payment Loan which helps with the home down payment and closing costs. This program is geared towards first-time homebuyers (not owned a home in at least three years and not displaced by divorce). The certificate has many qualifications like: borrowers must qualify for a mortgage on a house, meet the income limits of the program, plan to have the property as their primary residence and hold a federal income tax liability. In order to be eligible for this program, residents must be first-time homebuyers, qualify for a home mortgage, and meet the income restrictions

When we would use this: The City of Ramsey does not maintain this program.

7. Minnesota GreenStar Certification

In order to be eligible for this program, residents must be first-time homebuyers, qualify for a home mortgage, and meet the income restrictions

When we would use this: The City of Ramsey does not maintain this program.

8. Weatherization Program

The Weatherization Assistance Program through the Minnesota Department of Commerce provides free home energy upgrades to income-eligible homeowners and renters. The goal of this program is to allow homeowners to save energy and ensure their homes are healthy and safe. Weatherization services include: exterior wall and attic insulation, air leakage reduction, furnace, boiler, and hot water heater repair or replacement, and can help decrease energy costs by 30% annually. The 2017 income limit for a household of 4 to be eligible for this program was an annual income of $49,200.

When we would use this: The City of Ramsey does not maintain this program.

9. Low Income Energy Assistance Program

The Low Income Energy Assistance Program (EAP) helps pay for heating costs and furnace repairs for low-income households. In order to be eligible, households must be at or below 50% AMI for the state. This program is eligible to homeowners and renters. Services may include: payment of energy bills, education on safe energy use, repair or replacement of broken heating systems, and help with utility disconnections or fuel deliveries. The 2017 income limit for a household of 4 to be eligible for this program is $48,077.

When we would use this: The City of Ramsey does not maintain this program, but believes it to be a great opportunity for potential homebuyers. Because so much of the City has naturally-occurring affordable housing, the City expects to see first time homebuyers purchasing properties in Ramsey. This type of program is an excellent tool to point those types of residents towards. Additionally, this type of program supports low-income individuals, and supports the City of Ramsey's goal and mission to provide lifecycle housing options and affordable housing options.

When we would use this: The City of Ramsey does not maintain this program.

Federal Programs

When we would use this: Federal program are managed by the Federal Government; however, they are noted in this section of the Comprehensive Plan Update to provide additional information to residents seeking guidance or specific tools to increase homeownership. The City of Ramsey is supportive of these types of programs and will guide residents towards these programs in order to increase homeownership rates within the City, and provide opportunities for residents who many not have the option to purchase a home without these types of programs, specifically low-income residents and people of color. These programs have income limits, and therefore would be helpful for residents with lower incomes.

1. FHA Loans

Federal Housing Administration (FHA) loans typically have lower interest rates and smaller down payments than other loans. They also have low closing costs and are typically available to first-time homebuyers and those who are trying to make their homes more energy efficient (FHA Energy-Efficient Mortgage).

2. FHA Down Payment Assistance

Federal Housing Administration (FHA) loans typically have lower interest rates and smaller down payments than other loans. They also have low closing costs and are typically available to first-time homebuyers and those who are trying to make their homes more energy efficient (FHA Energy-Efficient Mortgage).

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Other Tools

10. Public-Private Partnerships

The City of Ramsey is actively creating relationships with local businesses, developers, and potential partners. The Economic Development Department works diligently to find opportunities for public-private partnerships, when private dollars can assist a public project with a mutually beneficial outcome.

When we would use this: Public-private partnerships work best when the City and the partner have similar goals and desired outcomes for a project. Potential projects that the City is actively looking at are new park spaces around affordable housing projects, a new parking ramp near affordable, multi-family housing, park spaces, and The COR, as well as roadway improvements. For new single-family housing development projects proposed through the PUD process, the City will attempt to suggest the cost-sharing of public amenities and improvements to adjacent spaces – such as parks, trails, open spaces, roadway improvements, or pedestrian crossings.

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Projected Housing Need

Ramsey's population is anticipated to steadily increase through 2040. In order to accommodate the future growth, there will need to be additional housing units within Ramsey. A variety of housing types will need to be provided in order to house residents of all income levels, stages of life, and housing preferences. For instance, young families may prefer single family homes or townhomes, while seniors may prefer a denser living environment near The COR.

By 2040, the City of Ramsey will need to provide almost 4,000 additional housing units for almost 8,000 additional residents. Population and housing projections through 2040 are shown below.

	2010	2020	2030	2040
Population	23,668	26,400	30,700	34,700
Households	8,033	9,400	11,300	13,000

Source: Metropolitan Council

Affordable Housing Allocation

The City participates in the Livable Communities Program of the Metropolitan Council, which provides access to a number of funding opportunities. As part of said participation, the City plans for an allocation of affordable housing. The total need for affordable housing in the region from 2021 – 2030 is 37,900 units. In order to reach this total need, the City of Ramsey will need to provide an additional 499 units by 2030. The breakdown of unit types is shown below.

Affordable housing is defined by different affordability levels depending on tenant income. Affordability levels for necessary affordable housing in Ramsey is shown at three different levels below. 292 units will be required for those who make less than 30% Area Median Income (AMI). In 2015, annual income for those in this type of housing would need to be less than $25,980 as the 2015 AMI was $86,600 for a family of four in the region.

The need for affordable housing is shown below. As the City of Ramsey meets its affordable housing need, less Ramsey residents will experience a housing cost-burden. These residents, many of whom are members of the workforce in Ramsey and surrounding communities, can reside in our community without fear of homelessness.

Table 8:

Affordability Level	Number of Units
At or Below 30% AMI	292
31% to 50% AMI	167
51% to 80% AMI	40
Total Units	499

Source: Metropolitan Council Existing Housing Assessment, total housing units 8,896

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Imperative: A Balance of Rural Character and Urban Growth

Initiative 1: Rehabilitate and Improve Housing Stock to Preserve Rural Character and Enhance Existing Neighborhoods

Tactic	Priority	Responsible Party	Resources
Provide Incentive-Based Approaches for Individual Improvements to Private Properties	Immediate	Community Development	
Eliminate blighting influences such as unkempt yards, glaring lights, unscreened storage, noise, inappropriate vehicle storage, etc.	Immediate	Community Development	
Create a policy allowing accessory dwelling units (ADUs) on single family lots in order to maintain rural character while increasing lifecycle housing options and increasing affordability levels	Immediate	Community Development	
Identify and remove substandard housing units that are economically unfeasible to rehabilitate	Long-term	Community Development	
Create a simple webpage that allows residents to anonymously voice code enforcement concerns	Immediate	Community Development	
Create relationships with neighborhood leaders and Community Development Staff	Long-term	Community Development	

Initiative 2: Provide Sufficient Housing Options for all Types of Residents; Provide Lifecycle Housing Options

Tactic	Priority	Responsible Party	Resources
Complete housing needs assessment and analysis	Immediate	Community Development	$15,000

Initiative 3: Promote Development that Preserves the Natural Environment and Respects Residential Health

Tactic	Priority	Responsible Party	Resources
Promote improvements to existing housing that meet or exceed energy efficiency standards and implement sustainable design features	Opportunity Driven	Community Development	

Initiative 4: Support Affordable Housing Development

Tactic	Priority	Responsible Party	Resources
Monitor the City's housing supply to ensure quality, low-income options	Immediate	Community Development	

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Imperative: A Connected Community

Initiative 1: Ensure that discrimination does not occur against persons seeking housing in Ramsey based on age, religion, race, ethnic origin, sexual preference, gender, status with regard to public assistance, marital or familial status, or disability.

Tactic	Priority	Responsible Party	Resources
Create Fair Housing Policy for City	Immediate	Community Development	
Provide resources to Ramsey residents, and those looking to become Ramsey residents, regarding Fair Housing policies at the state and local level	Opportunity Driven	Community Development	
Direct developers to the Affirmative Marketing Toolkit from the Fair Housing MN Resource Guide to make it easier for providers to meet federal requirements for planning fair housing	Opportunity Driven	Community Development	

Initiative 2: Ensure that individuals of similar income levels have equal access to Minnesota Housing programs, regardless of race, color, creed, religion, national origin, sex, marital status, status with regard to public assistance, disability, familial status, gender identity, or sexual orientation.

Tactic	Priority	Responsible Party	Resources
Direct developers to the Affirmative Marketing Toolkit from the Fair Housing MN Resource Guide to make it easier for providers to meet federal requirements for planning fair housing	Opportunity Driven	Community Development	
Direct those seeking assistance with housing programs to Minnesota Housing programs	Opportunity Driven	Community Development	

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Imperative: An Active Community

Initiative 1: Plan for multi-family and senior residential developments near transit, bicycle routes, trails, sidewalks, etc. in order to reduce building footprints, energy consumption, and reliance on automobiles.

Tactic	Priority	Responsible Party	Resources
Allow flexibility in regulations for multi-family or senior housing projects near Northstar Commuter Rail Station	Opportunity Driven	Community Development	
Create and maintain a policy that allows for density bonuses for new projects in The COR that provide additional public amenities, such as open space dedication or affordable housing, in exchange for densities greater than the Zoning Ordinance typically would allow	Immediate	Community Development	

Initiative 2: Ensure new development projects support an active lifestyle.

Tactic	Priority	Responsible Party	Resources
Continue to require internal trails and sidewalks on adjacent roads for new residential development projects	Opportunity Driven	Community Development	
Continue to require sidewalks on adjacent roads for all non-residential development projects	Opportunity Driven	Community Development	
Encourage new non-residential development projects to include bike racks, bike storage, and locker rooms for bicycle commuting employees	Opportunity Driven	Community Development	
Encourage new residential development projects to include items such as bike racks, bike storage, workout centers, and showers	Opportunity Driven	Community Development	

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Policies

- Provide Incentive-Based Approaches for Individual Improvements to Private Properties
- Monitor the City's housing supply to ensure quality, low-income options
- Create Eliminate blighting influences such as unkempt yards, glaring lights, unscreened storage, noise, inappropriate vehicle storage, etc.
- Require environmentally-sensitive site planning, green building design, and indoor environmental quality best practices. Continue to require stormwater management, strict wetland setbacks, tree preservation standards, and environmental review on development projects.

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City of Ramsey 2040 Comprehensive Plan Update

Natural Resources Plan

Background on this Document

This document is a draft of the narrative to be used in the 2040 Comprehensive Plan Update. This is not a final version or actual layout. This document will be reviewed and revised multiple times. The City will try to add additional maps and figures to better tell the story of this vision.

Add existing background info from current Comp Plan here.

Our Vision

Ramsey will evolve through citizen-driven, collaborative processes that respect the balance and connectivity between its unique urban, rural, and natural environment for current and future generations.

Goals and Strategies

The following represents goals and strategies for the management of natural resources. Subsequent chapters will include their own goals and strategies that integrate with the above. Resources above and beyond current budget approvals are indicated in the 'Additional Resources' column.

Comprehensive Plan Strategic Imperatives

- A Balance of Rural Character and Urban Grown
- An Active Community (Parks, Recreation, and Open Space)
- A Connected Community (Transportation)
- A Positive Learning Environment

Initiatives for the Natural Resources Plan

A Balance of Rural Character and Urban Growth

- Ensure sustainability of food supply and food web
- Maintain and enhance the public community forest (boulevard tree program)
- Reduce erosion along both the Mississippi and Rum Rivers
- Preserve significant ecological resources through conservation design.
- Improve Sustainability and Resilience

An Active Community

- Improve recreation opportunities along the City's Priority Greenway Plan
- Improve water quality of Mississippi River

A Connected Community

- Improve connections to significant ecological resources

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A Positive Learning Environment

- Improve awareness for groundwater planning
- Improve awareness for solid waste reduction

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2030 Plan Accomplishments

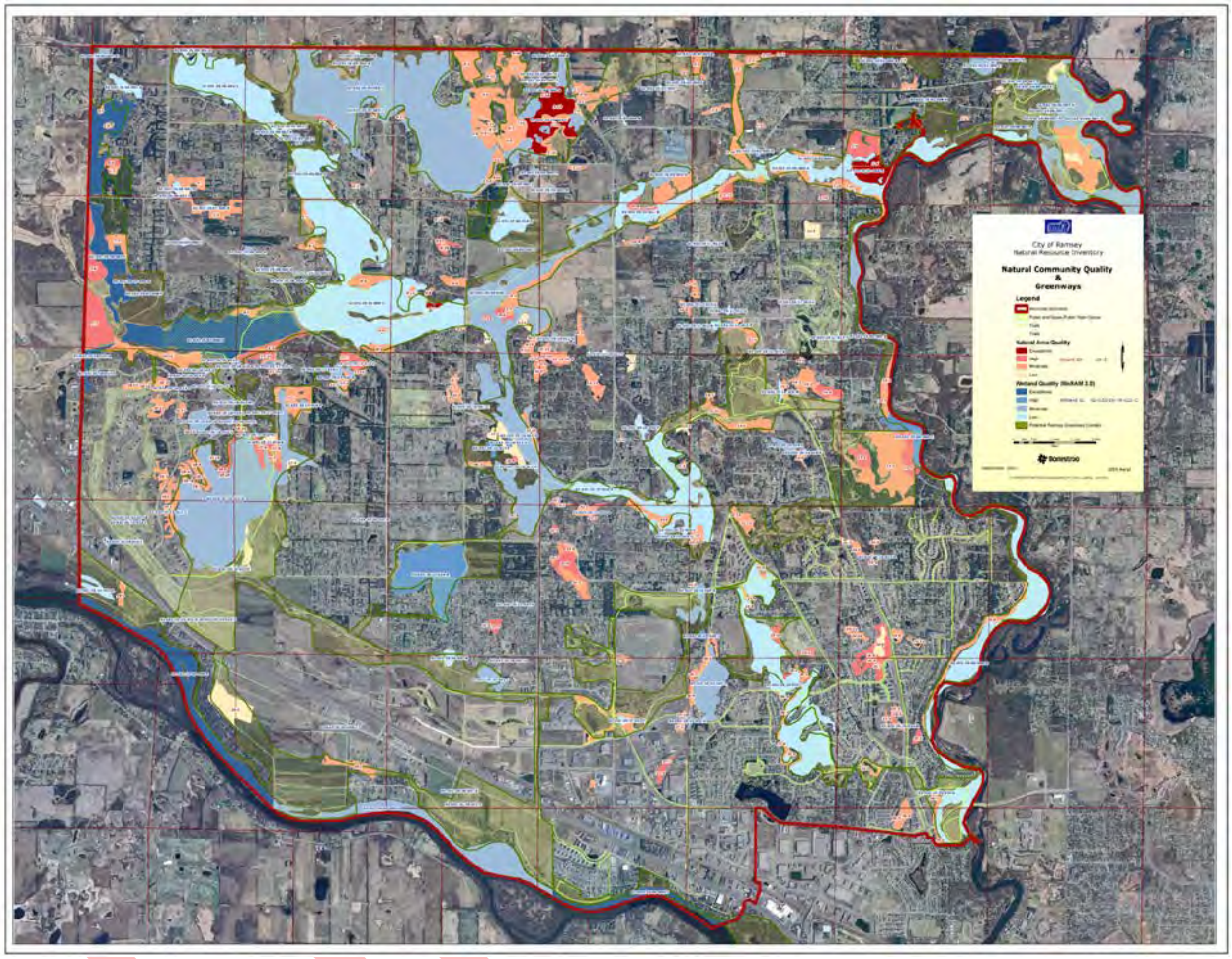
Before looking forward to what Ramsey will strive to accomplish within the timeframe of this Comprehensive Plan, it is always good to pause and look back to what it was able to accomplish over during the course of the 2030 Comprehensive Plan. The last plan was adopted in 2010. While a number of factors have changed since the adoption of the last plan, the City can celebrate a number of successes as it relates to natural resources. Subsequent chapters of the 2040 Comprehensive Plan will celebrate their own successes.

- Relied on the Natural Resources Inventory (NRI) to inform recommendations on subdivision design and areas of focused protection/preservation where feasible.
- Purchased two (2) Weed Wrenches to assist property owners with managing and eradicating certain invasive species, specifically Buckthorn.
- Protected Ramsey's rural character in many areas of the community, representing the largest land area category in the community.
- Mitigated City's financial risks associated by new developments by encouraging new development to focus near existing infrastructure.
- Ensured new development protected natural resources, made trail connections, and blended in with surrounding development.
- Employed conservation subdivision practices intended to protect existing neighborhoods and natural resources.
- Struck a balance between land use planning, policy development, natural resource protection, and private property rights.
- Refined the Tree Preservation Ordinance to establish a reforestation standard and proactively began working with developers to establish street trees rather than just front yard trees.
- Encouraged stormwater management systems/plans that incorporate rain harvesting techniques (reducing the demand on and use of groundwater for irrigation) and rain gardens (to promote infiltration and groundwater recharge).
- Employed new strategies to help residents recycle additional materials and divert more materials from landfills.
- Implemented an organics recycling drop-off program for residents.
- Secured grant funds to establish a 'mini-arboretum' of tree species native to Minnesota in North Commons.
- Continued to maintain the Tree City USA designation (twenty-five [25] years and counting).
- Updated the Floodplain Ordinance and adopted new Flood Insurance Rate Maps to remain compliant with the National Flood Insurance Program.
- Adopted an Emerald Ash Borer (EAB) Management Plan.

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Existing Natural Resources

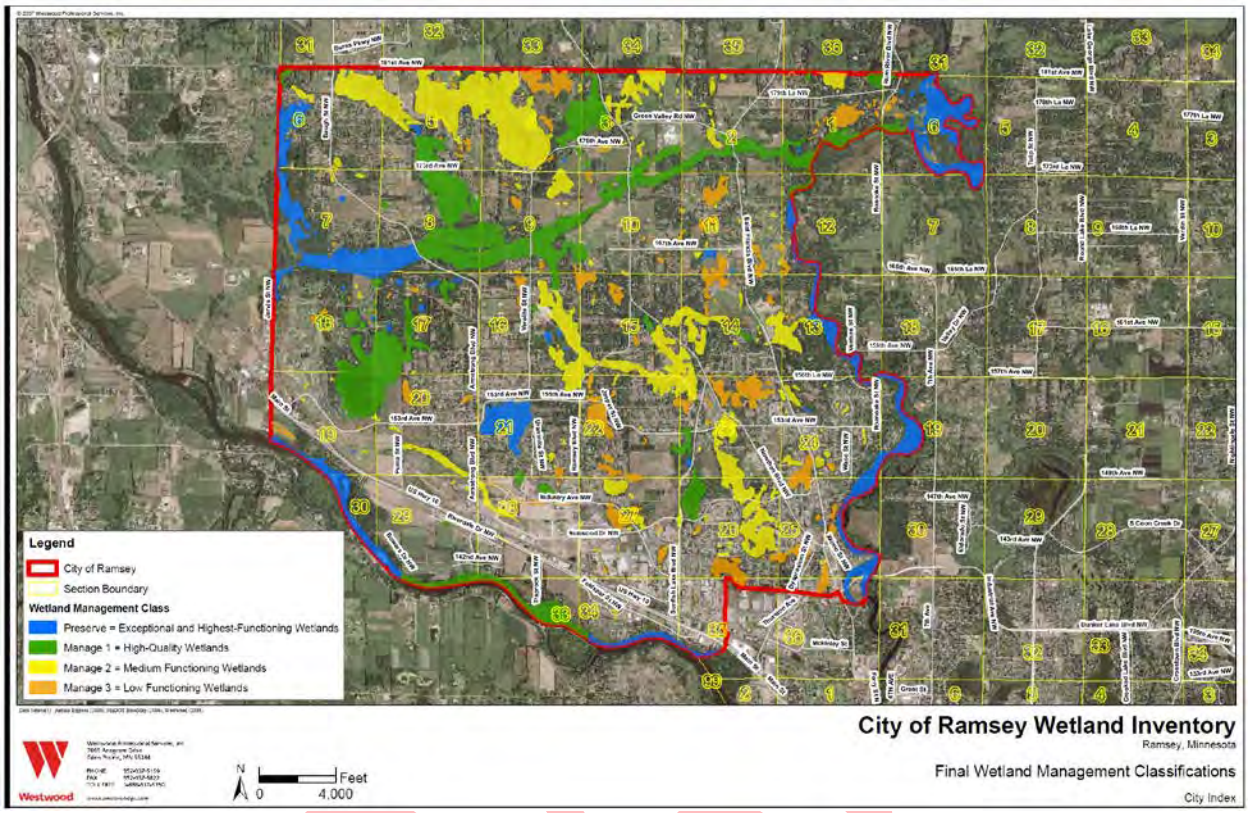
Existing Natural Resource Quality



The City's Natural Resources Inventory (NRI), which was completed in 2007, is relied upon to help inform good land use policy as it relates to stewardship of our natural resources. While wetlands are generally protected from modification by both state and federal regulations, that is not the case with high value upland areas. The NRI therefore provides a good baseline of data that helps inform Ramsey's review of proposed developments. The NRI also assists in identifying areas that may warrant greater protection from development and/or may be suitable candidate(s) for enhancement or expansion.

As part of the NRI, potential greenway corridors were identified. Thus, in addition to providing insight to the potential presence of higher value natural areas, the NRI can also be utilized as a reference and guide for critical corridor connections. As Ramsey continues to experience development pressures, the NRI will eventually need to be 'recalibrated' to ensure that it is still a meaningful and reliable data source.

Existing Wetland Quality



In 2006, Ramsey completed a Wetland Inventory utilizing the Minnesota Routine Assessment Method (MnRAM) to accompany a now repealed wetland buffer ordinance. While the wetland buffer standards are no longer codified, the Wetland Inventory is still relied upon to understand what, if any, impacts proposed development may have, especially regarding wetlands classified as high and exceptional.

Natural Resource Initiatives and Pilot Projects

Ramsey has completed a number of natural resource initiatives and pilot projects in recent years. Key programs include, but are not limited to the following.

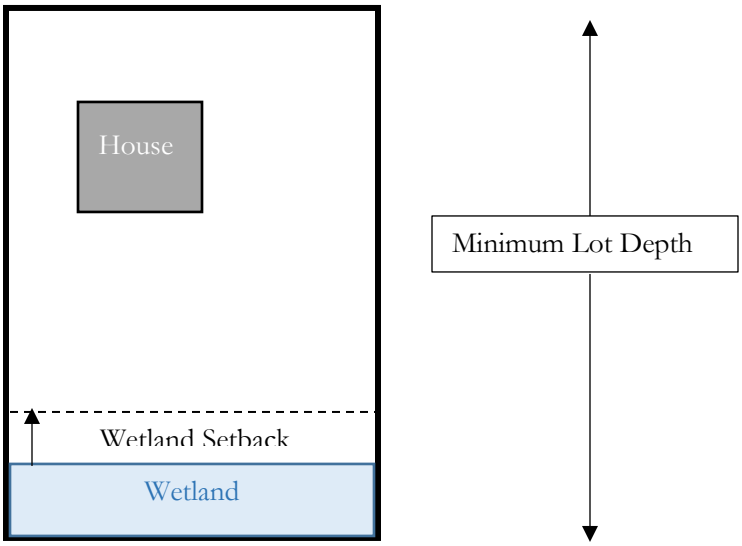
- Buildable Area Standards
- Pollinator Friendly Habitat
- Shoreline Protection

Buildable Area Standards

In 2016, the City adopted new standards related to lot depth as well as instituted a wetland setback. The purpose of both of these standards was to ensure that newly created lots would actually have sufficient buildable and usable area to accommodate typical homeowner additions, such as a deck, small shed, a yard to play in, etc. Too often, homeowners attempting to make improvements to their property were discovering that there was not sufficient space to accommodate a new deck, a detached accessory building, or even to establish what they viewed as a usable backyard. This was creating a lot of frustration on their part and was also resulting in code violations as well. By implementing these new standards, it not only assured that each newly created lot would have buildable and/or usable space beyond the footprint of their home, but also

helped to protect wetlands both from being filled in as well as from a water quality stand point (more filtration of runoff before entering the wetland).

Figure 1: Buildable Area and Wetland Setback Example



Pollinator Friendly Habitat

The City desires to encourage more pollinator friendly habitat for a multitude of reasons. First and foremost, Ramsey desires to ensure the sustainability of food supply and the food web, which relies heavily on pollinators. By promoting pollinator friendly practices and initiatives, the City not only helps foster the concept of local food through opportunities such as a local farmer's market, but also encourages the protection, restoration, and/or establishment of pollinator habitat.

Broadly speaking, pollinator habitat generally consists of native plants, shrubs and trees. Native species are generally more drought tolerant and require fewer inputs, such as water (irrigation) and chemicals (fertilizers and herbicides). Thus, by establishing more pollinator friendly habitat, the demand on groundwater for irrigation purposes should decrease. Furthermore, the reduced need for chemical applications should lower the potential of groundwater and/or surface water contamination from inappropriate application of these products on the landscape.

Protecting, restoring, and/or establishing pollinator habitat also creates habitat for a variety of wildlife. Where feasible, conglomerations of pollinator friendly landscapes can become the basis for wildlife corridors and potentially even a greenway corridor. Even small patches, such as a backyard butterfly garden, of pollinator friendly habitat can be beneficial for many pollinators whose populations are declining as habitat loss continues to incease.

Mayors for Monarchs

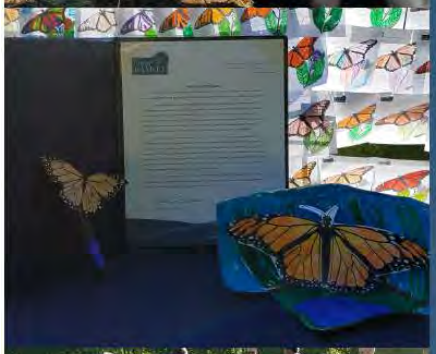
The City has taken the Mayors for Monarchs Pledge to affirm its support not only for the iconic monarch butterfly, but also for pollinators in general, whose habitat continues to be fragmented and/or destroyed.

Figure 2: Mayors for Monarchs Background

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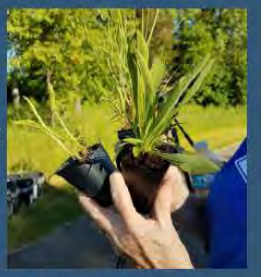
Mayors for Monarchs

Many people may not realize that Monarch butterflies play an important role in pollinating various plants, including many of our food crops. But their population has declined by more than 90% in the last two decades. That is why it is important to create special habitats for these pollinators in our yards and gardens. Recently, the City of Ramsey adopted a resolution to support pollinator initiatives throughout our community.



Ramsey Mayor, Sarah Strommen, launched the initiative by signing the Mayors for Monarchs Pledge to support Monarch butterflies in our community by implementing efforts to create, restore, and protect pollinator habitat and encouraging our citizens to do the same in their own backyards. The Mayors for Monarchs Pledge Signing event took place on June 6, 2017 at the Lake Itasca Trailhead in Ramsey.

At the pledge signing event Mayor Strommen designated a new "Monarch Trail" along the Lake Itasca Trail corridor. Together with the U.S. Fish and Wildlife Service, the City of Ramsey will be restoring six and a half acres of land along this trail to a natural habitat designed to support Monarch butterflies and other important pollinators.



Students from Youth First Community of Promise were there to jump-start the project by planting a small section of native plant plugs at this event, which was representative of the larger-scale planting that will happen this fall.

Fourth grade students from Ramsey Elementary also contributed to the event by creating 150 colorful butterflies, which served as the backdrop for this event and will also be on display in the Ramsey City Hall in honor of National Pollinator Week, June 19 - 25, 2017.

If you are interested in learning more about the Monarch butterfly, be sure to check out Ramsey Parks & Recreation's Monarch Lab on July 25. Visit www.cityoframsey.com/ParkEvents for more information on how to register.

City of RAMSEY

Lake Itasca Monarch Trail

In the summer of 2017, the City designated a portion of the Lake Itasca Trail as a Monarch Trail. This was in conjunction with the Mayor's Monarch Pledge proclamation. The Monarch Trail includes roughly seven (7) acres of land on both sides of an existing, well used trail segment along Lake Itasca. A ceremonial planting of a mixture of plugs was completed in the summer of 2017. Site preparations occurred over the following fall, winter and spring seasons. This included a prescribed burn to eliminate non-native and undesirable vegetation (forbs/grasses) and removal of red cedar and Siberian elms within approximately 100 feet of the trail. The site was then seeded with species favored by monarch butterflies and other pollinators. This project converted fallow land into a native, pollinator friendly landscape that abuts a heavily used walking/biking trail in the community. Thus, it not only created new habitat but also did so in a location that would is highly visible to the community.

Figure 3: Lake Itasca Monarch Trail

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Brookfield Trail Connection

In 2016, Ramsey identified an opportunity to create a new trail connection to the Trott Brook Trail, a very popular walking/biking trail that parallels Trott Brook. There were multiple facets to this project that, in concert, would improve mobility, create pollinator friendly habitat, promote infiltration and improve water quality. The new trail segment provided a 'mid-block' connection to the existing Trott Brook Trail. Since the existing pedestrian ramp was at the low spot in the road, an opportunity existed to incorporate a rain garden

into this project to promote infiltration and groundwater recharge while also improving the water quality of a large stormwater pond that serves as a 'water feature amenity' for this neighborhood also. Finally, rather than installing a typically turfgrass landscape that would require irrigation and regular, routine maintenance (mowing), a native, pollinator friendly landscape was established on both sides of the trail. This creates not only additional habitat for pollinators, but also will result in year round interest and variability in the viewshed.



Shoreline Protection

The Mississippi River and Rum River experience significant erosion that poses a threat to individual properties and water quality as well. The Anoka Conservation District completed an inventory of the Mississippi River shoreline in December of 2015 to assess the severity of erosion. While a formal shoreline erosion inventory has not been completed on the Rum River, the Lower Rum River Watershed Management Organization (LRRWMO), along with City Staff, do conduct annual inspections to identify potential erosion concerns (as well as potential violations of the Wild and Scenic River Overlay District).

One of the primary impetuses for the formal inventory of the Mississippi River shoreline was to identify the most problematic properties and to use that data to solicit funding assistance.

Acceptable Shoreline Stabilization Techniques

There are a number of potential acceptable stabilization techniques that can be employed. While Ramsey would look for guidance from other, more technically specialized agencies, such as the Anoka Conservation District, some potentially acceptable techniques may include:

- Vegetation
- Natural Barriers
- Rip Rap
- Wing Dams
- Other

Oftentimes, a combination of techniques may be necessary. However, each site likely will have specific conditions or circumstances that will, at least in part, determine which method(s) will be most effective.

New Preservation Efforts

Moving forward, Ramsey desires to enhance efforts in two (2) main categories.

1. Groundwater Supply Preservation
2. Solid Waste Reduction
3. Access to Solar
4. Alternative Energy
5. Greenway Planning
6. Water Quality
7. Public Realm Landscaping

Groundwater Supply Preservation

Ramsey desires to protect the quantity and quality of our groundwater supply and aquifers. The City will accomplish this goal with two (2) broad strategies.

1. Programs, Incentives, and Rebates
2. Educational Initiatives

Solid Waste Reduction

Ramsey contracts with a single hauler for curbside service for single-family residential . This not only helps with participation rates and education, but also helps reduce the number of trucks traversing local streets (less wear and tear and likely reduces air pollutants as well). The curbside program provides collection of recyclables on an every other week (EOW) schedule. Ramsey is divided into an east side and west side for collection purposes, generally along Sunfish Lake Blvd and Nowthen Blvd (with all residential properties south of Highway 10 being considered west).

In 2014, State Statute 115A.551 (Recycling) was amending to specify that by December 31, 2030, each metropolitan county will have a goal to recycle seventy-five percent (75%), by weight, of the total solid waste generated. Furthermore, it states that counties will develop or require political subdivisions within the county to develop and implement programs, practices, and/or methods designed to achieve this goal.

In recognition of this aggressive goal, Ramsey has created new and/or additional opportunities for residents to properly dispose of recyclable materials. This includes expanding the list of acceptable materials collected during Ramsey's Recycling Day events, which now accepts carpet, carpet padding, textiles, motor oil, oil filters, and antifreeze. Additionally, Ramsey has added a third Recycling Day (summer) event to provide an

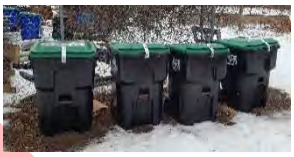
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additional opportunity for residents to properly dispose of materials generally not accepted through the curbside program.

After review of a recent metropolitan waste sort (completed for Hennepin County in 2016), it is clear that organic materials represent the largest component remaining in trash. This represents a potential opportunity to boost Ramsey's recycling tonnage, which led the city to implement an organics recycling drop-off program.



Ramsey is providing 'starter kits' at no cost to encourage residents to participate in this program. There are carts located at the Public Works Campus for participants to drop off their organics. Ramsey is continuing to explore various options to expand and improve the organics program. This could include a larger scale drop-off site and/or a curbside program is yet another attempt to increase the amount of material diverted from the trash to the recycling stream.



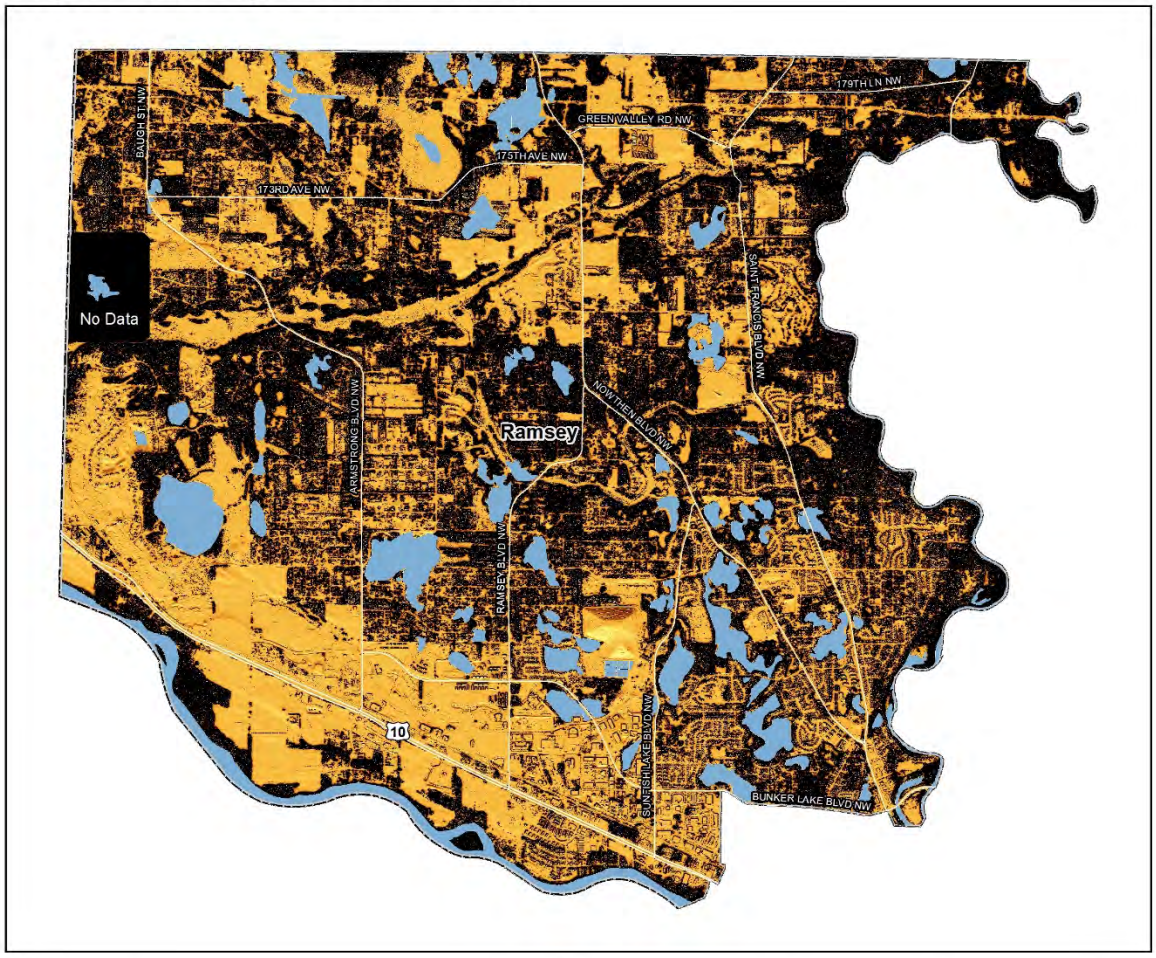
The greatest opportunity to realize significant gains in recycling, however, will likely come from the commercial sector. While Ramsey's recycling program is focused on the residential sector, primarily based on how the program is funded (Select Committee on Recycling and the Environment, aka SCORE), Anoka County does work with the commercial sector. They have partnered with Minnesota Waste Wise to conduct waste audits for interested commercial entities and guidance on how to increase recycling and reduce waste (and possibly costs too). Ramsey supports this work and will continue to explore opportunities to educate and assist the commercial sector with waste reduction measures where feasible.

Access to Solar

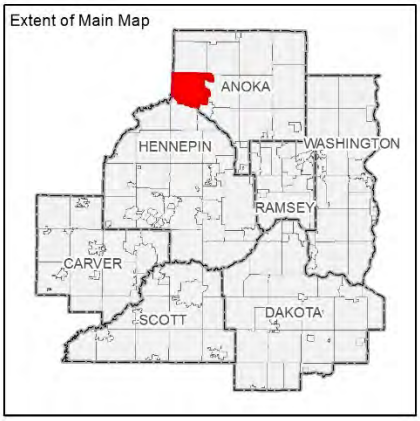
In the mid-2010s, Ramsey amended its Zoning Code to permit both ground mounted and building mounted solar arrays as an accessory use in any zoning district. This created the possibility for both the residential and commercial/industrial sectors to lawfully install solar energy systems if they so desired. In 2017, Ramsey amended its Zoning Code again to identify solar energy systems as a principal use with the issuance of a Conditional Use Permit within the Public/Quasi-Public zoning district.

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Gross Solar Potential
City of Ramsey, Anoka County



1/5/2017



0 0.5 1 2 3 4
Miles

Gross Solar Potential
(Watt-hours per Year)

High : 1266356

Low : 900001

Solar Potential under 900,000 watt-hours per year

County Boundaries

City and Township Boundaries

Wetlands and Open Water Features

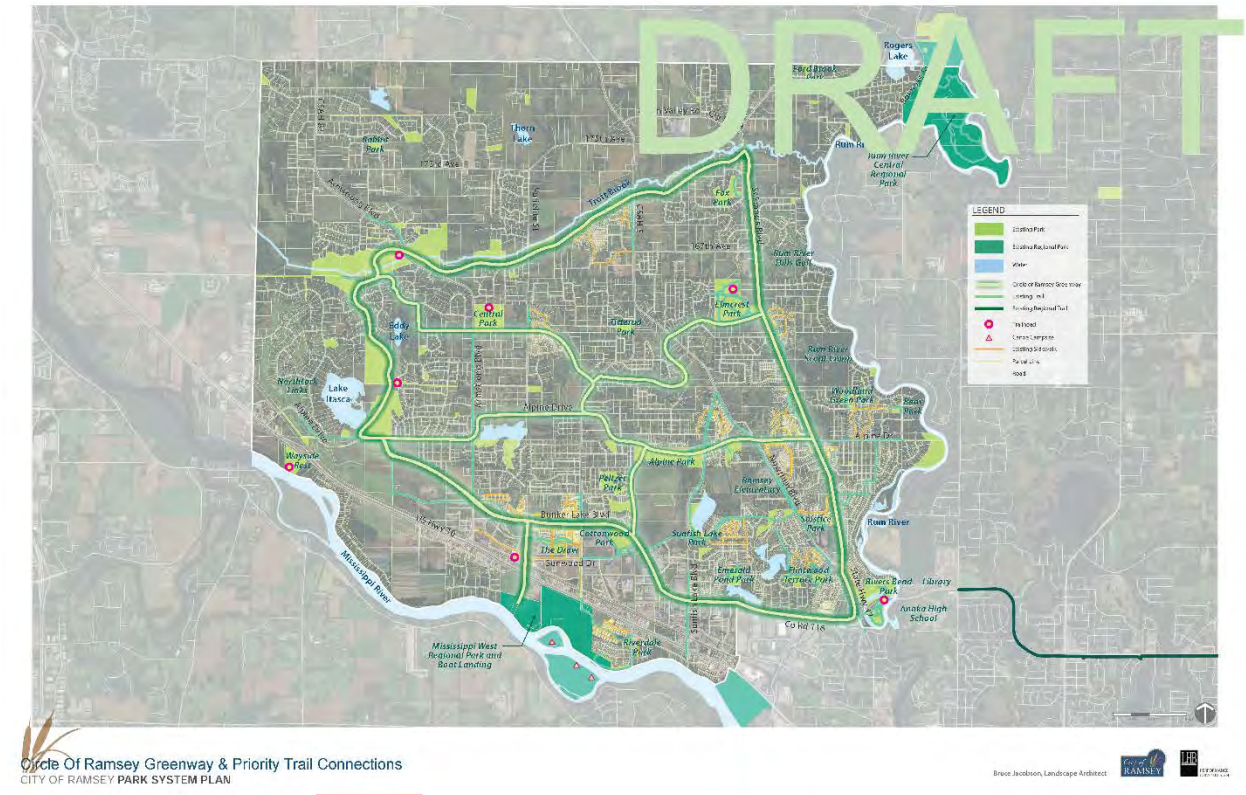
Source: University of Minnesota U-Spatial Statewide Solar Raster.

Alternative Energy

Ramsey recognizes the growing field of renewable energy sources and has taken steps over the past decade to include provisions in the Zoning Code that govern their installation. In addition to solar energy systems (as addressed above), Ramsey also permits, under certain conditions, Wind Energy Conversion Systems (WECS) and Ground Source Heat Pumps. Ramsey will continue to monitor the evolution of alternative energies and, where appropriate and supported by the community, will contemplate zoning amendments to avoid unintentionally prohibiting their installation.

Greenway Planning

Ramsey has developed a robust system of parks and trails. Trail connectivity is a key metric of success for our community. Ramsey desires to continue our tradition of prudent trail planning, connecting important recreational and ecological resources. In order prioritize limited resources to accomplish this goal, Ramsey has prioritized important trail connections around the 'Circle of Ramsey' connecting our system of Community Parks.



Water Quality

Chlorides (de-icing salts) are a growing concern, not only in Ramsey but across the state, due to their likely impact on water quality. Ramsey is committed to exploring opportunities to reduce the quantities of de-icing salts used on roadways as long as it does not negatively impact safety. Options that could be considered or further investigated include an outright reduction in salt applied to roadways and parking lots, installation of pervious pavement and/or pervious concrete roads, alternative road surfaces (e.g. 'solar' roads that aid in melting snow), etc.

Public Realm Landscaping

Ramsey is committed to growing its boulevard/street tree program. A well designed urban forest addresses several of the key imperatives that were identified throughout the public engagement process. Boulevard trees aid with reducing stormwater runoff (improved water quality and increased infiltration). As Ramsey continues to develop, it will inevitably result in a greater number of vehicles on the roads. Boulevard trees will help filter out pollutants and other particulates from the air while also having a traffic calming effect. Boulevard trees also add economic and aesthetic value to neighborhoods and commercial districts.

University of Minnesota Resilient Communities Project

During the 2017-2018 Academic School Year, Ramsey partnered with the University of Minnesota's Resilient Communities Project (RCP) to advance resilience planning and goals. A summary of the projects evaluated during the academic year is found below. Project reports are available upon requests. Many of the recommendations from the RCP partnership are integrated into this document's goals and implementation strategies.



RESILIENT COMMUNITIES PROJECT

What is the Resilient Communities Project?

The Resilient Communities Project (RCP) is a cross disciplinary program at the University of Minnesota whose mission is to connect communities in Minnesota with University faculty and students to advance local sustainability and resilience through collaborative, course-based projects. Ultimately, RCP strives to

- build local capacity to address community sustainability and resilience issues
- train students to be future sustainability practitioners in their fields
- produce case studies, tool kits, and other resources that advance sustainability and resilience practice at the community scale

How does RCP work?

Each academic year, RCP selects a partner community (typically a city, county, or tribal government) through a competitive process. RCP collaborates with the selected community to identify between 5 and 30 projects— based on community identified environmental, social, and economic issues and needs—that will advance local sustainability and resilience. Then, RCP serves as a matchmaker, strategically connecting the community's projects with existing U of MN courses that can provide appropriate research or technical assistance.

Staff and stakeholders from our partner communities work closely with faculty and students to provide local knowledge and deeper insight into the issues, ensuring the work students undertake is relevant to the community context. Outcomes from each University course are documented in a final report and presentation at the conclusion of the semester. Project results are shared with the community, and disseminated through RCP's website for use by other communities.

What are the benefits to students of collaborating with RCP?

- Efficient access to high-quality and well-organized community projects
- Experience applying your knowledge and skills to real-world issues
- Opportunities to build your resume or portfolio for future job interviews
- Potential to meaningfully advance local sustainability and resilience
- Local and regional visibility and recognition for your work
- Opportunities to network with local government and industry professionals

For more information:

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RCPumn

Resilient Communities Project
UNIVERSITY OF MINNESOTA
Driven to Discover℠



RCP–RAMSEY PROJECTS, 2017–2018

For the 2017–2018 academic year, RCP is collaborating with the City of Ramsey on 20 projects that will engage dozens of U of MN courses and hundreds of students to provide information, ideas, and new perspectives on locally identified sustainability and resilience issues.

Community Identity and Engagement

Every Voice Matters
Resident Engagement and Volunteerism Plan

A Gathering Place for Community
Community Center Plan

Sustaining Our Legacy
Historic Town Hall Plan

Creating Community Identify
Branding and Marketing Plan

Land Use and Transportation

Highway 10: A Community and Regional Focal Point
U.S. Highway 10 Corridor Plan

Connecting Ramsey
City-Wide Greenway Plan

A Gathering Within: An Attraction Beyond
The CDR Development Plan Update

Paying for Future Infrastructure Needs
Development Fee Study

Environmental Stewardship

Integrating Resources into Our Future
Natural Resources Management and Outreach Plan

Preventing Flood Damage and Disaster
Floodplain Communications Plan

Reduce Waste, Reuse Resources
Organics Recycling Plan

Clean Water, Clean Soil
Septic System Communications Plan

Will the Faucet Turn On?
Water Conservation Toolkit

Restoring Our Edge
Mississippi Shoreline Plan

Housing and Economic Development

Encouraging Small Business Growth and Expansion
Business Incubator Plan

Creating Housing Opportunities for All Generations
Housing Plan

Creating Destination
Retail Market Analysis

Administration

Protecting Our Investments
Asset Management Plan

Sustaining Our Team
Employee Development Plan

Employee Benefits for the Next Generation
Employee Benefits Plan

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RCP is a program of the University of Minnesota's Center for Urban and Regional Affairs (CURA).

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Printed on recycled and recyclable paper with at least 10 percent postconsumer waste material.

Natural Resources Implementation

Imperative #1: A Balance of Rural Character and Urban Growth

Initiative #1.1: Ensure sustainability of food supply and food web

Tactic	Priority	Responsible Party	Resources
Promote pollinator friendly landscape practices	Immediate	Community Development	

Initiative #1.2: Maintain and enhance the community forest

Tactic	Priority	Responsible Party	Resources
Develop a boulevard tree program	Long Term	Community Development	

Initiative #1.3: Reduce erosion along shorelines

Tactic	Priority	Responsible Party	Resources
Create a Shoreline Protection Plan for the Mississippi River	Immediate	Community Development	
Create a Shoreline Protection Plan for the Rum River	Immediate	Community Development	

Initiative #1.4: Preserve significant ecological resources during development

Tactic	Priority	Responsible Party	Resources
Create a Conservation Subdivision Design Policy	Long Term	Community Development	
Create an Overlay District for Trott Brook	Long Term	Community Development	
Implement the Mississippi River Corridor Critical Areal Plan	Immediate	Community Development	

Initiative #1.5: Improve Sustainability and Resilience

Tactic	Priority	Responsible Party	Resources
Create a Community Resiliency Plan	Long Term	Community Development	TBD

Imperative#2: An Active Community

Initiative #2.1: Improve recreation opportunities along the City's Priority Greenway Plan

Tactic	Priority	Responsible Party	Resources
Complete the Priority Greenway Plan	Immediate	Parks and Recreation	

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Imperative #3: A Connected Community

Initiative #3.1: Improve connections to significant ecological resources

Tactic	Priority	Responsible Party	Resources
Inventory potential access points to significant ecological resources	Long Term	Community Development	

Imperative #4: A Positive Learning Environment

Initiative #4.1: Improve awareness for groundwater planning

Tactic	Priority	Responsible Party	Resources
Create an Outreach Plan for groundwater planning	Long Term	Community Development	

Initiative #4.2: Improve awareness for solid waste reduction

Tactic	Priority	Responsible Party	Resources
Create an Outreach Plan for Organics Recycling	Long Term	Community Development	

Relationship to Regional Planning

The Metropolitan Council's Regional Development Framework, ThriveMSP 2040, outlines roles for the Metropolitan Council and Ramsey for land use policy. Specific to land use policy, the Metropolitan Council has set a goal for the region to achieve Orderly and Efficient Land Use.

Ramsey Role - Natural Resource Protection	Metropolitan Council Role – Natural Resource Protection
• Include goals, priorities, and natural resource conservation strategies in the local comprehensive plan to protect and enhance natural resources identified in regional and local natural resource inventories. • Conserve, protect, and interconnect open space to enhance livability, recreational opportunities and habitats. • Adopt and implement ordinances for the conservation and restoration of natural resources within the community. • Work with regional partners and regional park implementing agencies to identify, plan for, and acquire natural areas and resources prime for preservation and protection. • Plan for aggregate resource extraction where viable deposits remain accessible, as required by the Metropolitan Land Planning Act.	• Integrate natural resource protection strategies into metropolitan system plans for infrastructure investments. • Collaborate with local, regional, and state partners to expand the Regional Parks System, as appropriate, to conserve, maintain, and connect natural resources identified as of high quality or of regional importance, consistent with the 2040 Regional Parks Policy Plan. • Collaborate and convene with state, regional, and local partners to protect, maintain, and enhance natural resources protection. • Maintain an up-to-date regional Natural Resources Inventory and Assessment in partnership with the Department of Natural Resources.

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• Complete local natural resources inventories, prioritize areas to protect, and integrate natural resources conservation into local ordinances. • Conserve natural resources and protect vital natural areas when designing and constructing local infrastructure and planning land use patterns. • Encourage site planning that incorporates natural areas as part of site development and redevelopment.	• Provide technical assistance and tools for natural resources protection, conservation, and restoration. • Promote the implementation of best management practices for habitat restoration and natural resource conservation.
Ramsey Role – Water Sustainability • Incorporate best management practices for stormwater management in planning processes and implement best management practices with development and redevelopment to control and treat stormwater. • Integrate water sustainability and protection of groundwater recharge areas into local plans. Consider how development, irrigation, reductions in infiltration and inflow, and increased surface runoff impact groundwater recharge and consider conservation strategies and best management practices to mitigate these impacts. • Adopt and implement best management practices for protection of natural resources, the quality and quantity of our water resources, and the preservation of water supply. • Explore alternative water supply sources to ensure adequate water resources beyond 2040. • Collaborate and convene with state, regional, and local partners to protect, maintain, and enhance natural resources protection and the protection of the quality and quantity of the region's water resources and water supply. • Prepare and implement local water supply plans and source water (wellhead) protection ordinances, consistent with Minnesota Rules part 4720, in all communities with municipal water supply. • Plan land use patterns that facilitate groundwater recharge and reuse, and	Metropolitan Council Role – Water Sustainability • Collaborate and convene with state, regional, and local partners to protect, maintain, and enhance natural resources protection and the protection of the quality and quantity of the region's water resources and water supply. • Work to maintain and improve the quality and availability of the region's water resources to support habitat and ecosystem health while providing for recreational opportunities, all of which are critical elements of our region's quality of life. • Update regional plans for water supply and pursue environmentally sound and cooperative water reuse practices, conservation initiatives, joint planning, and implementation efforts to maximize surface water infiltration to recharge groundwater supplies. • Support economic growth and development by promoting the wise use of water through a sustainable balance of surface and groundwater use, conservation, reuse, aquifer recharge and other practices. • Provide efficient and high-quality regional wastewater infrastructure and services. • Pursue wastewater reuse where economically feasible as a means to promote sustainable water resources. • Reduce the excess flow of clear water into the regional wastewater collection system (inflow and infiltration) to protect capacity for future growth. • Require proper management of subsurface treatment systems, consistent with Minn. Rules Chapters 7080-7083, to minimize

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reduce per capita water use to protect the region's water supply. • Plan for sustainable water supply options and groundwater recharge areas to promote development in accordance with natural resources protection and efficient use of land. • Partner with other water supply providers to explore options to reduce dependence on groundwater. • Prepare and implement local surface water plans as required by Minnesota Rules Chapter 8410, the Metropolitan Land Planning Act, and the 2040 Water Resources Policy Plan. • Reduce the excess flow of clear water into the local wastewater collection system (inflow and infiltration). Participate in inflow / infiltration grant programs as available. • Incorporate current MPCA regulations (Minn. Rules Chapters 7080-7083) as part of a program for managing subsurface sewage treatment systems (SSTS) in the comprehensive plan and local ordinances, and implement the standards in issuing permits. Describe the conditions under which the installation of SSTS will be permitted and the areas not suitable for public or private systems. • Adopt and enforce ordinances related to stormwater management and erosion control. • Adopt and implement best management practices for abating, preventing, and reducing point and nonpoint source pollution. • Develop and adopt critical area plans and ordinances consistent with Executive Order 79-19 and Critical Area Program rules in all communities with affected lands in the Mississippi River Critical Area Corridor. • Integrate drinking water source protection into local land use decisions, particularly in Drinking Water Supply Management Areas. • Develop programs that encourage stormwater management, treatment, and infiltration.	impacts on surface water, groundwater, and public health. • Assure adequate and high quality groundwater and surface water supplies to protect public health and support economic growth and development by promoting the wise use of water through a sustainable balance of surface water and groundwater use, conservation, reuse, aquifer recharge, and other practices. • Review watershed management plans in coordination with the Board of Water and Soil Resources. • Review local water plans in partnership with the watershed organizations that approve the local water plans. • Support implementation of volume reduction techniques such as infiltration or filtration for stormwater management. • Promote the implementation of best management practices for stormwater management. • Collaborate with the Minnesota Department of Natural Resources (DNR) to provide technical assistance to local governments in implementing the Mississippi River Critical Area Program, and coordinate with the DNR in review of those plans and ordinances.
Ramsey Role – Resilience	Metropolitan Council Role – Resilience

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- Identify local measures that would result in reductions in water use, energy consumption, and greenhouse gas emissions.
- Identify local mitigation and adaptation strategies and infrastructure resiliency plans to protect against potential negative impacts to local economies, local resources, and infrastructure systems that result from more frequent or severe weather events.
- Implement compact development patterns and create more connected places to reduce auto-dependency and related generation of greenhouse gas emissions.
- Address climate change mitigation and adaptation in locally meaningful ways in the local comprehensive plan.
- Identify local measures that would result in reductions in water use, energy consumption, and emission of greenhouse gases.
- Ensure that local comprehensive plans and ordinances protect and enable the development of solar resources, as required by the Metropolitan Land Planning Act, and consider the use of other alternative energy sources as part of the planning process.
- Consider the development or use of community solar gardens (CSGs) by public and private entities to enable fuller and more economic use of the community's solar resource, including participating as subscribers, assisting in marketing community solar garden opportunities for economic development, and providing sites for gardens to be developed.
- Identify local measures to address impacts to local economies, local resources, and infrastructure systems as a result of more frequent or severe weather events.
- Identify local initiatives as cost-saving measures that may, as a result, lower energy consumption, reduce the generation of greenhouse gas emissions, preserve water supply, reduce municipal waste, or increase participation in recycling programs.
- Participate in programs that evaluate and share city practices and provide technical

- Substantially reduce energy consumption at Council facilities, improve the efficiency of the Council's vehicle fleets including Metro Transit buses, and provide information to the public and partners to lead by example.
- With regional infrastructure, planning, and operations, increase efforts to reduce water use and energy consumption.
- Identify and address potential vulnerabilities in regional systems as a result of increased frequency and severity of storms and heat waves. Maintain dikes, emergency generators, and response plans for Council facilities facing extreme weather.
- Use the Council's investments and planning authorities to contribute toward meeting statutory goals for reductions in the generation of regional greenhouse gas emissions.
- Convene regional discussions about goals for climate change mitigation and adaptation.
- Encourage the preparation of adaptation, mitigation, and resiliency responses to climate change as part of the comprehensive plan update.
- Develop, collect, and disseminate information about climate change, including energy and climate data, GreenStep Cities best practices, and the next generation of the Regional Indicators data.
- Work with the State of Minnesota on a greenhouse gas emissions inventory that informs regional discussion on emissions reduction.
- Provide technical assistance and toolkit resources to communities in integrating climate change mitigation and adaptation strategies as part of local comprehensive plans.
- Develop and strengthen partnerships with experts in climate change to better assist and inform local communities on how best to evaluate and develop local climate changes strategies.
- Encourage communities to participate in regional programs which support efforts to

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support, such as the GreenStep Cities program and the Regional Indicators Initiative.	inform, plan for, mitigate, adapt, and respond to climate change issues of local significance such as water conservation, stormwater infrastructure adaptation, greenhouse gas reduction, use of alternative energy sources, infrastructure planning, and hazard mitigation planning. • Provide technical references and resources for communities seeking to mitigate and adapt to climate change in their own facilities and in their communities. Examples of these resources include stormwater, wastewater, and water supply management practices, and transit and land use planning. • Provide, or collaborate with partners to provide, technical references, and resources for communities seeking to mitigate and adapt to climate change, in their own facilities and in their communities, including, but not limited to, stormwater, wastewater, and water supply management practices,

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Introduction

Designated by Governor's Executive Order in the 1970s, the Mississippi River Corridor Critical Area (MRCCA) is a land corridor along the Mississippi River in the Twin Cities Metropolitan Area governed by special land planning requirements and land development regulations. These regulations, which are implemented through local MRCCA plans and ordinances, protect and preserve the natural, scenic, recreational, and transportation resources of this section of the Mississippi River. The MRCCA comprises 72 miles of river and 54,000 acres of surrounding land in 30 local jurisdictions.

Ramsey adopted its first Critical Area Plan in 1980. Ramsey adopted its first Critical Area Ordinance in 1985, and has processed several amendments since that date.

Ramsey has ensured that plan preparation has included extensive public engagement. In 2013, Ramsey hosted a series of public workshops on the topic, and maintains a contact database. In addition, Ramsey's overall Comprehensive Plan Update has included the most extensive public engagement process Ramsey has hosted for any of its Comprehensive Plan Updates.

Goals for the Critical Area

- Improve water quality.
- Reduce shoreline erosion.
- Improve access to the river.
- Protect significant ecological areas.

Initiatives for the Critical Area

Improve Water Quality

Initiatives designed to advance the improvement of water quality.

- Reduce the amount of sediment entering the river.
- Reduce the amount of phosphorus entering the river.

Reduce Shoreline Erosion

- Reduce the amount of erosion of upland area.

Improve Access to River

- Provide guidance to private owners on creating private access points.
- Encourage utilization of existing public spaces to access and view the river.
- Prioritize areas of additional acquisition to improve public access to the river.

Protect Significant Ecological Resources

- Encourage the protection of significant tree canopy coverage.
- Encourage the protection of ecologically significant vegetation.
- Encourage the establishment of pollinator friendly landscaping.

Mississippi River Corridor Critical Area Districts

River Neighborhood

The river neighborhood district is characterized by primarily residential neighborhoods that are riparian or readily visible from the river or that abut riparian parkland. The district includes parks and open space, limited commercial development, marinas, and related land uses.

The river neighborhood district must be managed to maintain the character of the river corridor within the context of existing residential and related neighborhood development, and to protect and enhance habitat, parks and open space, public river corridor views, and scenic, natural, and historic areas. Minimizing erosion and the flow of untreated storm water into the river and enhancing habitat and shoreline habitat vegetation are priorities in the district.

Rural Open Space

The rural and open space district is characterized by rural and low-density development patterns and land uses, and includes land that is riparian or visible from the river, as well as large, undeveloped tracts of high ecological and scenic value, floodplain, and undeveloped islands. Many primary conservation areas exist in the district.

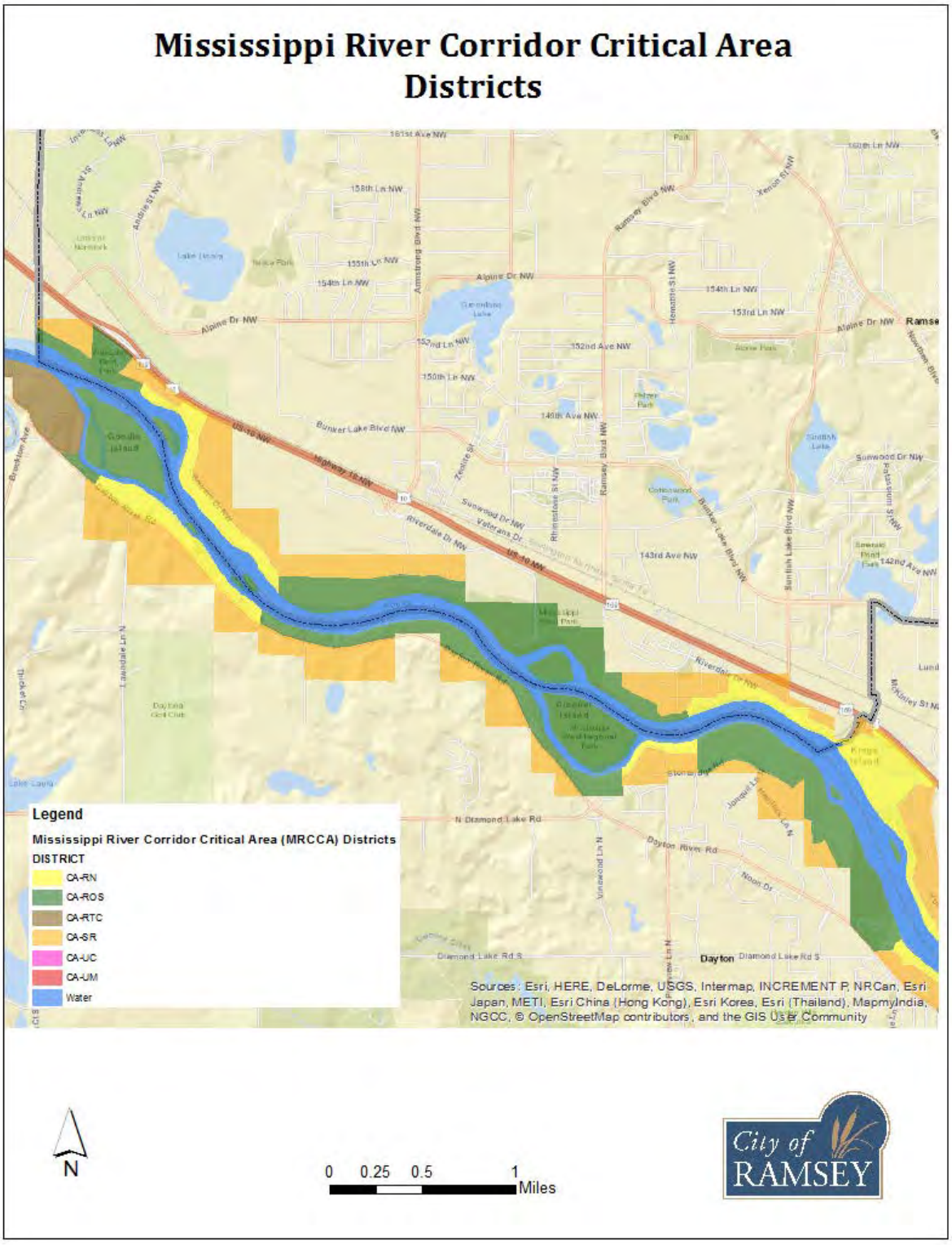
The rural open space district must be managed to sustain and restore the rural and natural character of the corridor and to protect and enhance habitat, parks and open space, public river corridor views, and scenic, natural, and historic areas.

Separated From River

The separated from river district is characterized by its physical and visual distance from the Mississippi River. The district includes land separated from the river by distance, topography, development, or a transportation corridor. The land in this district is not readily visible from the Mississippi River.

The CA-SR district provides flexibility in managing development without negatively affecting the key resources and features of the river corridor. Minimizing negative impacts to primary conservation areas and minimizing erosion and flow of untreated storm water into the Mississippi River are priorities in the district.

Figure 1: Mississippi River Corridor Critical Area Districts



Primary Conservation Areas

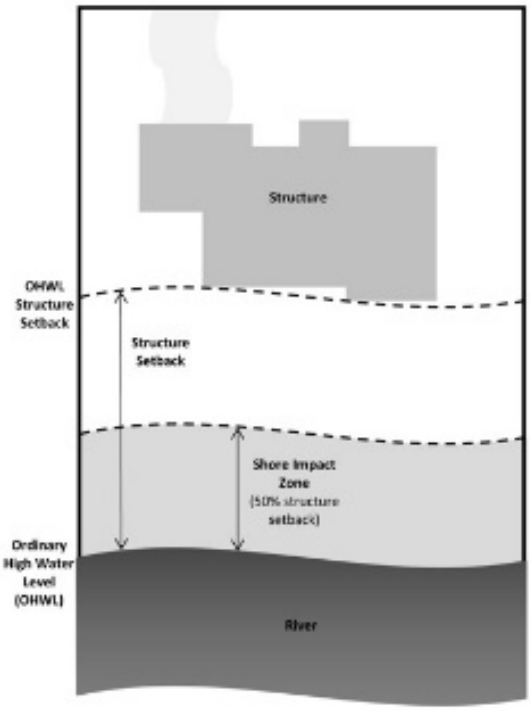
"Primary conservation areas" means key resources and features, including shore impact zones, bluff impact zones, floodplains, wetlands, gorges, areas of confluence with tributaries, natural drainage routes, unstable soils and bedrock, native plant communities, cultural and historic properties, significant existing vegetative stands, tree canopies, and other resources identified in local government plans.

General Overview and Description

Generalized maps of the Primary Conservation Areas below are included in the text below. Larger, more detailed maps are included as an appendix. Detailed maps will be available upon request.

Shore Impact Zones

"Shore impact zone" means land located between the ordinary high water level of public waters and a line parallel to it at a setback of 50 percent of the required structure setback or, for areas in agricultural use, 50 feet landward of the ordinary high water level.



Floodplains and Wetlands

"Floodplain" means the areas adjoining a watercourse which has been or hereafter may be covered by the regional flood.

Confluence with Key Tributaries

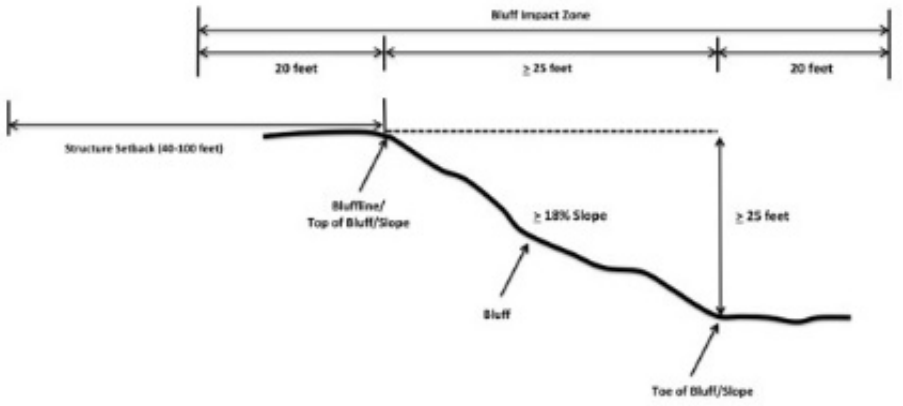
There are no confluences with key tributaries within Ramsey.

Natural Drainage Areas

The Critical Area Plan includes mapping of natural drainage areas that impact the Mississippi River.

Bluff Impact Zone

"Bluff impact zone" means the bluff and land within 20 feet of the bluff.



Native Plant Communities and Significant Existing Vegetative Stands

"Native plant community" means a plant community that has been identified as part of the Minnesota biological survey or biological survey issued or adopted by a local, state, or federal agency.

Cultural & Historic Properties

Historic property" means an archaeological site, standing structure, site, district, or other property that is:

A. listed in the National Register of Historic Places or the State Register of Historic Places or locally designated as a historic site under Minnesota Statutes, chapter 471;
B. determined to meet the criteria for eligibility to the National Register of Historic Places or the State Register of Historic Places; or
C. an unplatted cemetery that falls under the provisions of Minnesota Statutes, chapter 307, in consultation with the Office of the State Archeologist.

One area of cultural and historic significance is located in the corridor. It does not meet the definition above. The location of the first settlement in Ramsey is located within the corridor, originally known as Itasca Village. There are no remaining structures or assets from this original settlement.

Gorges

There are no gorges located in Ramsey.

Unstable Soils and Bedrock

There is significant areas of shoreline erosion located along Ramsey's Mississippi River Shoreline. This erosion is documented through a 2016 Anoka Conservation District Survey. The results of said survey are incorporated into this document by reference. Ramsey will be utilizing this information for education, outreach, and funding purposes to restore priority areas from further erosion.

Figure 2: Shore Impact Zone Map

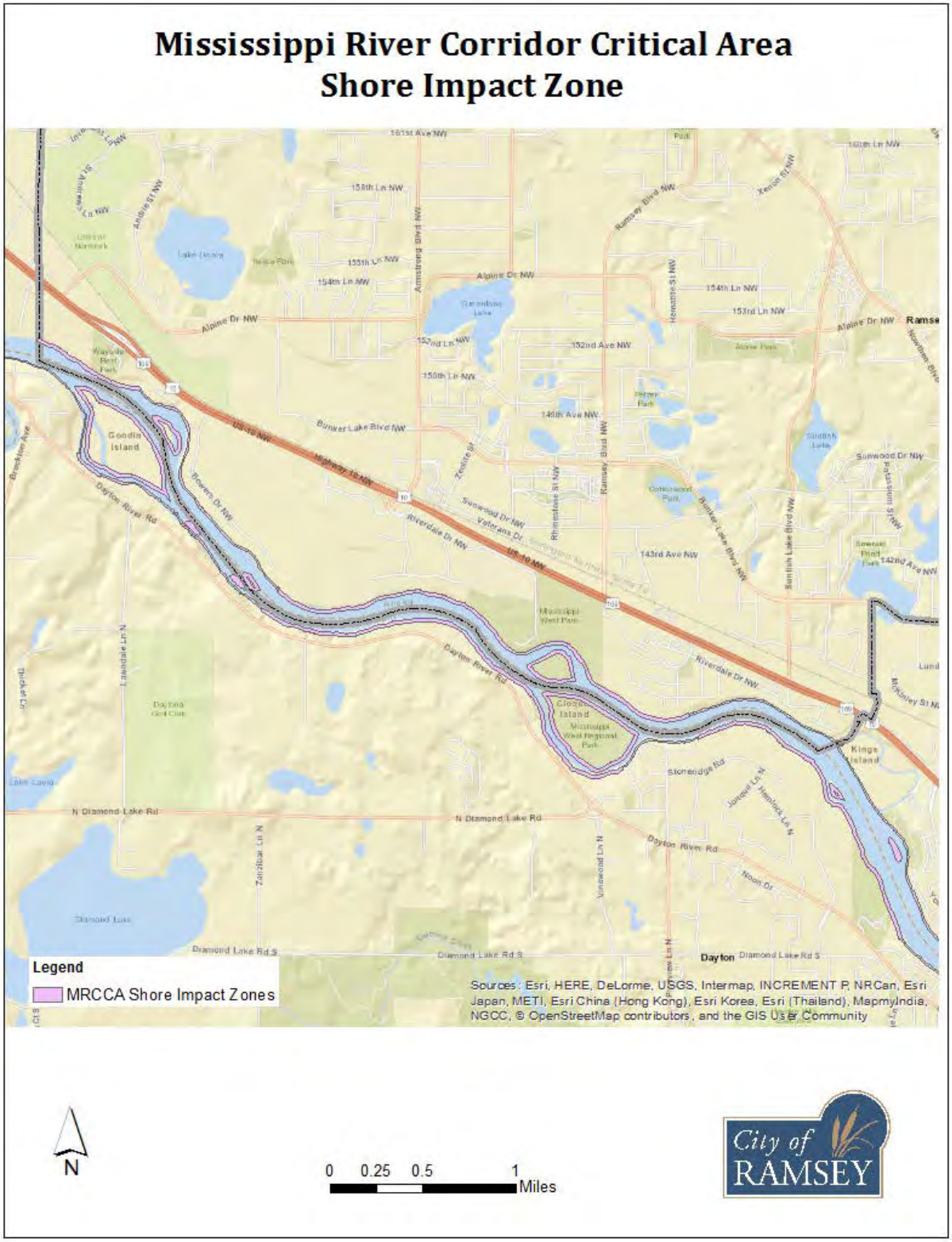


Figure 3: Floodplains and Wetlands

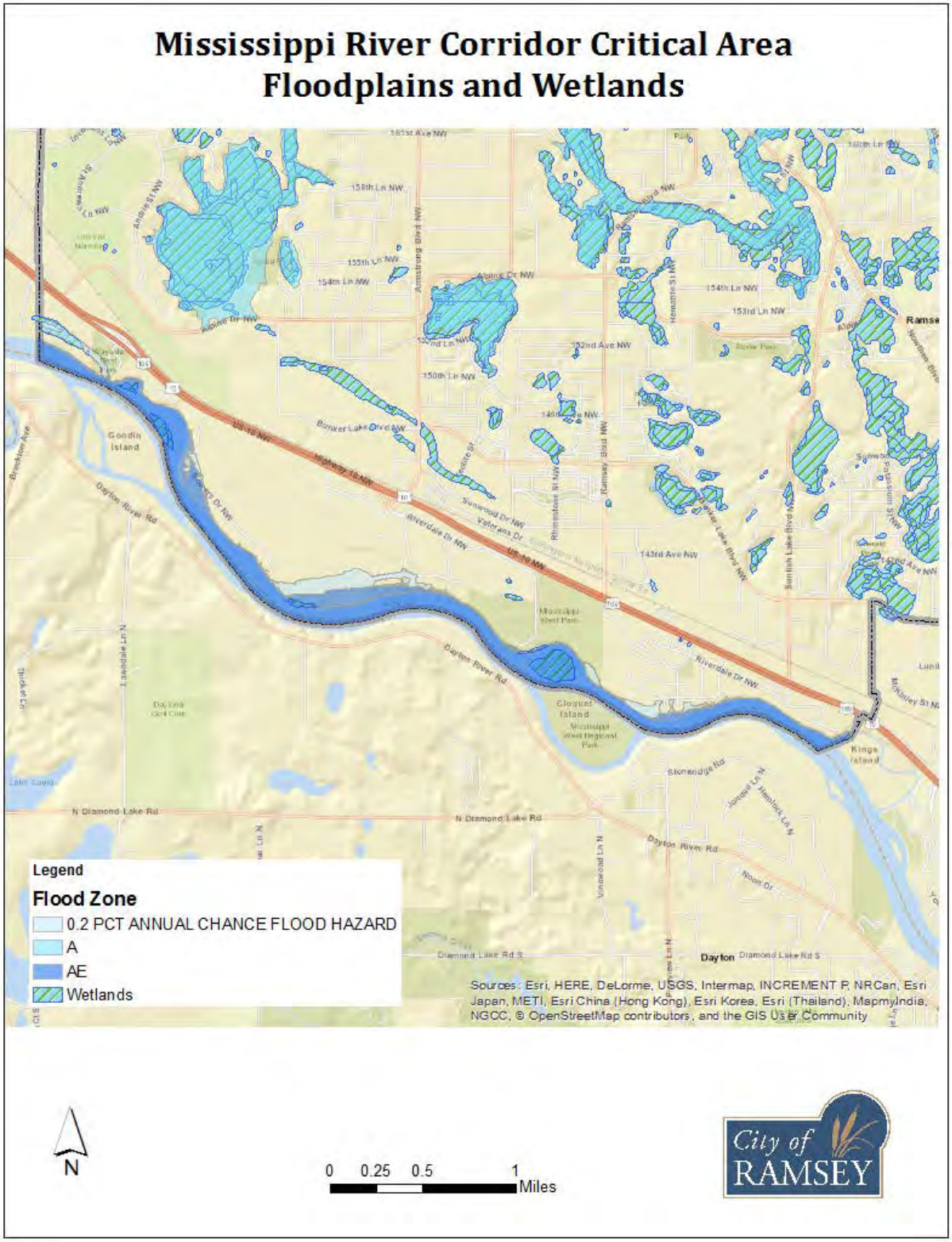


Figure 4: Confluence with Key Tributaries

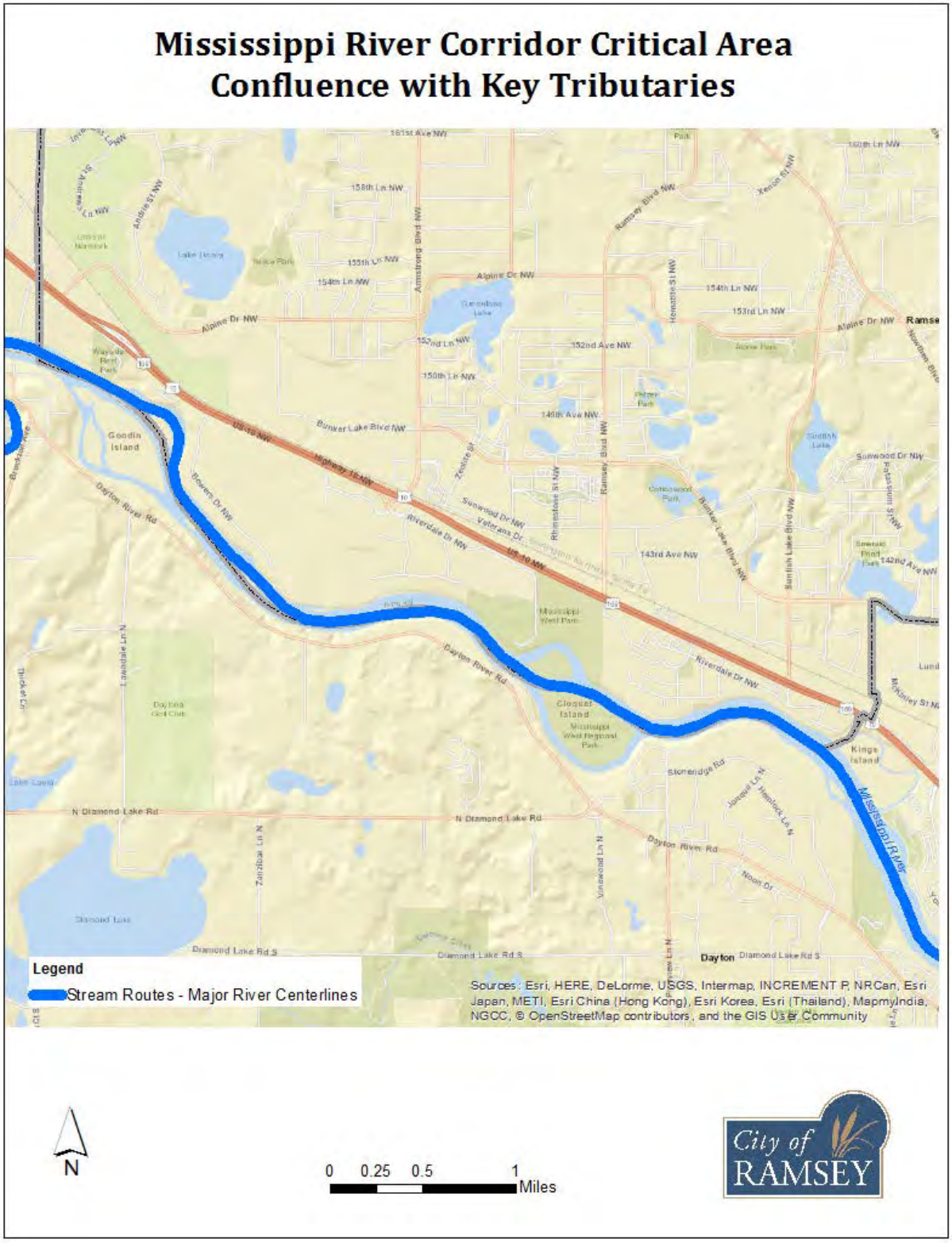


Figure 5: Natural Drainage Areas

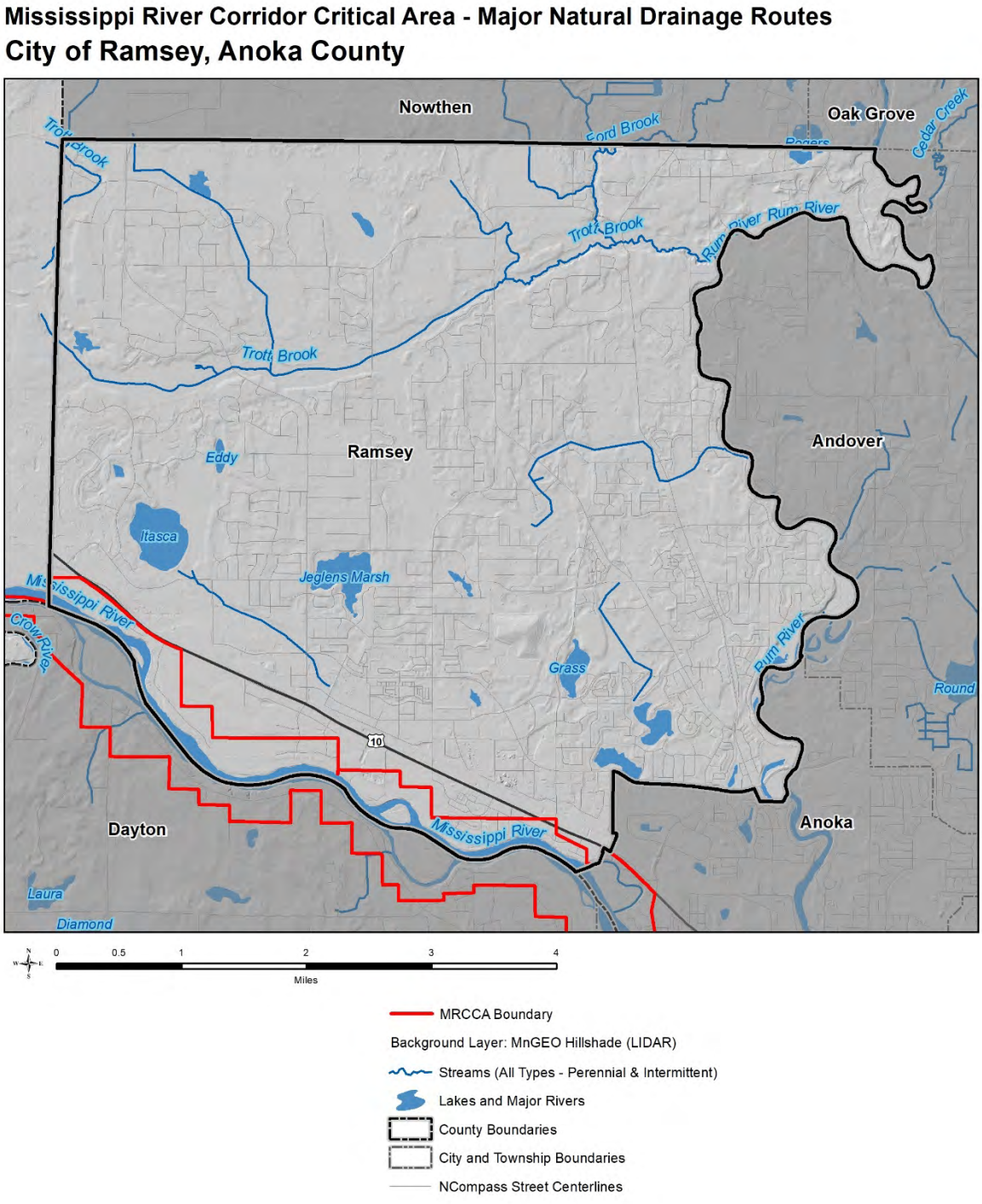


Figure 6: Bluffs and Bluff Impact Zones

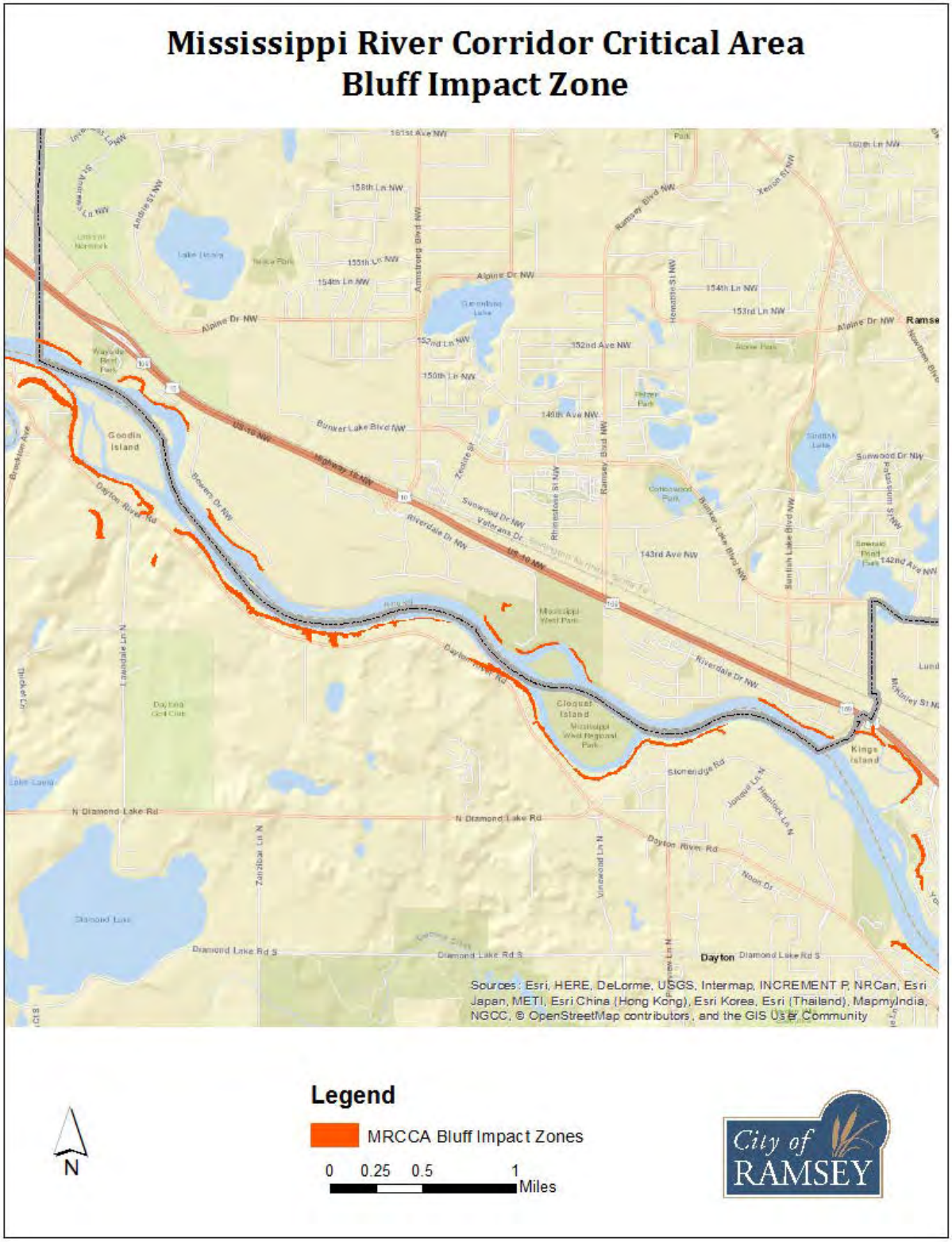
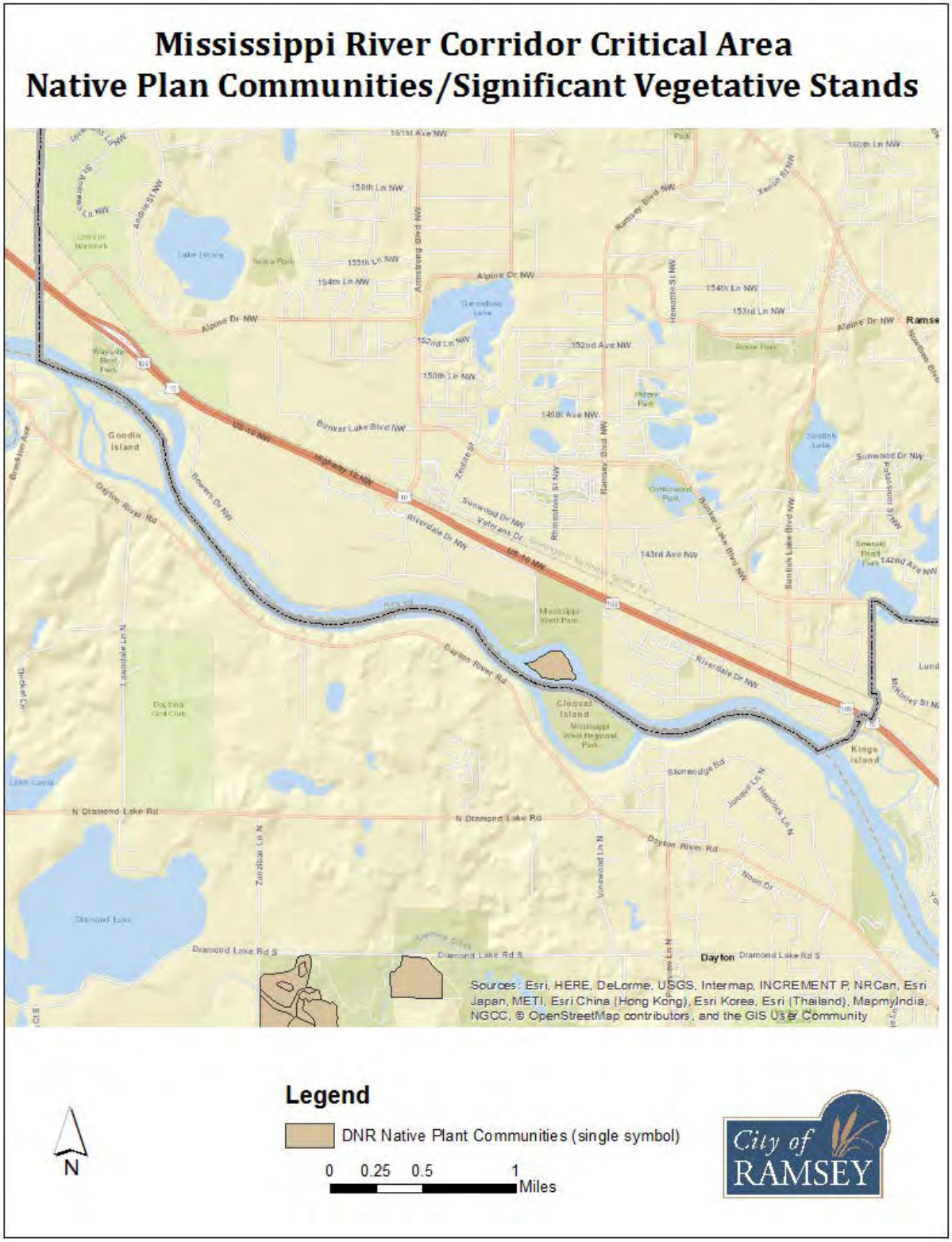


Figure 7: Native Plan Communities & Significant Existing Vegetative Stands



Public River Corridor Views

General Overview

Views Toward River from Public Places

Views Toward Bluffs from River

Rivlyn Neighborhood







Other Important Views

Priorities for Restoration

Ramsey's priority for restoration within the Corridor is protecting the Corridor from significant erosion as identified by the 2017 Anoka Conservation District Mississippi River Shoreline Inventory for Ramsey.

Figure 8: Vegetation Restoration Priorities

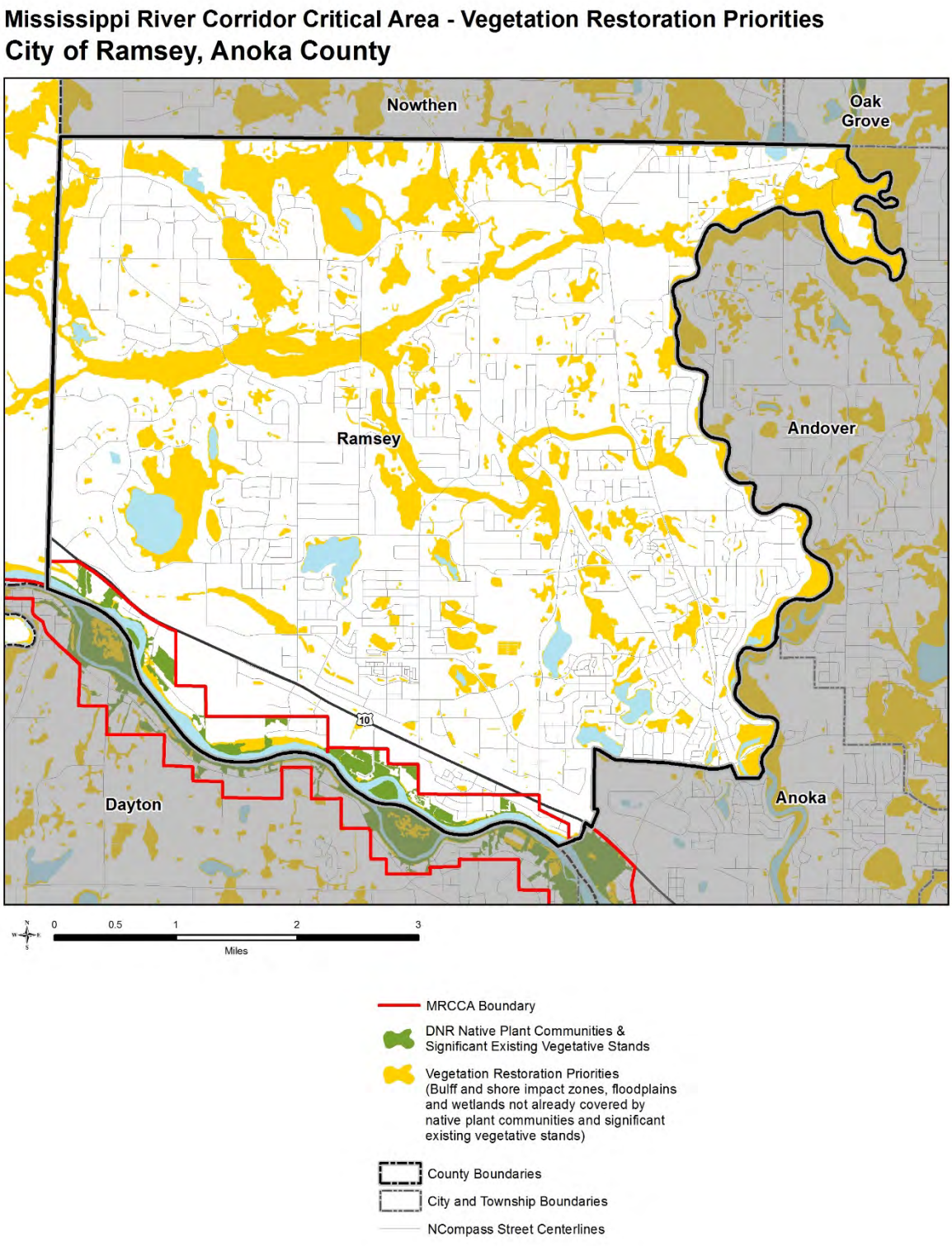
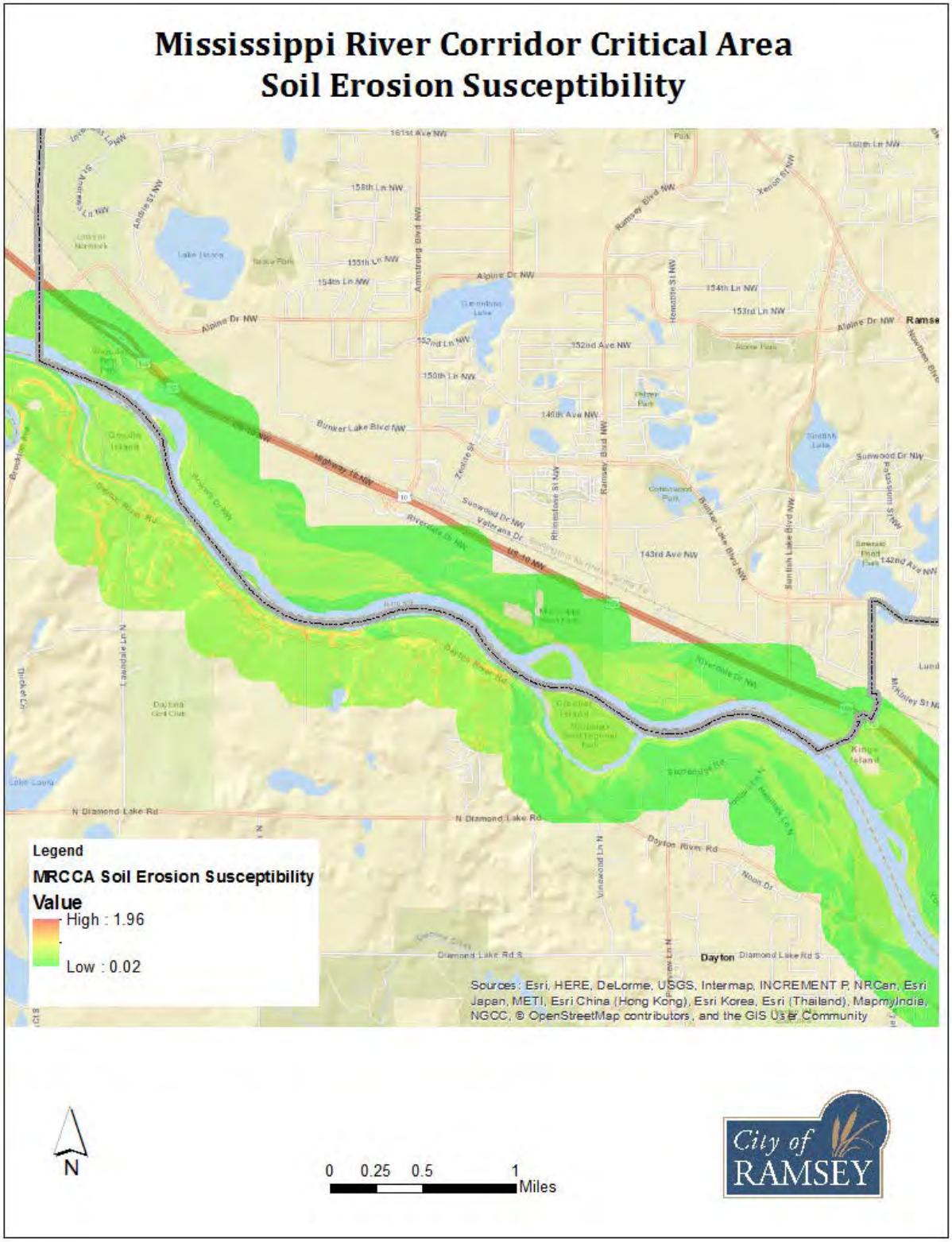


Figure 9: Soil Erosion Susceptibility



Surface Water Uses

Water-Oriented Uses

Open Space & Recreational Facilities

Existing Recreation Facilities

The Mississippi River Trail and Riverdale Park are currently located within the Corridor.

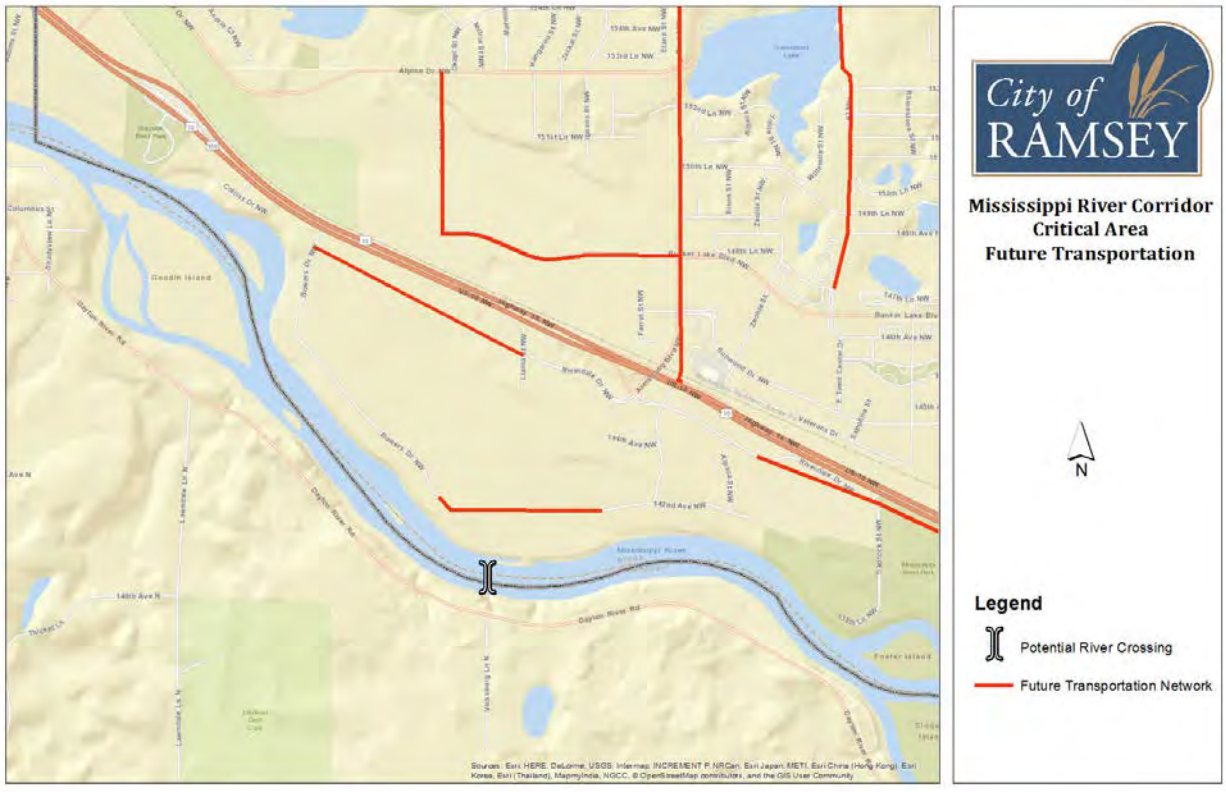
Future Recreation Facilities

The future Mississippi West Regional Park is located within the Corridor. In addition, the future alignment of Central Anoka County Regional Trail connect to the Corridor. A future component of the Central Anoka County Regional Trail is a grade-separated pedestrian crossing over the BNSF/Northstar Commuter Rail Corridor and U.S. Highway 10, known as the Mississippi Skyway.

Transportation & Public Utilities

An existing Connexus Energy Electric Transmission Line current crosses the Mississippi River connecting Ramsey and Dayton. Ramsey continues to plan for a future River Crossing between Ramsey and Dayton.

Figure 10: Mississippi River Bridge/Crossing



Policies

General

Districts/Land Use

Ramsey will implement the policies of the Critical Area by adopting the new districts within our Zoning Code.

Primary Conservation Areas

Public River Corridor Views

Restoration Priorities

Surface Water Uses

Ramsey will continue to support Anoka County's operation of a Boat Launch along Traprock Street.

Water-Oriented Use

Open Space & Recreation Facilities

Ramsey will continue to support planning and implementation for Mississippi West. Ramsey will continue to own and maintain Riverdale Park. Ramsey will continue to plan for a new municipal park along the Mississippi River between the Alpaca Estates and Bowers neighborhoods.

Transportation & Public Utilities

Ramsey will continue to support future planning for the future Mississippi River Crossing to the City of Dayton in Hennepin County.

Ramsey will continue to support Connexus Energy's electric transmission line across the Mississippi River to the City of Dayton.

Implementation

ACTION	TIMEFRAME
Ordinance/City Code Updates	
Amend MRCCA Overlay District (City Code)	2019
Amend Zoning Map	2019
Ordinance/City Code Administration	
Establish General Land Use Review Procedures	2019
Develop Administrative Procedures for Shoreline Stabilization	2019
Actively communicate with other communities to protect views they have identified in your community that are valuable, and vice versa.	2019
Establish a vegetation permitting process that includes permit review procedures to ensure consideration of restoration priorities identified in this plan in permit issuance, as well as standard conditions requiring vegetation restoration for those priority areas.	2020
Establish process for evaluating priorities for natural vegetation restoration, erosion prevention and bank and slope stabilization, or other restoration priorities identified in this plan in CUP, variances and subdivision/PUD processes.	2020
Develop visual analysis approach for CUPs for additional height in the RTC and UM districts (if applicable), as well as for proposed PUDs and variances.	2020
Develop a system for reviewing, tracking, and monitoring open space required as part of the subdivision process.	2020

ACTION	TIMEFRAME
Education and Outreach	
Create Informational Packet	2019
Develop a Communications Plan	2019
Create New MRCCA Webpage	2019
Create Signage Package for Public Places	2020
Capital Improvements	
Update Capital Improvement Program to Reflect MRCCA Plan Update	2019
Include Transportation Corridors Within MRCCA in CIP	2019
Land Acquisition	
Create Land Acquisition Plan for Select Parcels	2020
Additional Initiatives	
Adopt Surface Water Regulations	2019
Conduct Additional Research	??
Coordinate Jurisdictional Planning Efforts	??
Conduct Master Planning Efforts	??
Conduct Corridor Planning Efforts	??

Submittal to DNR and Metropolitan Council Incorporating DNR comments

City of Ramsey Local Water Supply Plan
Third Generation for 2016-2018

Formerly called Water Emergency & Water Conservation Plan



Cover photo by Molly Shodeen



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DEPARTMENT OF NATURAL RESOURCES – DIVISION OF ECOLOGICAL AND WATER RESOURCES AND METROPOLITAN COUNCIL

INTRODUCTION TO WATER SUPPLY PLANS (WSP)

Who needs to complete a Water Supply Plan

Public water suppliers serving more than 1,000 people, large private water suppliers in designated Groundwater Management Areas, and all water suppliers in the Twin Cities metropolitan area are required to prepare and submit a water supply plan.
The goal of the WSP is to help water suppliers: 1) implement long term water sustainability and conservation measures; and 2) develop critical emergency preparedness measures. Your community needs to know what measures will be implemented in case of a water crisis. A lot of emergencies can be avoided or mitigated if long term sustainability measures are implemented.

Groundwater Management Areas (GWMA)

The DNR has designated three areas of the state as Groundwater Management Areas (GWMAs) to focus groundwater management efforts in specific geographies where there is an added risk of overuse or water quality degradation. A plan directing the DNRs actions within each GWMA has been prepared. Although there are no specific additional requirements with respect to the water supply planning for communities within designated GWMAs, communities should be aware of the issues and actions planned if they are within the boundary of one of the GWMAs. The three GWMAs are the North and East Metro GWMA (Twin Cities Metro), the Bonanza Valley GWMA and the Straight River GWMA (near Park Rapids). Additional information and maps are included in the DNR webpage at http://www.dnr.state.mn.us/gwmp/areas.html

Benefits of completing a WSP

Completing a WSP using this template, fulfills a water supplier's statutory obligations under M.S. M.S.103G.291 to complete a water supply plan. For water suppliers in the metropolitan area, the WSP will help local governmental units to fulfill their requirements under M.S. 473.859 to complete a local comprehensive plan. Additional benefits of completing WSP template:

- The standardized format allows for quicker and easier review and approval.
- Help water suppliers prepare for droughts and water emergencies.
- Create eligibility for funding requests to the Minnesota Department of Health (MDH) for the Drinking Water Revolving Fund.
- Allow water suppliers to submit requests for new wells or expanded capacity of existing wells.
- Simplify the development of county comprehensive water plans and watershed plans.

- Fulfill the contingency plan provisions required in the MDH wellhead protection and surface water protection plans.
- Fulfill the demand reduction requirements of Minnesota Statutes, section 103G.291 subd 3 and 4.
- Upon implementation, contribute to maintaining aquifer levels, reducing potential well interference and water use conflicts, and reducing the need to drill new wells or expand system capacity.
- Enable DNR to compile and analyze water use and conservation data to help guide decisions.
- Conserve Minnesota's water resources

If your community needs assistance completing the Water Supply Plan, assistance is available from your area hydrologist or groundwater specialist, the MN Rural Waters Association circuit rider program, or in the metropolitan area from Metropolitan Council staff. Many private consultants are also available.

WSP Approval Process

10 Basic Steps for completing a 10-Year Water Supply Plan

1. Download the DNR/Metropolitan Council Water Supply Plan Template www.mndnr.gov/watersupplyplans
2. Save the document with a file name with this naming convention: WSP_cityname_permitnumber_date.doc.
3. The template is a form that should be completed electronically.
4. Compile the required water use data (Part 1) and emergency procedures information (Part 2)
5. The Water Conservation section (Part 3) may need discussion with the water department, council, or planning commission, if your community does not already have an active water conservation program.
6. Communities in the seven-county Twin Cities metropolitan area should complete all the information discussed in Part 4. The Metropolitan Council has additional guidance information on their webpage http://www.metrocouncil.org/Handbook/Plan-Elements/Water-Resources/Water-Supply.aspx. All out-state water suppliers do *not* need to complete the content addressed in Part 4.
7. Use the Plan instructions and Checklist document to insure all data is complete and attachments are included. This will allow for a quicker approval process. www.mndnr.gov/watersupplyplans
8. Plans should be submitted electronically – no paper documents are required. https://webapps11.dnr.state.mn.us/mpars/public/authentication/login

9. DNR hydrologist will review plans (in cooperation with Metropolitan Council in Metro area) and approve the plan or make recommendations.
10. Once approved, communities should complete a Certification of Adoption form, and send a copy to the DNR.

Complete Table 1 with information about the public water supply system covered by this WSP.

Table 1. General information regarding this WSP

Requested Information	Description
DNR Water Appropriation Permit Number(s)	**1985-6005**
Ownership	☒ Public or ☐ Private
Metropolitan Council Area	☒ Yes or ☐ No (and county name)
Street Address	**7550 Sunwood Drive, NW**
City, State, Zip	**Ramsey, MN 55303**
Contact Person Name	**John Nelson**
Title	**Utilities Supervisor**
Phone Number	763 286-0296
MDH Supplier Classification	Municipal

PART 1. WATER SUPPLY SYSTEM DESCRIPTION AND EVALUATION

The first step in any water supply analysis is to assess the current status of demand and availability. Information summarized in Part 1 can be used to develop Emergency Preparedness Procedures (Part 2) and the Water Conservation Plan (Part 3). This data is also needed to track progress for water efficiency measures.

A. Analysis of Water Demand

Complete Table 2 showing the past 10 years of water demand data.

- Some of this information may be in your Wellhead Protection Plan.
- If you do not have this information, do your best, call your engineer for assistance or if necessary leave blank.

If your customer categories are different than the ones listed in Table 2, please describe the differences below:

Wholesale deliveries are not part of Ramsey Water Demand

Table 2. Historic water demand (see definitions in the glossary after Part 4 of this template)

Year	Pop. Served	Total Connections	Residential Water Delivered (MG)	C/I/I Water Delivered (MG)	Water used for Non-essential	Wholesale Deliveries (MG)	Total Water Delivered (MG)	Total Water Pumped (MG)	Water Supplier Services	Percent Unmetered/ Unaccounted	Average Daily Demand (MGD)	Max. Daily Demand (MGD)	Date of Max. Demand	Residential Per Capita Demand (GPCD)	Total per capita Demand (GPCD)
2005	8,717	3307	327	200	20	N/A	542	576	N/A	8.50%	1.58	5.2	Jul-15	103	170
2006	9,263	3544	392	249	21	N/A	661	686	N/A	6.62%	1.88	5.6	Jul-10	116	196
2007	9,702	3720	424	244	35	N/A	704	705	N/A	5.23%	1.93	5.2	Jul-30	120	199
2008	10,101	3776	370	255	35	N/A	625	627	N/A	0.30%	1.72	5.2	Jul-06	100	170
2009	10,540	3820	397	226	30	N/A	623	640	N/A	2.70%	1.75	4.6	Jun-04	103	162
2010	11,669	3879	375	217	28	N/A	620	628	N/A	5.70%	1.72	4.1	Jul-06	88	146
2011	11,807	3901	353	205	20	N/A	577	590	N/A	5.42%	1.62	4.6	Jul-10	82	134
2012	11,987	3957	418	233	28	N/A	680	690	N/A	5.65%	1.89	5.5	Jul-25	96	155
2013	12,838	4050	386	213	18	N/A	617	620	N/A	3.34%	1.70	5.0	Aug-26	82	132
2014	13,535	4110	343	224	20	N/A	552	588	N/A	3.52%	1.61	4.6	Jul-23	69	112
2015	13,774	4186	360	231	22	N/A	613	661	N/A	10.63%	1.81	4.5	Aug-05	72	122
Avg. 2010-2015	12,602	4,014	373	221	23		610	629		5.71%	1.72	4.7		81	131

MG – Million Gallons **MGD –** Million Gallons per Day **GPCD** – Gallons per Capita per Day

See Glossary for definitions

Table 3. Historic water demand (see definitions in the glossary after Part 4 of this template)

Complete Table 3 by listing the top 10 water users by volume, from largest to smallest. For each user, include information about the category of use (residential, commercial, industrial, institutional, or wholesale), the amount of water used in gallons per year, the percent of total water delivered, and the status of water conservation measures.

Table 3. Large volume users

Customer Rank	Name	Use Category (Residential, Industrial, Commercial, Institutional, Wholesale)	Amount Used (Gallons per Year)	Percent of Total Annual Water Delivered	Implementing Water Conservation Measures? (Yes/No/Unknown)
1	City, Buildings and Park Irrigation	IRRIGATION	26,163,000	5.39	YES
2	Vision Ease Lens, Inc.	INDUSTRIAL	23,634,000	4.87	YES
3	Alpine Acres	IRRIGATION	12,518,000	2.58	UNKNOWN
4	Oak Terrace Park Properties	RESIDENTIAL	7,669,000	1.58	UNKNOWN
5	Cove at Mississippi	IRRIGATION	6,494,000	1.34	UNKNOWN
6	Holiday Companies #395 Ramsey Blvd	COMMERCIAL	5,076,000	1.05	UNKNOWN
7	Life Fitness	INDUSTRIAL	4,696,000	0.97	YES
8	Holiday Station Stores #323 TH 47	COMMERCIAL	4,351,000	0.90	UNKNOWN
9	Comfort Suites	COMMERCIAL	4,170,000	0.86	YES
10	Sauter & Sons, Inc.	INDUSTRIAL	4,109,000	0.85	UNKNOWN

B. Treatment and Storage Capacity

Complete Table 4 with a description of where water is treated, the year treatment facilities were constructed, water treatment capacity, the treatment methods (i.e. chemical addition, reverse osmosis, coagulation, sedimentation, etc.) and treatment types used (i.e. fluoridation, softening, chlorination, Fe/MN removal, coagulation, etc.). Also describe the annual amount and method of disposal of treatment residuals. Add rows to the table as needed.

Table 4. Water treatment capacity and treatment processes

Treatment Site ID (Plant Name or Well ID)	Year Constructed	Treatment Capacity (GPD)	Treatment Method	Treatment Type	Annual Amount of Residuals	Disposal Process for Residuals	Do You Reclaim Filter Backwash Water?
Pump House 1 Wells 1 & 2	1989	1,368,000	Chemical addition	Chlorination, fluoridation, Ortho Polyphosphate C5	N/A	N/A	N/A
Pump House 2 Well 3	1997	2,304,000	Chemical addition	Chlorination, fluoridation, Ortho Polyphosphate C5	N/A	N/A	N/A
Well 4 added to Pump house 2	1998	1,224,000	Chemical addition	Chlorination, fluoridation, Ortho Polyphosphate C5	N/A	N/A	N/A
Pump House 3 Well 5	2000	1,224,000	Chemical addition	Chlorination, fluoridation, Ortho Polyphosphate C5	N/A	N/A	N/A
Well 6 added to Pump House 3	2005	1,296,000					N/A
Pump House 4 Wells 7 & 8	2007	3,528,000	Chemical addition	Chlorination, fluoridation, Ortho Polyphosphate C5	N/A	N/A	N/A
Total	NA	10,944,000	NA	NA		NA	

Complete Table 5 with information about storage structures. Describe the type (i.e. elevated, ground, etc.), the storage capacity of each type of structure, the year each structure was constructed, and the primary material for each structure. Add rows to the table as needed.

Table 5. Storage capacity, as of the end of the last calendar year

Structure Name	Type of Storage Structure	Year Constructed	Primary Material	Storage Capacity (Gallons)
1	Elevated storage	1989	Steel	500,000
2	Elevated storage	2000	Steel	1,500,000
3	Elevated storage	2010	Steel	2,000,000
Total	NA	NA	NA	4,000,000

Treatment and storage capacity versus demand

It is recommended that total storage equal or exceed the average daily demand.

Discuss the difference between current storage and treatment capacity versus the water supplier's projected average water demand over the next 10 years (see Table 7 for projected water demand):

The current treatment capacity is 11 MGD and storage is 4 MGD. Average day demand is projected to increase from 1.81 MGD in 2015 to 2.38 MGD in 2025. The additional 0.57 MGD of demand is within the system's storage and treatment capacity based on Ten States Standards recommendation 7.0.1 that total storage shall equal the average daily consumption.

C. Water Sources

Complete Table 6 by listing all types of water sources that supply water to the system, including groundwater, surface water, interconnections with other water suppliers, or others. Provide the name of each source (aquifer name, river or lake name, name of interconnecting water supplier) and the Minnesota unique well number or intake ID, as appropriate. Report the year the source was installed or established and the current capacity. Provide information about the depth of all wells. Describe the status of the source (active, inactive, emergency only, retail/wholesale interconnection) and if the source facilities have a dedicated emergency power source. Add rows to the table as needed for each installation.
Include copies of well records and maintenance summary for each well that has occurred since your last approved plan in **Appendix 1.**

Table 6. Water sources and status

Resource Type (Groundwater, Surface water, Interconnection)	Resource Name	MN Unique Well # or Intake ID	Year Installed	Capacity (Gallons per Minute)	Well Depth (Feet)	Status of Normal and Emergency Operations (active, inactive, emergency only, retail/wholesale interconnection))	Does this Source have a Dedicated Emergency Power Source? (Yes or No)
Groundwater	Well #1	161441	1984	700	320	Active	No
Groundwater	Well #2	416183	1987	220	320	Active	No
Groundwater	Well #3	580303	1997	1450	345	Active	No
Groundwater	Well #4	580313	1998	850	321	Active	No
Groundwater	Well #5	593672	2000	850	316	Active	Yes
Groundwater	Well #6	706840	2005	900	390	Active	No
Groundwater	Well #7	743832	2007	850	332	Active	No
Groundwater	Well #8	743833	2007	1400	354	Active	No

Limits on Emergency Interconnections

Discuss any limitations on the use of the water sources (e.g. not to be operated simultaneously, limitations due to blending, aquifer recovery issues etc.) and the use of interconnections,

including capacity limits or timing constraints (i.e. only 200 gallons per minute are available from the City of Prior Lake, and it is estimated to take 6 hours to establish the emergency connection). If there are no limitations, list none.

Well 2 is used to meet seasonal peak demands only. The City has two (2) interconnections with Anoka, one is hard piped and one uses hoses.

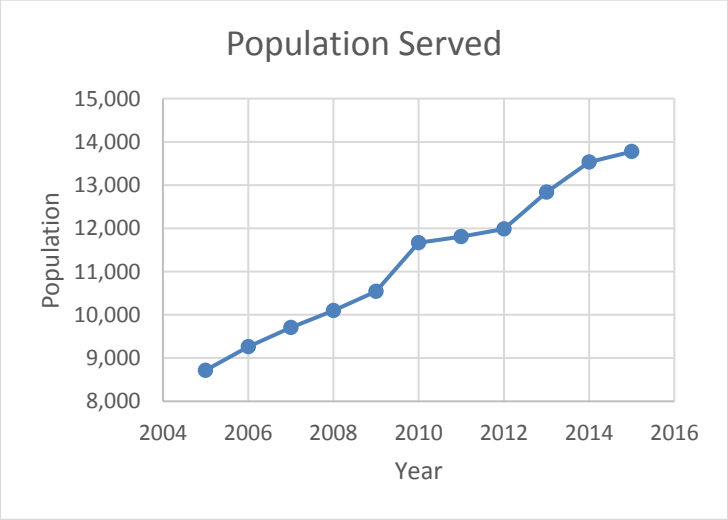
D. Future Demand Projections – *Key Metropolitan Council Benchmark*

Water Use Trends

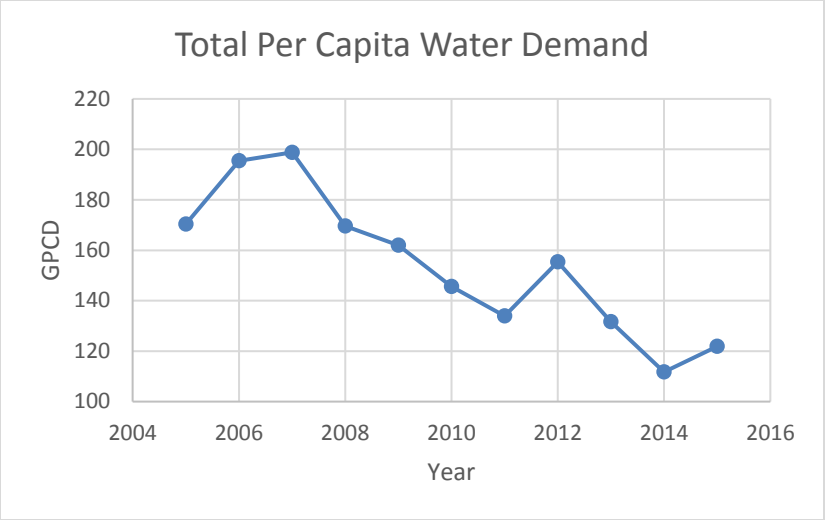
Use the data in Table 2 to describe trends in 1) population served; 2) total per capita water demand; 3) average daily demand; 4) maximum daily demand. Then explain the causes for upward or downward trends. For example, over the ten years has the average daily demand trended up or down? Why is this occurring?

The following trends are observed:

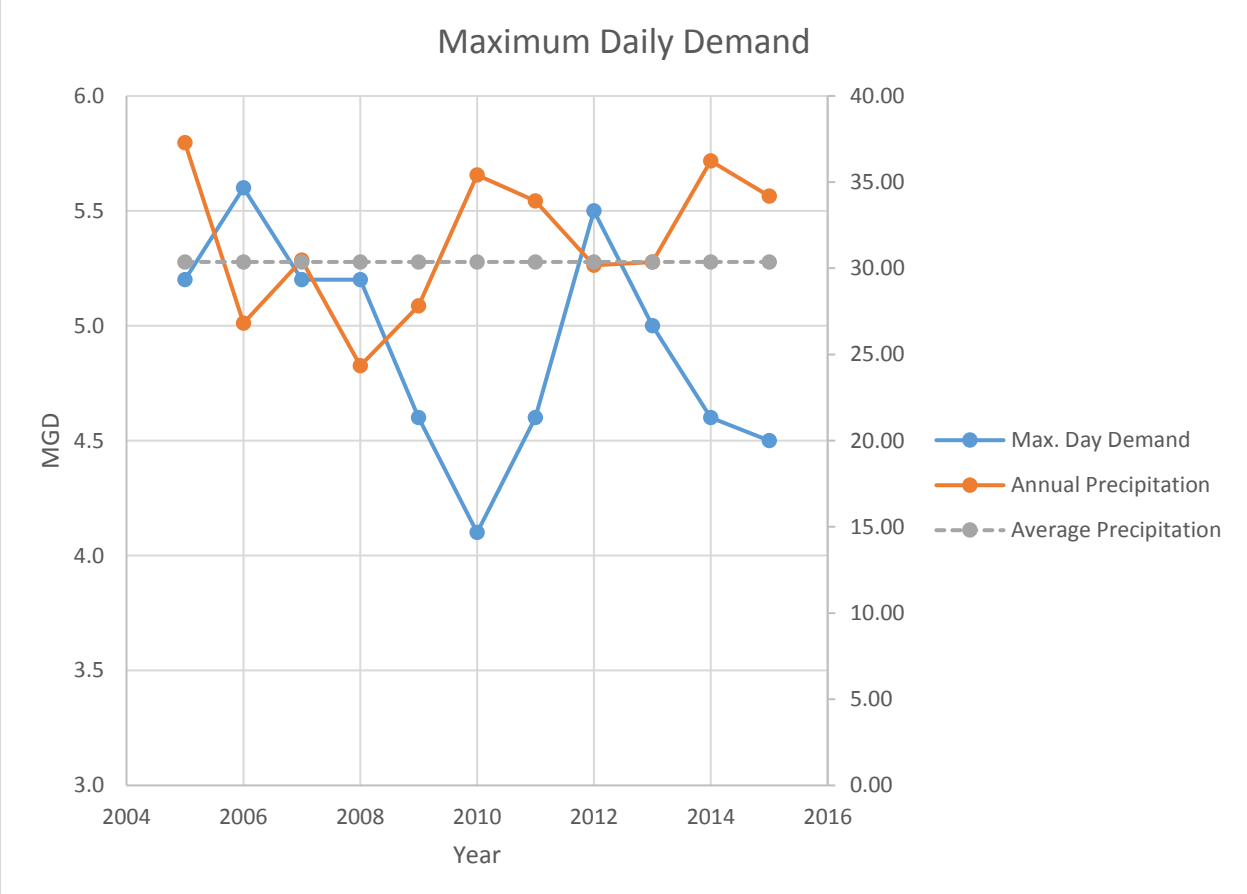
1. Population served increased to a peak in 2010, then dipped in 2011 and increased again. See graph below. The overall upward trend is caused by new connections added each year and construction that occurred in the past 10 years. There have been about 60 connections added per year on average over the last 5 years.



2. The total per capita water demand decreased from 170 GPCD in 2005 to 122 GPCD in 2015. Between 2005 and 2015, water use peaked at 196 GPCD and 199 GPCD in 2006 and 2007 respectively. The 5 year average from 2011 to 2015 was 131 GPCD. Several measures may have contributed to the overall decrease in total per capita water use, including replacing all residential meters in a 5 year period, implementation and enforcement of a new topsoil ordinance, changing the rate structure and increased enforcement of irrigation restrictions.



3. The average daily demand has fluctuated some between 2005 and 2015. Demand peaked in 2012, declined through 2014 then increased in 2015. The increased demand correlates with an uptick in housing construction in 2014 -2015.



4. The maximum daily demand decreased from 2006 to 2010, then increased until 2012 then decreased again to 2015. The decreasing trend is due to higher efficiency appliances, sprinkling bans and other conservation measures. The city had a flat fee residential rate structure in 2005. This was changed to a 7 tier sliding rate structure in 2006, with the rate increasing when each level. The City also has an escalating series of fines and penalties including water shutoff for those who consistently violate the odd-even sprinkling ban. The overall increase can be attributed to adding new customers as noted above. The spike in maximum daily demand in 2012 corresponds to two extremely dry months, August and September. These months saw less than one inch of precipitation in each month while the average is over 3.5 inches per month. The month of May saw 3 times the normal precipitation; however, eight (8) of the months were drier than normal. The year ended with close to normal precipitation.

Use the water use trend information discussed above to complete Table 7 with projected annual demand for the next ten years. Communities in the seven-county Twin Cities metropolitan area must also include projections for 2030 and 2040 as part of their local comprehensive planning.

Projected demand should be consistent with trends evident in the historical data in Table 2, as discussed above. Projected demand should also reflect state demographer population projections and/or other planning projections.

Table 7. Projected annual water demand

Year	Projected Total Population	Projected Population Served	Projected Total Per Capita Water Demand (GPCD)	Projected Average Daily Demand (MGD)	Projected Maximum Daily Demand (MGD)
2016	25,308	12,252	131	1.6050	4.6545
2017	25,581	12,524	131	1.6406	4.7579
2018	25,854	12,796	131	1.6763	4.8612
2019	26,127	13,068	131	1.7119	4.9645
2020	26,400	13,340	131	1.7475	5.0679
2021	26,830	14,150	131	1.8537	5.3756
2022	27,260	14,960	131	1.9598	5.6833
2023	27,690	15,770	131	2.0659	5.9910
2024	28,120	16,580	131	2.1720	6.2987
2025	28,550	17,390	131	2.2781	6.6065
2030	30,700	21,160	131	2.7720	8.0387
2040	34,700	23,920	131	3.1335	9.0872

GPCD – Gallons per Capita per Day **MGD** – Million Gallons per Day

Projection Method

Describe the method used to project water demand, including assumptions for population and business growth and how water conservation and efficiency programs affect projected water demand:

Populations were projected using linear interpolation of Metropolitan Council projections given in the 2015 System Statement for Ramsey.
The projected population served was estimated by multiplying the projected person per household by the projected residential connections. The projected residential connections were calculated by taking the average for the annual increase in residential connections from 2011 to 2015. (60 residential connections added per year) and added onto the 2015 actual residential connections and extrapolated out to 2040. The person/ household (PPH) was calculated to decrease from 3.1 in 2017 to 2.7 in 2040 by taking the projected total population and dividing it by the projected total households.

The average day demand was determined by multiplying the projected population served by 131 gallons per person per day (GPCD). The value 131 GPCD is the average GPCD for the last five years. The maximum daily demand was determined by multiplying the average day demand by 2.90, which is the max day peaking factor.

E. Resource Sustainability

Monitoring – *Key DNR Benchmark*

Complete Table 8 by inserting information about source water quality and quantity monitoring efforts. List should include all production wells, observation wells, and source water intakes or reservoirs. Add rows to the table as needed. Find information on groundwater level monitoring program at: http://www.dnr.state.mn.us/waters/groundwater_section/obwell/index.html

Table 8. Information about source water quality and quantity monitoring

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
161441	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☐ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
416183	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☐ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
580303	☒ production well ☐ observation well ☐ source water intake	☐ routine MDH sampling ☒ routine water utility sampling	☐ continuous ☐ hourly ☐ daily ☒ monthly	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
	☐ source water reservoir	☐ other	☐ quarterly ☐ annually	
580313	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☐ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
593672	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☒ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☐ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
706814	☐ production well ☒ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☒ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
706815	☐ production well ☒ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☒ continuous ☐ hourly ☐ daily ☐ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
706840	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☐ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
731127	☐ production well ☒ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☒ continuous ☐ hourly ☐ daily ☐ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
743832	☒ production well ☐ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☐ continuous ☐ hourly ☐ daily ☒ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge
713833	☒ production well ☐ observation well	☐ routine MDH sampling	☐ continuous ☐ hourly ☐ daily	☒ SCADA ☐ grab sampling ☐ steel tape

MN Unique Well # or Surface Water ID	Type of monitoring point	Monitoring program	Frequency of monitoring	Monitoring Method
	☐ source water intake ☐ source water reservoir	☒ routine water utility sampling ☐ other	☒ monthly ☐ quarterly ☐ annually	☐ stream gauge
759582	☐ production well ☒ observation well ☐ source water intake ☐ source water reservoir	☐ routine MDH sampling ☒ routine water utility sampling ☐ other	☒ continuous ☐ hourly ☐ daily ☐ monthly ☐ quarterly ☐ annually	☒ SCADA ☐ grab sampling ☐ steel tape ☐ stream gauge

Water Level Data

A water level monitoring plan that includes monitoring locations and a schedule for water level readings must be submitted as **Appendix 2**. If one does not already exist, it needs to be prepared and submitted with the WSP. Ideally, all production and observation wells are monitored at least monthly.

Complete Table 9 to summarize water level data for each well being monitored. Provide the name of the aquifer and a brief description of how much water levels vary over the season (the difference between the highest and lowest water levels measured during the year) and the long-term trends for each well. If water levels are not measured and recorded on a routine basis, then provide the static water level when each well was constructed and the most recent water level measured during the same season the well was constructed. Also include all water level data taken during any well and pump maintenance. Add rows to the table as needed. Provide water level data graphs for each well in **Appendix 3** for the life of the well, or for as many years as water levels have been measured. See DNR website for Date Time Water Level http://www.dnr.state.mn.us/waters/groundwater_section/obwell/waterleveldata.html

Table 9. Water level data

Unique Well Number or Well ID	Aquifer Name	Seasonal Variation (Feet)	Long-term Trend in water level data	Water level measured during well/pumping maintenance
161441	Tunnel City Group	25	☐ Falling ☒ Stable ☐ Rising	MM/DD/YY: N/A MM/DD/YY:____ MM/DD/YY:____
416183	Tunnel City Group	0	☐ Falling ☒ Stable ☐ Rising	MM/DD/YY: N/A MM/DD/YY:____ MM/DD/YY:____
580303	Tunnel City Group	10	☐ Falling ☒ Stable ☐ Rising	MM/DD/YY: N/A MM/DD/YY:____ MM/DD/YY:____
580313	Tunnel City Group	40	☐ Falling ☒ Stable	MM/DD/YY: N/A MM/DD/YY:____

Unique Well Number or Well ID	Aquifer Name	Seasonal Variation (Feet)	Long-term Trend in water level data	Water level measured during well/pumping maintenance
			☐ Rising	MM/DD/YY:____
593672	Tunnel City Group	90	☐ Falling ☒ Stable ☐ Rising	MM/DD/YY: N/A MM/DD/YY:____ MM/DD/YY:____
706840	Tunnel City Group	70	☐ Falling ☒ Stable ☐ Rising	MM/DD/YY: N/A MM/DD/YY:____ MM/DD/YY:____
743832	Tunnel City Group	130	☐ Falling ☒ Stable ☐ Rising	MM/DD/YY: N/A MM/DD/YY:____ MM/DD/YY:____
713833	Tunnel City Group	160	☐ Falling ☒ Stable ☐ Rising	MM/DD/YY: N/A MM/DD/YY:____ MM/DD/YY:____

Potential Water Supply Issues & Natural Resource Impacts – *Key DNR & Metropolitan Council Benchmark*

Complete Table 10 by listing the types of natural resources that are or could be impacted by permitted water withdrawals. If known, provide the name of specific resources that may be impacted. Identify what the greatest risks to the resource are and how the risks are being assessed. Identify any resource protection thresholds – formal or informal – that have been established to identify when actions should be taken to mitigate impacts. Provide information about the potential mitigation actions that may be taken, if a resource protection threshold is crossed. Add additional rows to the table as needed. See glossary at the end of the template for definitions.

Some of this baseline data should have been in your earlier water supply plans or county comprehensive water plans. When filling out this table, think of what are the water supply risks, identify the resources, determine the threshold and then determine what your community will do to mitigate the impacts.

Your DNR area hydrologist is available to assist with this table.

For communities in the seven-county Twin Cities metropolitan area, the *Master Water Supply Plan Appendix 1 (Water Supply Profiles*, provides information about potential water supply issues and natural resource impacts for your community.

Table 10. Natural resource impacts

Resource Type	Resource Name	Risk	Risk Assessed Through	Describe Resource Protection Threshold*	Mitigation Measure or Management Plan	Describe How Changes to Thresholds are Monitored
☐ River or stream	N/A	☐ Flow/water level decline ☐ Degrading water quality trends and/or MCLs exceeded ☐ Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts ☐ Other: _____	☐ GIS analysis ☐ Modeling ☐ Mapping ☐ Monitoring ☐ Aquifer testing ☐ Other: ___		☐ Revise permit ☐ Change groundwater pumping ☐ Increase conservation ☐ Other	
☐ Calcareous fen	N/A	☐ Flow/water level decline ☐ Degrading water quality trends and/or MCLs exceeded ☐ Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts ☐ Other: _____	☐ GIS analysis ☐ Modeling ☐ Mapping ☐ Monitoring ☐ Aquifer testing ☐ Other: ___		☐ Revise permit ☐ Change groundwater pumping ☐ Increase conservation ☐ Other	
☐ Lake	N/A	☐ Flow/water level decline ☐ Degrading water quality trends and/or MCLs exceeded ☐ Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts	☐ GIS analysis ☐ Modeling ☐ Mapping ☐ Monitoring ☐ Aquifer testing ☐ Other: ___		☐ Revise permit ☐ Change groundwater pumping ☐ Increase conservation ☐ Other	

Resource Type	Resource Name	Risk	Risk Assessed Through	Describe Resource Protection Threshold*	Mitigation Measure or Management Plan	Describe How Changes to Thresholds are Monitored
		☐ Other: _____				
☐ Wetland	N/A	☐ Flow/water level decline ☐ Degrading water quality trends and/or MCLs exceeded ☐ Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts ☐ Other: _____	☐ GIS analysis ☐ Modeling ☐ Mapping ☐ Monitoring ☐ Aquifer testing ☐ Other: ___		☐ Revise permit ☐ Change groundwater pumping ☐ Increase conservation ☐ Other	
☐ Trout stream	N/A	☐ Flow/water level decline ☐ Degrading water quality trends and/or MCLs exceeded ☐ Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts ☐ Other: _____	☐ GIS analysis ☐ Modeling ☐ Mapping ☐ Monitoring ☐ Aquifer testing ☐ Other: ___		☐ Revise permit ☐ Change groundwater pumping ☐ Increase conservation ☐ Other	
☒ Aquifer	Tunnel City Group	☒ Flow/water level decline ☐ Degrading water quality trends and/or MCLs exceeded ☐ Impacts on endangered, threatened, or special concern species habitat or other natural	☐ GIS analysis ☐ Modeling ☐ Mapping ☒ Monitoring ☒ Aquifer testing ☐ Other: ___		☐ Revise permit ☐ Change groundwater pumping ☒ Increase conservation ☐ Other	

Resource Type	Resource Name	Risk	Risk Assessed Through	Describe Resource Protection Threshold*	Mitigation Measure or Management Plan	Describe How Changes to Thresholds are Monitored
		resource impacts ☐ Other: _____				
☐ Endangered, threatened, or special concern species habitat, other natural resource impacts	N/A	☐ Flow/water level decline ☐ Degrading water quality trends and/or MCLs exceeded ☐ Impacts on endangered, threatened, or special concern species habitat or other natural resource impacts ☐ Other: _____	☐ GIS analysis ☐ Modeling ☐ Mapping ☐ Monitoring ☐ Aquifer testing ☐ Other: ___		☐ Revise permit ☐ Change groundwater pumping ☐ Increase conservation ☐ Other	

* Examples of thresholds: a lower limit on acceptable flow in a river or stream; water quality outside of an accepted range; a lower limit on acceptable aquifer level decline at one or more monitoring wells; withdrawals that exceed some percent of the total amount available from a source; or a lower limit on acceptable changes to a protected habitat.

Wellhead Protection (WHP) and Surface Water Protection (SWP) Plans

Complete Table 11 to provide status information about WHP and SWP plans.

The emergency procedures in this plan are intended to comply with the contingency plan provisions required in the Minnesota Department of Health's (MDH) Wellhead Protection (WHP) Plan and Surface Water Protection (SWP) Plan.

Table 11. Status of Wellhead Protection and Surface Water Protection Plans

Plan Type	Status	Date Adopted	Date for Update
WHP	☐ In Process ☒ Completed ☐ Not Applicable	August 11, 2009	August 2019
SWP	☐ In Process ☐ Completed ☒ Not Applicable		

F. Capital Improvement Plan (CIP)

Please note that any wells that received approval under a ten-year permit, but that were not built, are now expired and must submit a water appropriations permit.

Adequacy of Water Supply System

Complete Table 12 with information about the adequacy of wells and/or intakes, storage facilities, treatment facilities, and distribution systems to sustain current and projected demands. List planned capital improvements for any system components, in chronological order. Communities in the seven-county Twin Cities metropolitan area should also include information about plans through 2040.

The assessment can be the general status by category; it is not necessary to identify every single well, storage facility, treatment facility, lift station, and mile of pipe.

Please attach your latest Capital Improvement Plan as **Appendix 4**.

Table 12. Adequacy of Water Supply System

System Component	Planned action	Anticipated Construction Year	Notes
Wells/Intakes	☐ No action planned - adequate ☐ Repair/replacement ☒ Expansion/addition	2021 based on current demands and future projections	
Water Storage Facilities	☒ No action planned - adequate ☐ Repair/replacement ☐ Expansion/addition		
Water Treatment Facilities	☒ No action planned - adequate ☐ Repair/replacement ☐ Expansion/addition		
Distribution Systems (pipes, valves, etc.)	☐ No action planned - adequate ☐ Repair/replacement ☒ Expansion/addition	Based on development needs	

System Component	Planned action	Anticipated Construction Year	Notes
Pressure Zones	☒ No action planned - adequate ☐ Repair/replacement ☐ Expansion/addition		
Other:	☒ No action planned - adequate ☐ Repair/replacement ☐ Expansion/addition		

Proposed Future Water Sources

Complete Table 13 to identify new water source installation planned over the next ten years. Add rows to the table as needed.

Table 13. Proposed future installations/sources

Source	Installation Location (approximate)	Resource Name	Proposed Pumping Capacity (gpm)	Planned Installation Year	Planned Partnerships
Groundwater	TBD	Tunnel City Group	1500	2020	
Surface Water	N/A				
Interconnection to another supplier	N/A				

Water Source Alternatives - *Key Metropolitan Council Benchmark*

Do you anticipate the need for alternative water sources in the next 10 years? Yes ☐ No ☒

For metro communities, will you need alternative water sources by the year 2040? Yes ☒ No ☐

If you answered yes for either question, then complete table 14. If no, insert NA.

Complete Table 14 by checking the box next to alternative approaches that your community is considering, including approximate locations (if known), the estimated amount of future demand that could be met through the approach, the estimated timeframe to implement the approach, potential partnerships, and the major benefits and challenges of the approach. Add rows to the table as needed.

For communities in the seven-county Twin Cities metropolitan area, these alternatives should include approaches the community is considering to meet projected 2040 water demand.

Table 14. Alternative water sources

Alternative Source Considered	Source and/or Installation Location (approximate)	Estimated Amount of Future Demand (%)	Timeframe to Implement (YYYY)	Potential Partners	Benefits	Challenges
☐ Groundwater	N/A					
☒ Surface Water	Mississippi River	100	2030	Met Council, Regional Partners	Current source aquifer lateral extent and capacity is unknown. Surface water connection would provide know supply.	Cost of new Water treatment plant and intake
☐ Reclaimed stormwater	N/A					
☐ Reclaimed wastewater	N/A					
☐ Interconnection to another supplier	N/A					

Part 2. Emergency Preparedness Procedures

The emergency preparedness procedures outlined in this plan are intended to comply with the contingency plan provisions required by MDH in the WHP and SWP. Water emergencies can occur as a result of vandalism, sabotage, accidental contamination, mechanical problems, power failings, drought, flooding, and other natural disasters. The purpose of emergency planning is to develop emergency response procedures and to identify actions needed to improve emergency preparedness. In the case of a municipality, these procedures should be in support of, and part of, an all-hazard emergency operations plan. Municipalities that already have written procedures dealing with water emergencies should review the following information and update existing procedures to address these water supply protection measures.

A. Federal Emergency Response Plan

Section 1433(b) of the Safe Drinking Water Act, (Public Law 107-188, Title IV- Drinking Water Security and Safety) requires community water suppliers serving over 3,300 people to prepare an Emergency Response Plan.

Do you have a federal emergency response plan? Yes ☒ No ☐

If yes, what was the date it was certified? May 8, 2008

Complete Table 15 by inserting the noted information regarding your completed Federal Emergency Response Plan.

Table 15. Emergency Preparedness Plan contact information

Emergency Response Plan Role	Contact Person	Contact Phone Number	Contact Email
Emergency Response Lead	MATT KOHNER	763 433-9859	MKOHNER@CI.RAMSEY.MN.US
Alternate Emergency Response Lead	JOHN NELSON	763 286-0296	JNELSON@CI.RAMSEY.MN.US

B. Operational Contingency Plan

All utilities should have a written operational contingency plan that describes measures to be taken for water supply mainline breaks and other common system failures as well as routine maintenance.

Do you have a written operational contingency plan? Yes ☒ No ☐

At a minimum, a water supplier should prepare and maintain an emergency contact list of contractors and suppliers.

C. Emergency Response Procedures

Water suppliers must meet the requirements of MN Rules 4720.5280 . Accordingly, the Minnesota Department of Natural Resources (DNR) requires public water suppliers serving more than 1,000 people to submit Emergency and Conservation Plans. Water emergency and

conservation plans that have been approved by the DNR, under provisions of Minnesota Statute 186 and Minnesota Rules, part 6115.0770, will be considered equivalent to an approved WHP contingency plan.

Emergency Telephone List

Prepare and attach a list of emergency contacts, including the MN Duty Officer (1-800-422-0798), as **Appendix 5**. A template is available at www.mndnr.gov/watersupplyplans

The list should include key utility and community personnel, contacts in adjacent water suppliers, and appropriate local, state and federal emergency contacts. Please be sure to verify and update the contacts on the emergency telephone list and date it. Thereafter, update on a regular basis (once a year is recommended). In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the Emergency Manager for that community. Responsibilities and services for each contact should be defined.

Current Water Sources and Service Area

Quick access to concise and detailed information on water sources, water treatment, and the distribution system may be needed in an emergency. System operation and maintenance records should be maintained in secured central and back-up locations so that the records are accessible for emergency purposes. A detailed map of the system showing the treatment plants, water sources, storage facilities, supply lines, interconnections, and other information that would be useful in an emergency should also be readily available. It is critical that public water supplier representatives and emergency response personnel communicate about the response procedures and be able to easily obtain this kind of information both in electronic and hard copy formats (in case of a power outage).

Do records and maps exist? Yes ☒ No ☐

Can staff access records and maps from a central secured location in the event of an emergency?

Yes ☒ No ☐

Does the appropriate staff know where the materials are located?

Yes ☒ No ☐

Procedure for Augmenting Water Supplies

Complete Tables 16 – 17 by listing all available sources of water that can be used to augment or replace existing sources in an emergency. Add rows to the tables as needed.

In the case of a municipality, this information should be contained in a notification and warning standard operating procedure maintained by the warning point for that community. Municipalities are encouraged to execute cooperative agreements for potential emergency

water services and copies should be included in **Appendix 6**. Outstate Communities may consider using nearby high capacity wells (industry, golf course) as emergency water sources. WSP should include information on any physical or chemical problems that may limit interconnections to other sources of water. Approvals from the MDH are required for interconnections or the reuse of water.

Table 16. Interconnections with other water supply systems to supply water in an emergency

Other Water Supply System Owner	Capacity (GPM & MGD)	Note Any Limitations On Use	List of services, equipment, supplies available to respond
CITY OF ANOKA	2000 GPM 2,880,000 GPD	EMERGENCY USE ONLY	MUTUAL AID AGREEMENT MNWARN

GPM – Gallons per minute MGD – million gallons per day

Table 17. Utilizing surface water as an alternative source

Surface Water Source Name	Capacity (GPM)	Capacity (MGD)	Treatment Needs	Note Any Limitations On Use
N/A				

If not covered above, describe additional emergency measures for providing water (obtaining bottled water, or steps to obtain National Guard services, etc.)

Allocation and Demand Reduction Procedures

Complete Table 18 by adding information about how decisions will be made to allocate water and reduce demand during an emergency. Provide information for each customer category, including its priority ranking, average day demand, and demand reduction potential for each customer category. Modify the customer categories as needed, and add additional lines if necessary.

Water use categories should be prioritized in a way that is consistent with Minnesota Statutes 103G.261 (#1 is highest priority) as follows:

1. Water use for human needs such as cooking, cleaning, drinking, washing and waste disposal; use for on-farm livestock watering; and use for power production that meets contingency requirements.
2. Water use involving consumption of less than 10,000 gallons per day (usually from private wells or surface water intakes)
3. Water use for agricultural irrigation and processing of agricultural products involving consumption of more than 10,000 gallons per day (usually from private high-capacity wells or surface water intakes)
4. Water use for power production above the use provided for in the contingency plan.

5. All other water use involving consumption of more than 10,000 gallons per day.
6. Nonessential uses – car washes, golf courses, etc.

Water used for human needs at hospitals, nursing homes and similar types of facilities should be designated as a high priority to be maintained in an emergency. Lower priority uses will need to address water used for human needs at other types of facilities such as hotels, office buildings, and manufacturing plants. The volume of water and other types of water uses at these facilities must be carefully considered. After reviewing the data, common sense should dictate local allocation priorities to protect domestic requirements over certain types of economic needs. Water use for lawn sprinkling, vehicle washing, golf courses, and recreation are legislatively considered non-essential.

Table 18. Water use priorities

Customer Category	Allocation Priority	Average Daily Demand (GDP)	Short-Term Emergency Demand Reduction Potential (GPD)
Residential	1	1,542,000	1,370,000
Institutional	2	14,600	10,000
Commercial	3	163,400	15,000
Industrial	4		
Irrigation	5		
Wholesale	N/A		
Non-Essential	6		
TOTAL		1,720,000	1,395,000

GPD – Gallons per Day

Tip: Calculating Emergency Demand Reduction Potential

The emergency demand reduction potential for all uses will typically equal the difference between maximum use (summer demand) and base use (winter demand). In extreme emergency situations, lower priority water uses must be restricted or eliminated to protect priority domestic water requirements. Emergency demand reduction potential should be based on average day demands for customer categories within each priority class. Use the tables in Part 3 on water conservation to help you determine strategies.

Complete Table 19 by selecting the triggers and actions during water supply disruption conditions.

Table 19. Emergency demand reduction conditions, triggers and actions (Select all that may apply and describe)

Emergency Triggers	Short-term Actions	Long-term Actions
☐ Contamination ☒ Loss of production ☒ Infrastructure failure ☒ Executive order by Governor ☐ Other: _____	☐ Supply augmentation through ____ ☒ Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. ☒ Water allocation through chart above ☒ Meet with large water users to discuss their contingency plan.	☐ Supply augmentation through ____ ☐ Adopt (if not already) and enforce a critical water deficiency ordinance to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. ☐ Water allocation through____ ☐ Meet with large water users to discuss their contingency plan.

Notification Procedures

Complete Table 20 by selecting trigger for informing customers regarding conservation requests, water use restrictions, and suspensions; notification frequencies; and partners that may assist in the notification process. Add rows to the table as needed.

Table 20. Plan to inform customers regarding conservation requests, water use restrictions, and suspensions

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
☒ Short-term demand reduction declared (< 1 year)	☒ Website ☒ Email list serve ☒ Social media (e.g. Twitter, Facebook) ☒ Direct customer mailing, ☒ Press release (TV, radio, newspaper), ☒ Meeting with large water users (> 10% of total city use) ☐ Other: _____	☐ Daily ☒ Weekly ☐ Monthly ☐ Annually	
☒ Long-term Ongoing demand reduction declared	☒ Website ☒ Email list serve ☒ Social media (e.g. Twitter, Facebook) ☒ Direct customer mailing, ☒ Press release (TV, radio, newspaper), ☒ Meeting with large water users (> 10% of total city use) ☐ Other: _____	☐ Daily ☒ Weekly ☐ Monthly ☐ Annually	

Notification Trigger(s)	Methods (select all that apply)	Update Frequency	Partners
☒ Governor's critical water deficiency declared	☒ Website ☒ Email list serve ☒ Social media (e.g. Twitter, Facebook) ☒ Direct customer mailing, ☒ Press release (TV, radio, newspaper), ☐ Meeting with large water users (> 10% of total city use) ☐ Other: _____	☐ Daily ☒ Weekly ☐ Monthly ☐ Annually	

Enforcement

Prior to a water emergency, municipal water suppliers must adopt regulations that restrict water use and outline the enforcement response plan. The enforcement response plan must outline how conditions will be monitored to know when enforcement actions are triggered, what enforcement tools will be used, who will be responsible for enforcement, and what timelines for corrective actions will be expected.

Affected operations, communications, and enforcement staff must then be trained to rapidly implement those provisions during emergency conditions.

Important Note:

Disregard of critical water deficiency orders, even though total appropriation remains less than permitted, is adequate grounds for immediate modification of a public water supply authority's water use permit (2013 MN Statutes 103G.291)

Does the city have a critical water deficiency restriction/official control in place that includes provisions to restrict water use and enforce the restrictions? (This restriction may be an ordinance, rule, regulation, policy under a council directive, or other official control) Yes ☐ No ☒

If yes, attach the official control document to this WSP as **Appendix 7**.

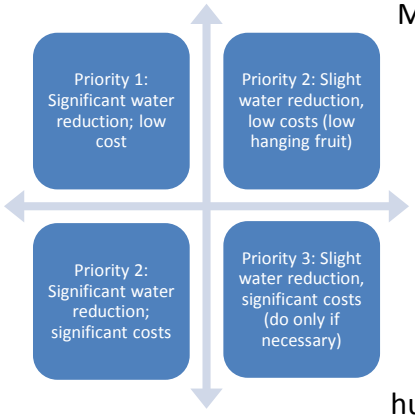
If no, the municipality must adopt such an official control within 6 months of submitting this WSP and submit it to the DNR as an amendment to this WSP.

Irrespective of whether a critical water deficiency control is in place, does the public water supply utility, city manager, mayor, or emergency manager have standing authority to implement water restrictions? Yes ☒ No ☐

If yes, cite the regulatory authority reference: City Code 58-118 .

If no, who has authority to implement water use restrictions in an emergency?

PART 3. WATER CONSERVATION PLAN



Minnesotans have historically benefited from the state's abundant water supplies, reducing the need for conservation. There are however, limits to the available supplies of water and increasing threats to the quality of our drinking water. Causes of water supply limitation may include: population increases, economic trends, uneven statewide availability of groundwater, climatic changes, and degraded water quality. Examples of threats to drinking water quality include: the presence of contaminant plumes from past land use activities, exceedances of water quality standards from natural and human sources, contaminants of emerging concern, and increasing pollutant trends from nonpoint sources.

There are many incentives for conserving water; conservation:

- reduces the potential for pumping-induced transfer of contaminants into the deeper aquifers, which can add treatment costs
- reduces the need for capital projects to expand system capacity
- reduces the likelihood of water use conflicts, like well interference, aquatic habitat loss, and declining lake levels
- conserves energy, because less energy is needed to extract, treat and distribute water (and less energy production also conserves water since water is use to produce energy)
- maintains water supplies that can then be available during times of drought

It is therefore imperative that water suppliers implement water conservation plans. The first step in water conservation is identifying opportunities for behavioral or engineering changes that could be made to reduce water use by conducting a thorough analysis of:

- Water use by customer
- Extraction, treatment, distribution and irrigation system efficiencies
- Industrial processing system efficiencies
- Regulatory and barriers to conservation
- Cultural barriers to conservation
- Water reuse opportunities

Once accurate data is compiled, water suppliers can set achievable goals for reducing water use. A successful water conservation plan follows a logical sequence of events. The plan should address both conservation on the supply side (leak detection and repairs, metering), as well as on the demand side (reductions in usage). Implementation should be conducted in phases, starting with the most obvious and lowest-cost options. In some cases one of the early steps will be reviewing regulatory constraints to water conservation, such as lawn irrigation requirements. Outside funding and grants may be available for implementation of projects. Engage water system operators and maintenance staff and customers in brainstorming opportunities to reduce water use. Ask the question: "How can I help save water?"

Progress since 2006

Is this your community's first Water Supply Plan? Yes ☐ No ☒

If yes, describe conservation practices that you are already implementing, such as: pricing, system improvements, education, regulation, appliance retrofitting, enforcement, etc.

If no, complete Table 21 to summarize conservation actions taken since the adoption of the 2006 water supply plan.

Table 21. Implementation of previous ten-year Conservation Plan

2006 Plan Commitments	Action Taken?
Change water rates structure to provide conservation pricing	☒ Yes ☐ No
Water supply system improvements (e.g. leak repairs, valve replacements, etc.)	☒ Yes ☐ No
Educational efforts	☒ Yes ☐ No
New water conservation ordinances	☒ Yes ☐ No
Rebate or retrofitting Program (e.g. for toilet, faucets, appliances, showerheads, dish washers, washing machines, irrigation systems, rain barrels, water softeners, etc.	☐ Yes ☒ No
Enforcement	☒ Yes ☐ No
Describe other: Replaced all residential meters with Neptune Smart meters within last 10 years	☒ Yes ☐ No

What are the results you have seen from the actions in Table 21 and how were results measured?

Overall per capita demand dropped while adding new customers during this time period.

A. Triggers for Allocation and Demand Reduction Actions

Complete table 22 by checking each trigger below, as appropriate, and the actions to be taken at various levels or stages of severity. Add in additional rows to the table as needed.

Table 22. Short and long-term demand reduction conditions, triggers and actions

Objective	Triggers	Actions
Protect surface water flows	☐ Low stream flow conditions ☐ Reports of declining wetland and lake levels	☐ Increase promotion of conservation measures ☐ Other: _____

Objective	Triggers	Actions
	☐ Other: _____	
Short-term demand reduction (less than 1 year	☒ Extremely high seasonal water demand (more than double winter demand) ☒ Loss of treatment capacity ☒ Lack of water in storage ☒ State drought plan ☐ Well interference ☐ Other: _____	☒ Adopt (if not already) and enforce the critical water deficiency ordinance to restrict or prohibit lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. ☐ Supply augmentation through ____ ☒ Water allocation through____ ☒ Meet with large water users to discuss user's contingency plan.
Long-term demand reduction (>1 year)	☒ Per capita demand increasing ☒ Total demand increase (higher population or more industry)Water level in well(s) below elevation of _____ ☐ Other: _____	☒ Develop a critical water deficiency ordinance that is or can be quickly adopted to penalize lawn watering, vehicle washing, golf course and park irrigation & other nonessential uses. ☐ Enact a water waste ordinance that targets overwatering (causing water to flow off the landscape into streets, parking lots, or similar), watering impervious surfaces (streets, driveways or other hardscape areas), and negligence of known leaks, breaks, or malfunctions. ☒ Meet with large water users to discuss user's contingency plan. ☐ Enhanced monitoring and reporting: audits, meters, billing, etc.
Governor's "Critical Water Deficiency Order" declared	☒ "Critical Water Deficiency Order" issued	☒ Strictly enforce Odd/ Even Sprinkling Ban ☒ Reduce or eliminate irrigation at public buildings and parks

B. Conservation Objectives and Strategies – *Key benchmark for DNR*

This section establishes water conservation objectives and strategies for eight major areas of water use.

Objective 1: Reduce Unaccounted (Non-Revenue) Water loss to Less than 10%

The Minnesota Rural Waters Association, the Metropolitan Council and the Department of Natural Resources recommend that all water uses be metered. Metering can help identify high use locations and times, along with leaks within buildings that have multiple meters.

It is difficult to quantify specific unmetered water use such as that associated with firefighting and system flushing or system leaks. Typically, water suppliers subtract metered water use from total water pumped to calculate unaccounted or non-revenue water loss.

Is your five-year average (2005-2014) unaccounted Water Use in Table 2 higher than 10%?

Yes ☐ No ☒

What is your leak detection monitoring schedule? (e.g. monitor 1/3rd of the city lines per year)

We get quarterly leak reports from our meter reading software. We follow up with a letter to the identified properties.

Water Audits - are intended to identify, quantify and verify water and revenue losses. The volume of unaccounted-for water should be evaluated each billing cycle. The American Water Works Association (AWWA) recommends that ten percent or less of pumped water is unaccounted-for water. Water audit procedures are available from the AWWA and MN Rural Water Association www.mrwa.com . Drinking Water Revolving Loan Funds are available for purchase of new meters when new plants are built.

What is the date of your most recent water audit? 2016 DNR Water Appropriation Permit

Frequency of water audits: ☒ **yearly** ☐ **other (specify frequency) _____**

Leak detection and survey: ☐ **every year** ☐ **every other year** ☒ **periodic as needed**

Year last leak detection survey completed: _____

If Table 2 shows annual water losses over 10% or an increasing trend over time, describe what actions will be taken to reach the <10% loss objective and within what timeframe

Metering -AWWA recommends that every water supplier install meters to account for all water taken into its system, along with all water distributed from its system at each customer's point of service. An effective metering program relies upon periodic performance testing, repair, maintenance or replacement of all meters. AWWA also recommends that water suppliers conduct regular water audits to ensure accountability. Some cities install separate meters for interior and exterior water use, but some research suggests that this may not result in water conservation.

Complete Table 23 by adding the requested information regarding the number, types, testing and maintenance of customer meters.

Table 23. Information about customer meters

Customer Category	Number of Customers	Number of Metered Connections	Number of Automated Meter Readers	Meter testing intervals (years)	Average age/meter replacement schedule (years
Residential	4105	4105	4105		8/10
Irrigation meters	145	145	145		/
Institutional	5	5	5		/
Commercial	255	255	255		/
Industrial					/
Public facilities	15	15	15		/

Customer Category	Number of Customers	Number of Metered Connections	Number of Automated Meter Readers	Meter testing intervals (years)	Average age/meter replacement schedule (years
Other					___ / ___
TOTALS	4525	4525	4525	NA	NA

For unmetered systems, describe any plans to install meters or replace current meters with advanced technology meters. Provide an estimate of the cost to implement the plan and the projected water savings from implementing the plan.

All of our meters have advanced technology.

Table 24. Water source meters

	Number of Meters	Meter testing schedule (years)	Number of Automated Meter Readers	Average age/meter replacement schedule (years
Water source (wells/intakes)	8	10	0	_0_ / _10__
Treatment plant	N/A			___ / ___

Objective 2: Achieve Less than 75 Residential Gallons per Capita Demand (GPCD)

The 2002 average residential per capita demand in the Twin Cities Metropolitan area was 75 gallons per capita per day.

Is your average 2010-2015 residential per capita water demand in Table 2 more than 75? Yes ☒ No ☐

What was your 2010 – 2015 five-year average residential per capita water demand? 87 g/person/day

Describe the water use trend over that timeframe:

Residential Per Capita Water use has declined during this period while the number of users has increased each year. There were two high years in the beginning of this 5 year period which affect the average. The last two years were 69 and 729 gpcd, respectively.

Complete Table 25 by checking which strategies you will use to continue reducing residential per capita demand and project a likely timeframe for completing each checked strategy (Select all that apply and add rows for additional strategies):

Table 25. Strategies and timeframe to reduce residential per capita demand

Strategy to reduce residential per capita demand	Timeframe for completing work
☒ Revise city ordinances/codes to encourage or require water efficient landscaping.	2019

Strategy to reduce residential per capita demand	Timeframe for completing work
☐ Revise city ordinance/codes to permit water reuse options, especially for non-potable purposes like irrigation, groundwater recharge, and industrial use. Check with plumbing authority to see if internal buildings reuse is permitted	
☒ Revise ordinances to limit irrigation. Describe the restricted irrigation plan:	Odd/ Even no Watering between 10 AM and 8 PM has been in code for several years
☐ Revise outdoor irrigation installations codes to require high efficiency systems (e.g. those with soil moisture sensors or programmable watering areas) in new installations or system replacements.	
☒ Make water system infrastructure improvements	Leak detection reports are generated, letters are sent to each customer. Follow up letters are sent. Toilet dye kits are available for residents.
☒ Offer free or reduced cost water use audits) for residential customers.	No
☒ Implement a notification system to inform customers when water availability conditions change.	We use the website, signs and the city newsletter.
☐ Provide rebates or incentives for installing water efficient appliances and/or fixtures indoors (e.g., low flow toilets, high efficiency dish washers and washing machines, showerhead and faucet aerators, water softeners, etc.)	
☐ Provide rebates or incentives to reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	
☐ Identify supplemental Water Resources	
☒ Conduct audience-appropriate water conservation education and outreach.	Water conservation tips for residents are posted on the website.
☐ Describe other plans	

Objective 3: Achieve at least a 1.5% per year water reduction for Institutional, Industrial, Commercial, and Agricultural GPCD over the next 10 years or a 15% reduction in ten years.

Complete Table 26 by checking which strategies you will used to continue reducing non-residential customer use demand and project a likely timeframe for completing each checked strategy (add rows for additional strategies).

Where possible, substitute recycled water used in one process for reuse in another. (For example, spent rinse water can often be reused in a cooling tower.) Keep in mind the true cost of water is the amount on the water bill PLUS the expenses to heat, cool, treat, pump, and dispose of/discharge the water. Don't just calculate the initial investment. Many conservation retrofits that appear to be prohibitively expensive are actually very cost-effective when amortized over the life of the equipment. Often reducing water use also saves electrical and other utility costs. Note: as of 2015, water reuse, and is not allowed by the state plumbing code, M.R. 4715 (a variance is needed). However several state agencies are addressing this issue.

Table 26. Strategies and timeframe to reduce institutional, commercial industrial, and agricultural and non-revenue use demand

Strategy to reduce total business, industry, agricultural demand	Timeframe for completing work
☐ Conduct a facility water use audit for both indoor and outdoor use, including system components	
☒ Install enhanced meters capable of automated readings to detect spikes in consumption	Leak detection reports are generated, letters are sent to each customer. Follow up letters are sent.
☐ Compare facility water use to related industry benchmarks, if available (e.g., meat processing, dairy, fruit and vegetable, beverage, textiles, paper/pulp, metals, technology, petroleum refining etc.)	
☐ Install water conservation fixtures and appliances or change processes to conserve water	
☒ Repair leaking system components (e.g., pipes, valves)	Leaks are investigated and repaired.
☐ Investigate the reuse of reclaimed water (e.g., stormwater, wastewater effluent, process wastewater, etc.)	
☒ Reduce outdoor water use (e.g., turf replacement/reduction, rain gardens, rain barrels, smart irrigation, outdoor water use meters, etc.)	The City is open to installation of rain gardens on commercial projects
☐ Train employees how to conserve water	
☒ Implement a notification system to inform non-residential customers when water availability conditions change.	The odd/ even signs are posted in locations where residents and commercial customers see them.
☐ Rainwater catchment systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, industrial processes, water features, vehicle washing facilities, cooling tower makeup, and similar uses shall be approved by the commissioner. Proposed plumbing code 4714.1702.1 http://www.dli.mn.gov/PDF/docket/4714rule.pdf	
☐ Describe other plans:	

Objective 4: Achieve a Decreasing Trend in Total Per Capita Demand

Include as **Appendix 8** one graph showing total per capita water demand for each customer category (i.e., residential, institutional, commercial, industrial) from 2005-2014 and add the calculated/estimated linear trend for the next 10 years.

Describe the trend for each customer category; explain the reason(s) for the trends, and where trends are increasing.

Water demand has been decreasing over the last 10 years. Non-essential use is not declining as fast as Residential or C/I/I. Residential has shown the largest decrease which correlates to the rate structure change and requiring better topsoil for all new construction green areas.

Objective 5: Reduce Peak Day Demand so that the Ratio of Average Maximum day to the Average Day is less than 2.6

Is the ratio of average 2005-2014 maximum day demand to average 2005-2014 average day demand reported in Table 2 more than 2.6? Yes ☒ No ☐

Calculate a ten year average (2005 – 2014) of the ratio of maximum day demand to average day demand: 2.74

The position of the DNR has been that a peak day/average day ratio that is above 2.6 for in summer indicates that the water being used for irrigation by the residents in a community is too large and that efforts should be made to reduce the peak day use by the community.

It should be noted that by reducing the peak day use, communities can also reduce the amount of infrastructure that is required to meet the peak day use. This infrastructure includes new wells, new water towers which can be costly items.

Objective 6: Implement a Conservation Water Rate Structure and/or a Uniform Rate Structure with a Water Conservation Program

Water Conservation Program

Municipal water suppliers serving over 1,000 people are required to adopt demand reduction measures that include a conservation rate structure, or a uniform rate structure with a conservation program that achieves demand reduction. These measures must achieve demand reduction in ways that reduce water demand, water losses, peak water demands, and nonessential water uses. These measures must be approved before a community may request well construction approval from the Department of Health or before requesting an increase in water appropriations permit volume (*Minnesota Statutes*, section 103G.291, subd. 3 and 4). Rates should be adjusted on a regular basis to ensure that revenue of the system is adequate under reduced demand scenarios. If a municipal water supplier intends to use a Uniform Rate Structure, a community-wide Water Conservation Program that will achieve demand reduction must be provided.

Current Water Rates

Include a copy of the actual rate structure in **Appendix 9** or list current water rates including base/service fees and volume charges below.

Volume included in base rate or service charge: 15,000 gallons or ____ cubic feet ___ other

Frequency of billing: ☐ Monthly ☐ Bimonthly ☒ Quarterly ☐ Other:

_____

Water Rate Evaluation Frequency: ☒ every year ☐ every ___ years ☐ no schedule

Date of last rate change: 1/1/2017

Table 27. Rate structures for each customer category (Select all that apply and add additional rows as needed)

Customer Category	Conservation Billing Strategies in Use *	Conservation Neutral Billing Strategies in Use **	Non-Conserving Billing Strategies in Use ***
Residential	☐ Monthly billing ☒ Increasing block rates (volume tiered rates) ☐ Seasonal rates ☐ Time of use rates ☒ Water bills reported in gallons ☐ Individualized goal rates ☒ Excess use rates ☐ Drought surcharge ☐ Use water bill to provide comparisons ☐ Service charge not based on water volume ☐ Other (describe)	☐ Uniform ☐ Odd/even day watering	☐ Service charge based on water volume ☐ Declining block ☐ Flat ☐ Other (describe)
Commercial/ Industrial/ Institutional	☒ Monthly billing ☒ Increasing block rates (volume tiered rates) ☐ Seasonal rates ☐ Time of use rates ☒ Water bills reported in gallons ☐ Individualized goal rates ☐ Excess use rates ☐ Drought surcharge ☐ Use water bill to provide comparisons ☐ Service charge not based on water volume ☐ Other (describe)	☐ Uniform	☐ Service charge based on water volume ☐ Declining block ☐ Flat ☐ Other (describe)
☐ Other			

*** Rate Structures components that may promote water conservation:**

- **Monthly billing:** is encouraged to help people see their water usage so they can consider changing behavior.
- **Increasing block rates (also known as a tiered residential rate structure):** Typically, these have at least three tiers: should have at least three tiers.
    - The first tier is for the winter average water use.
    - The second tier is the year-round average use, which is lower than typical summer use. This rate should be set to cover the full cost of service.
    - The third tier should be above the average annual use and should be priced high enough to encourage conservation, as should any higher tiers. For this to be effective, the difference in block rates should be significant.
- **Seasonal rate:** higher rates in summer to reduce peak demands
- **Time of Use rates:** lower rates for off peak water use
- **Bill water use in gallons:** this allows customers to compare their use to average rates

- **Individualized goal rates:** typically used for industry, business or other large water users to promote water conservation if they keep within agreed upon goals. **Excess Use rates**: if water use goes above an agreed upon amount this higher rate is charged
- **Drought surcharge:** an extra fee is charged for guaranteed water use during drought
- **Use water bill to provide comparisons**: simple graphics comparing individual use over time or compare individual use to others.
- **Service charge or base fee that does not include a water volume** – a base charge or fee to cover universal city expenses that are not customer dependent and/or to provide minimal water at a lower rate (e.g., an amount less than the average residential per capita demand for the water supplier for the last 5 years)
- **Emergency rates** -A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

****Conservation Neutral****

- **Uniform rate**: rate per unit used is the same regardless of the volume used
- **Odd/even day watering** –This approach reduces peak demand on a daily basis for system operation, but it does not reduce overall water use.

***** Non-Conserving *****

- **Service charge or base fee with water volume:** an amount of water larger than the average residential per capita demand for the water supplier for the last 5 years
- **Declining block rate:** the rate per unit used decreases as water use increases.
- **Flat rate:** one fee regardless of how much water is used (usually unmetered).

Provide justification for any conservation neutral or non-conserving rate structures. If intending to adopt a conservation rate structure, include the timeframe to do so:

Objective 7: Additional strategies to Reduce Water Use and Support Wellhead Protection Planning

Development and redevelopment projects can provide additional water conservation opportunities, such as the actions listed below. If a Uniform Rate Structure is in place, the water supplier must provide a Water Conservation Program that includes at <u>least two</u> of the actions listed below. Check those actions that you intent to implement within the next 10 years.

Table 28. Additional strategies to Reduce Water Use & Support Wellhead Protection

☐	Participate in the GreenStep Cities Program, including implementation of at least one of the 20 "Best Practices" for water
☐	Prepare a master plan for smart growth (compact urban growth that avoids sprawl)
☐	Prepare a comprehensive open space plan (areas for parks, green spaces, natural areas)
☐	Adopt a water use restriction ordinance (lawn irrigation, car washing, pools, etc.)
☐	Adopt an outdoor lawn irrigation ordinance
☐	Adopt a private well ordinance (private wells in a city must comply with water restrictions)
☐	Implement a stormwater management program

☐	Adopt non-zoning wetlands ordinance (can further protect wetlands beyond state/federal laws-for vernal pools, buffer areas, restrictions on filling or alterations)
☐	Adopt a water offset program (primarily for new development or expansion)
☒	Implement a water conservation outreach program
☐	Hire a water conservation coordinator (part-time)
☐	Implement a rebate program for water efficient appliances, fixtures, or outdoor water management
☒	Revise the commercial development ordinance to allow low water landscaping practices and eliminate the requirement for installation of an irrigation system.

Objective 8: Tracking Success: How will you track or measure success through the next ten years?

We will keep a record of new commercial developments that are constructed with low water or no water landscaping plans. We will record contacts and successes through the water conservation outreach program.

Tip: The process to monitor demand reduction and/or a rate structure includes:

a) The DNR Hydrologist will call or visit the community the first 1-3 years after the water supply plan is completed.
b) They will discuss what activities the community is doing to conserve water and if they feel their actions are successful. The Water Supply Plan, Part 3 tables and responses will guide the discussion. For example, they will discuss efforts to reduce unaccounted for water loss if that is a problem, or go through Tables 33, 34 and 35 to discuss new initiatives.
c) The city representative and the hydrologist will discuss total per capita water use, residential per capita water use, and business/industry use. They will note trends.
d) They will also discuss options for improvement and/or collect case studies of success stories to share with other communities. One option may be to change the rate structure, but there are many other paths to successful water conservation.
e) If appropriate, they will cooperatively develop a simple work plan for the next few years, targeting a couple areas where the city might focus efforts.

A. Regulation

Complete Table 29 by selecting which regulations are used to reduce demand and improve water efficiencies. Add additional rows as needed.

Copies of adopted regulations or proposed restrictions or should be included in **Appendix 10** (a list with hyperlinks is acceptable).

Table 29. Regulations for short-term reductions in demand and long-term improvements in water efficiencies

Regulations Utilized	When is it applied (in effect)?
☒ Rainfall sensors required on landscape irrigation systems	☒ Ongoing

Regulations Utilized	When is it applied (in effect)?
Commercial, Parks and City Own Properties	☐ Seasonal ☐ Only during declared Emergencies
☐ Water efficient plumbing fixtures required	☐ New development ☐ Replacement ☐ Rebate Programs
☒ Critical/Emergency Water Deficiency ordinance	☒ Only during declared Emergencies
☒ Watering restriction requirements (time of day, allowable days, etc.) Odd/ Even Day, Time of day watering restrictions are enforced	☒ Odd/even ☐ 2 days/week ☐ Only during declared Emergencies
☐ Water waste prohibited (for example, having a fine for irrigators spraying on the street)	☐ Ongoing ☐ Seasonal ☐ Only during declared Emergencies
☐ Limitations on turf areas (requiring lots to have 10% - 25% of the space in natural areas)	☐ New development ☐ Shoreland/zoning ☐ Other
☒ Soil preparation requirement s (after construction, requiring topsoil to be applied to promote good root growth) Approved topsoil is required under sod for all new construction projects.	☒ New Development ☐ Construction Projects ☐ Other
☒ Tree ratios (requiring a certain number of trees per square foot of lawn)	☒ New development ☐ Shoreland/zoning ☐ Other
☐ Permit to fill swimming pool and/or requiring pools to be covered (to prevent evaporation)	☐ Ongoing ☐ Seasonal ☐ Only during declared Emergencies
☐ Ordinances that permit stormwater irrigation, reuse of water, or other alternative water use (Note: be sure to check current plumbing codes for updates)	☐ Describe

B. Retrofitting Programs

Education and incentive programs aimed at replacing inefficient plumbing fixtures and appliances can help reduce per capita water use, as well as energy costs. It is recommended that municipal water suppliers develop a long-term plan to retrofit public buildings with water efficient plumbing fixtures and appliances. Some water suppliers have developed partnerships with organizations having similar conservation goals, such as electric or gas suppliers, to develop cooperative rebate and retrofit programs.

A study by the AWWA Research Foundation (Residential End Uses of Water, 1999) found that the average indoor water use for a non-conserving home is 69.3 gallons per capita per day (gpcd). The average indoor water use in a conserving home is 45.2 gpcd and most of the decrease in water use is related to water efficient plumbing fixtures and appliances that can reduce water, sewer and energy costs. In Minnesota, certain electric and gas providers are required (Minnesota Statute 216B.241) to fund programs that will conserve energy resources and some utilities have distributed water efficient showerheads to customers to help reduce energy demands required to supply hot water.

Retrofitting Programs

Complete Table 30 by checking which water uses are targeted, the outreach methods used, the measures used to identify success, and any participating partners.

Table 30. Retrofitting programs (Select all that apply)

Water Use Targets	Outreach Methods	Partners
☐ Low flush toilets, ☒ Toilet leak tablets, ☐ Low flow showerheads, ☐ Faucet aerators;	☒ Education about leak detection ☒ Free distribution of toilet leak kits ☐ Rebate for ☐ Other	☐ Gas company ☐ Electric company ☐ Watershed organization
☐ Water conserving washing machines, ☐ Dish washers, ☐ Water softeners;	☐ Education about ☐ Free distribution of ☐ Rebate for ☐ Other	☐ Gas company ☐ Electric company ☐ Watershed organization
☒ Rain gardens, ☒ Rain barrels, ☒ Native/drought tolerant landscaping, etc.	☒ Education about rain gardens, rain barrels ☐ Free distribution of ☐ Rebate for ☐ Other	☐ Gas company ☐ Electric company ☒ Watershed organization

Briefly discuss measures of success from the above table (e.g. number of items distributed, dollar value of rebates, gallons of water conserved, etc.):

We will record and report on the number of rain gardens, rain barrels and native landscaping areas installed. We will continue to provide toilet leak tablets and information on detecting other leaks in homes and businesses.

C. Education and Information Programs

Customer education should take place in three different circumstances. First, customers should be provided information on how to conserve water and improve water use efficiencies. Second, information should be provided at appropriate times to address peak demands. Third, emergency notices and educational materials about how to reduce water use should be available for quick distribution during an emergency.

Proposed Education Programs

Complete Table 31 by selecting which methods are used to provide water conservation and information, including the frequency of program components. Select all that apply and add additional lines as needed.

Table 31. Current and Proposed Education Programs

Education Methods	General summary of topics	#/Year	Frequency
Billing inserts or tips printed on the actual bill	- Water conservation topics - Odd/ Even information - How much water does irrigation use	2	☐ Ongoing ☒ Seasonal ☐ Only during declared emergencies
Consumer Confidence Reports		1	☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Press releases to traditional local news outlets (e.g., newspapers, radio and TV)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Social media distribution (e.g., emails, Facebook, Twitter)	- Water conservation topics - Odd/ Even information - How much water does irrigation use		☒ Ongoing ☒ Seasonal ☐ Only during declared emergencies
Paid advertisements (e.g., billboards, print media, TV, radio, web sites, etc.)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Presentations to community groups			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Staff training			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Facility tours			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Displays and exhibits	Signs for Odd/ Even Ban		☐ Ongoing ☒ Seasonal ☐ Only during declared emergencies
Marketing rebate programs (e.g., indoor fixtures & appliances and outdoor practices)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Community news letters	Odd/ even news letter articles		☐ Ongoing ☒ Seasonal ☐ Only during declared emergencies

Education Methods	General summary of topics	#/Year	Frequency
Direct mailings (water audit/retrofit kits, showerheads, brochures)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Information kiosk at utility and public buildings			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Public service announcements			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Cable TV Programs	Odd/ Even Ban		☐ Ongoing ☒ Seasonal ☐ Only during declared emergencies
Demonstration projects (landscaping or plumbing)			☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
K-12 education programs (Project Wet, Drinking Water Institute, presentations)	Water Tower Tours for local elementary school		☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Community events (children's water festivals, environmental fairs)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Community education classes			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Water week promotions	Well Testing kits provided		☒ Ongoing ☒ Seasonal ☐ Only during declared emergencies
Website (include address: www.cityoframsey.com/utilities-water-system)			☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Targeted efforts (large volume users, users with large increases)			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Notices of ordinances			☐ Ongoing ☐ Seasonal

Education Methods	General summary of topics	#/Year	Frequency
			☐ Only during declared emergencies
Emergency conservation notices			☐ Ongoing ☐ Seasonal ☐ Only during declared emergencies
Other: City website	Page on Xeriscapes, Hardscape Page on Water Conservation Grant Opportunities Page on Irrigation Do's and Do Not's		☒ Ongoing ☐ Seasonal ☐ Only during declared emergencies

Briefly discuss what future education and information activities your community is considering in the future:

The City meets with school age children once a year about water conservation, future water conservation practices, irrigation calculator, website and newsletter articles.
We will continue this practice and expand the audience when the opportunity arises.

Part 4. ITEMS FOR METROPOLITAN AREA COMMUNITIES

Minnesota Statute 473.859 requires WSPs to be completed for all local units of government in the seven-county Metropolitan Area as part of the local comprehensive planning process.

Much of the information in Parts 1-3 addresses water demand for the next 10 years. However, additional information is needed to address water demand through 2040, which will make the WSP consistent with the Metropolitan Land Use Planning Act, upon which the local comprehensive plans are based.

This Part 4 provides guidance to complete the WSP in a way that addresses plans for water supply through 2040.

A. Water Demand Projections through 2040

Complete Table 7 in Part 1D by filling in information about long-term water demand projections through 2040. Total Community Population projections should be consistent with the community's system statement, which can be found on the Metropolitan Council's website and which was sent to the community in September 2015.

Projected Average Day, Maximum Day, and Annual Water Demands may either be calculated using the method outlined in *Appendix 2* of the *2015 Master Water Supply Plan* or by a method developed by the individual water supplier.

B. Potential Water Supply Issues

Complete Table 10 in Part 1E by providing information about the potential water supply issues in your community, including those that might occur due to 2040 projected water use.

The *Master Water Supply Plan* provides information about potential issues for your community in *Appendix 1 (Water Supply Profiles).* This resource may be useful in completing Table 10.

You may document results of local work done to evaluate impact of planned uses by attaching a feasibility assessment or providing a citation and link to where the plan is available electronically.

C. Proposed Alternative Approaches to Meet Extended Water Demand Projections

Complete Table 12 in Part 1F with information about potential water supply infrastructure impacts (such as replacements, expansions or additions to wells/intakes, water storage and treatment capacity, distribution systems, and emergency interconnections) of extended plans for development and redevelopment, in 10-year increments through 2040. It may be useful to refer to information in the community's local Land Use Plan, if available.

Complete Table 14 in Part 1F by checking each approach your community is considering to meet future demand. For each approach your community is considering, provide information about the amount of future water demand to be met using that approach, the timeframe to

implement the approach, potential partners, and current understanding of the key benefits and challenges of the approach.
As challenges are being discussed, consider the need for: evaluation of geologic conditions (mapping, aquifer tests, modeling), identification of areas where domestic wells could be impacted, measurement and analysis of water levels & pumping rates, triggers & associated actions to protect water levels, etc.

D. Value-Added Water Supply Planning Efforts (Optional)

The following information is not required to be completed as part of the local water supply plan, but completing this can help strengthen source water protection throughout the region and help Metropolitan Council and partners in the region to better support local efforts.

Source Water Protection Strategies

Does a Drinking Water Supply Management Area for a neighboring public water supplier overlap your community? Yes ☐ No ☒

If you answered no, skip this section. If you answered yes, please complete Table 32 with information about new water demand or land use planning-related local controls that are being considered to provide additional protection in this area.

Table 32. Local controls and schedule to protect Drinking Water Supply Management Areas

Local Control	Schedule to Implement	Potential Partners
☐ None at this time		
☐ Comprehensive planning that guides development in vulnerable drinking water supply management areas		
☐ Zoning overlay		
☐ Other:		

Technical assistance

From your community's perspective, what are the most important topics for the Metropolitan Council to address, guided by the region's Metropolitan Area Water Supply Advisory Committee and Technical Advisory Committee, as part of its ongoing water supply planning role?

- ☒ Coordination of state, regional and local water supply planning roles
- ☐ Regional water use goals
- ☐ Water use reporting standards
- ☒ Regional and sub-regional partnership opportunities
- ☐ Identifying and prioritizing data gaps and input for regional and sub-regional analyses
- ☐ Others:

GLOSSARY

Agricultural/Irrigation Water Use - Water used for crop and non-crop irrigation, livestock watering, chemigation, golf course irrigation, landscape and athletic field irrigation.

Average Daily Demand - The total water pumped during the year divided by 365 days.

Calcareous Fen - Calcareous fens are rare and distinctive wetlands dependent on a constant supply of cold groundwater. Because they are dependent on groundwater and are one of the rarest natural communities in the United States, they are a protected resource in MN. Approximately 200 have been located in Minnesota. They may not be filled, drained or otherwise degraded.

Commercial/Institutional Water Use - Water used by motels, hotels, restaurants, office buildings, commercial facilities and institutions (both civilian and military). Consider maintaining separate institutional water use records for emergency planning and allocation purposes. Water used by multi-family dwellings, apartment buildings, senior housing complexes, and mobile home parks should be reported as Residential Water Use.

Commercial/Institutional/Industrial (C/I/I) Water Sold - The sum of water delivered for commercial/institutional or industrial purposes.

Conservation Rate Structure - A rate structure that encourages conservation and may include increasing block rates, seasonal rates, time of use rates, individualized goal rates, or excess use rates. If a conservation rate is applied to multifamily dwellings, the rate structure must consider each residential unit as an individual user. A community may have a separate conservation rate that only goes into effect when the community or governor declares a drought emergency. These higher rates can help to protect the city budgets during times of significantly less water usage.

Date of Maximum Daily Demand - The date of the maximum (highest) water demand. Typically this is a day in July or August.

Declining Rate Structure - Under a declining block rate structure, a consumer pays less per additional unit of water as usage increases. This rate structure does not promote water conservation.

Distribution System - Water distribution systems consist of an interconnected series of pipes, valves, storage facilities (water tanks, water towers, reservoirs), water purification facilities, pumping stations, flushing hydrants, and components that convey drinking water and meeting fire protection needs for cities, homes, schools, hospitals, businesses, industries and other facilities.

Flat Rate Structure - Flat fee rates do not vary by customer characteristics or water usage. This rate structure does not promote water conservation.

Industrial Water Use - Water used for thermonuclear power (electric utility generation) and other industrial use such as steel, chemical and allied products, paper and allied products, mining, and petroleum refining.

Low Flow Fixtures/Appliances - Plumbing fixtures and appliances that significantly reduce the amount of water released per use are labeled "low flow". These fixtures and appliances use just enough water to be effective, saving excess, clean drinking water that usually goes down the drain.

Maximum Daily Demand - The maximum (highest) amount of water used in one day.

Metered Residential Connections - The number of residential connections to the water system that have meters. For multifamily dwellings, report each residential unit as an individual user.

Percent Unmetered/Unaccounted For - Unaccounted for water use is the volume of water withdrawn from all sources minus the volume of water delivered. This value represents water "lost" by miscalculated water use due to inaccurate meters, water lost through leaks, or water that is used but unmetered or otherwise undocumented. Water used for public services such as hydrant flushing, ice skating rinks, and public swimming pools should be reported under the category "Water Supplier Services".

Population Served - The number of people who are served by the community's public water supply system. This includes the number of people in the community who are connected to the public water supply system, as well as people in neighboring communities who use water supplied by the community's public water supply system. It should not include residents in the community who have private wells or get their water from neighboring water supply.

Residential Connections - The total number of residential connections to the water system. For multifamily dwellings, report each residential unit as an individual user.

Residential Per Capita Demand - The total residential water delivered during the year divided by the population served divided by 365 days.

Residential Water Use - Water used for normal household purposes such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens. Should include all water delivered to single family private residences, multi-family dwellings, apartment buildings, senior housing complexes, mobile home parks, etc.

Smart Meter - Smart meters can be used by municipalities or by individual homeowners. Smart metering generally indicates the presence of one or more of the following:

- Smart irrigation water meters are controllers that look at factors such as weather, soil, slope, etc. and adjust watering time up or down based on data. Smart controllers in a typical summer will reduce water use by 30%-50%. Just changing the spray nozzle to new efficient models can reduce water use by 40%.
- Smart Meters on customer premises that measure consumption during specific time periods and communicate it to the utility, often on a daily basis.
- A communication channel that permits the utility, at a minimum, to obtain meter reads on demand, to ascertain whether water has recently been flowing through the meter and onto the premises, and to issue commands to the meter to perform specific tasks such as disconnecting or restricting water flow.

Total Connections - The number of connections to the public water supply system.
Total Per Capita Demand - The total amount of water withdrawn from all water supply sources during the year divided by the population served divided by 365 days.
Total Water Pumped - The cumulative amount of water withdrawn from all water supply sources during the year.
Total Water Delivered - The sum of residential, commercial, industrial, institutional, water supplier services, wholesale and other water delivered.
Ultimate (Full Build-Out) - Time period representing the community's estimated total amount and location of potential development, or when the community is fully built out at the final planned density.
Unaccounted (Non-revenue) Loss - See definitions for "percent unmetered/unaccounted for loss".
Uniform Rate Structure - A uniform rate structure charges the same price-per-unit for water usage beyond the fixed customer charge, which covers some fixed costs. The rate sends a price signal to the customer because the water bill will vary by usage. Uniform rates by class charge the same price-per-unit for all customers within a customer class (e.g. residential or non-residential). This price structure is generally considered less effective in encouraging water conservation.
Water Supplier Services - Water used for public services such as hydrant flushing, ice skating rinks, public swimming pools, city park irrigation, back-flushing at water treatment facilities, and/or other uses.
Water Used for Nonessential Purposes - Water used for lawn irrigation, golf course and park irrigation, car washes, ornamental fountains, and other non-essential uses.
Wholesale Deliveries - The amount of water delivered in bulk to other public water suppliers.

Acronyms and Initialisms

AWWA – American Water Works Association
C/I/I – Commercial/Institutional/Industrial
CIP – Capital Improvement Plan
GIS – Geographic Information System
GPCD – Gallons per capita per day
GWMA – Groundwater Management Area – North and East Metro, Straight River, Bonanza,
MDH – Minnesota Department of Health
MGD – Million gallons per day
MG – Million gallons
MGL – Maximum Contaminant Level
MnTAP – Minnesota Technical Assistance Program (University of Minnesota)

MPARS – MN/DNR Permitting and Reporting System (new electronic permitting system)

MRWA – Minnesota Rural Waters Association

SWP – Source Water Protection

WHP – Wellhead Protection

APPENDICES TO BE SUBMITTED BY THE WATER SUPPLIER

Appendix 1: Well records and maintenance summaries – see Part 1C
Appendix 2: Water level monitoring plan – see Part 1E
Appendix 3: Water level graphs for each water supply well - see Part 1E
Appendix 4: Capital Improvement Plan - see Part 1E
Appendix 5: Emergency Telephone List – see Part 2C
Appendix 6: Cooperative Agreements for Emergency Services – see Part 2C
Appendix 7: Municipal Critical Water Deficiency Ordinance – see Part 2C
Appendix 8: Graph showing annual per capita water demand for each customer category during the last ten-years – see Part 3 Objective 4
Appendix 9: Water Rate Structure – see Part 3 Objective 6
Appendix 10: Adopted or proposed regulations to reduce demand or improve water efficiency – see Part 3 Objective 7
Appendix 11: Implementation Checklist – summary of all the actions that a community is doing, or proposes to do, including estimated implementation dates – see www.mndnr.gov/watersupplyplans

Appendix 1: Well Records and Maintenance Summaries

Well Records and Maintenance Summaries

Well No.	Construction	Maintenance	Type
1	1985		
2	1987		
3	1997		
4	1998	2013	Replace VFD
5	2000		
6	2005		
7	2007	2016	Replace check valve and drop pipe
8	2007		

Appendix 2: Water Level Monitoring Plan – see Part 1E

Water Level Monitoring Plan for the City of Ramsey

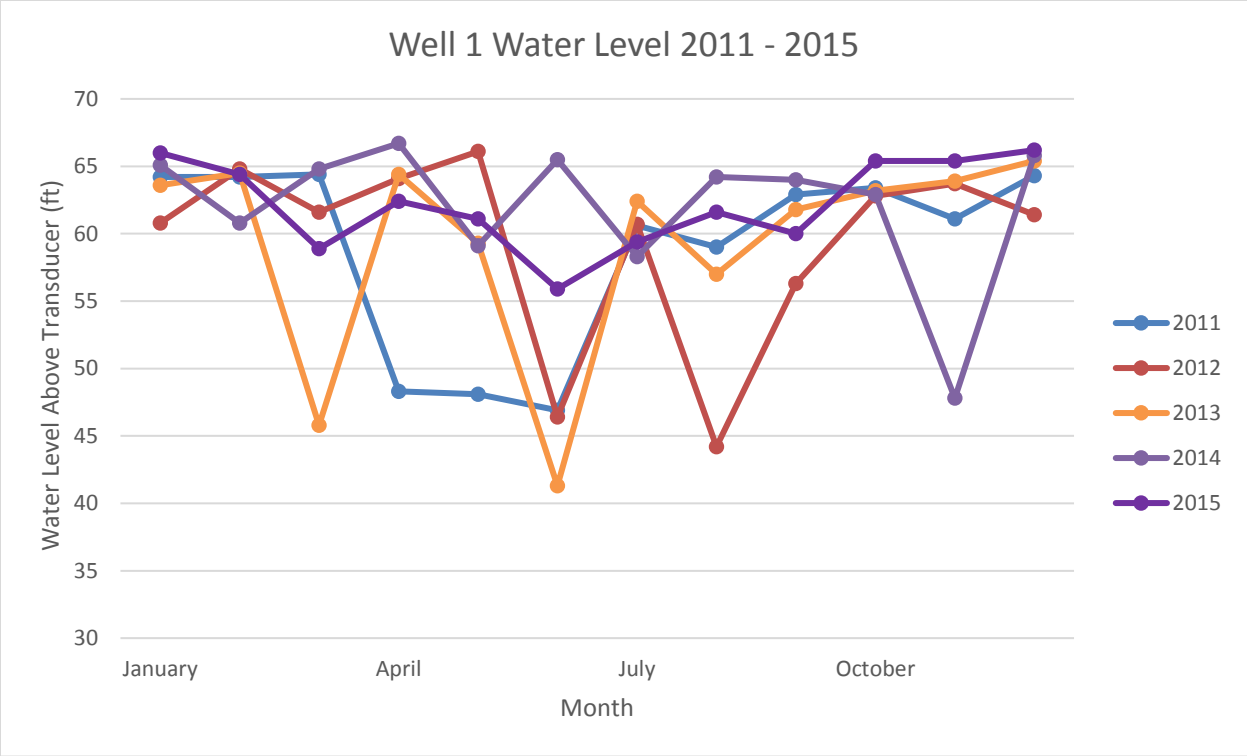
1. Purpose of the Water Level Monitoring Plan
   The purpose of the Water Level Monitoring Plan is to document the water level for wells 1 – 8 to track the seasonal variation in water levels and the long-term trends for each well.
2. Data Collection Method
   The water level is measured by recording the depth to water in feet from the top of the casing located at each will. The top of the casing is 2.5 feet above the ground surface for each well. The depth to water for each well is measured with a SCADA system.
3. Measurement Frequency and Timing
   The depth to water for each will is recorded on the last day of the month. The time the measurement is taken for each well is shown in Table 1.

Table 1 – Well Locations and Schedule for Water Level Readings

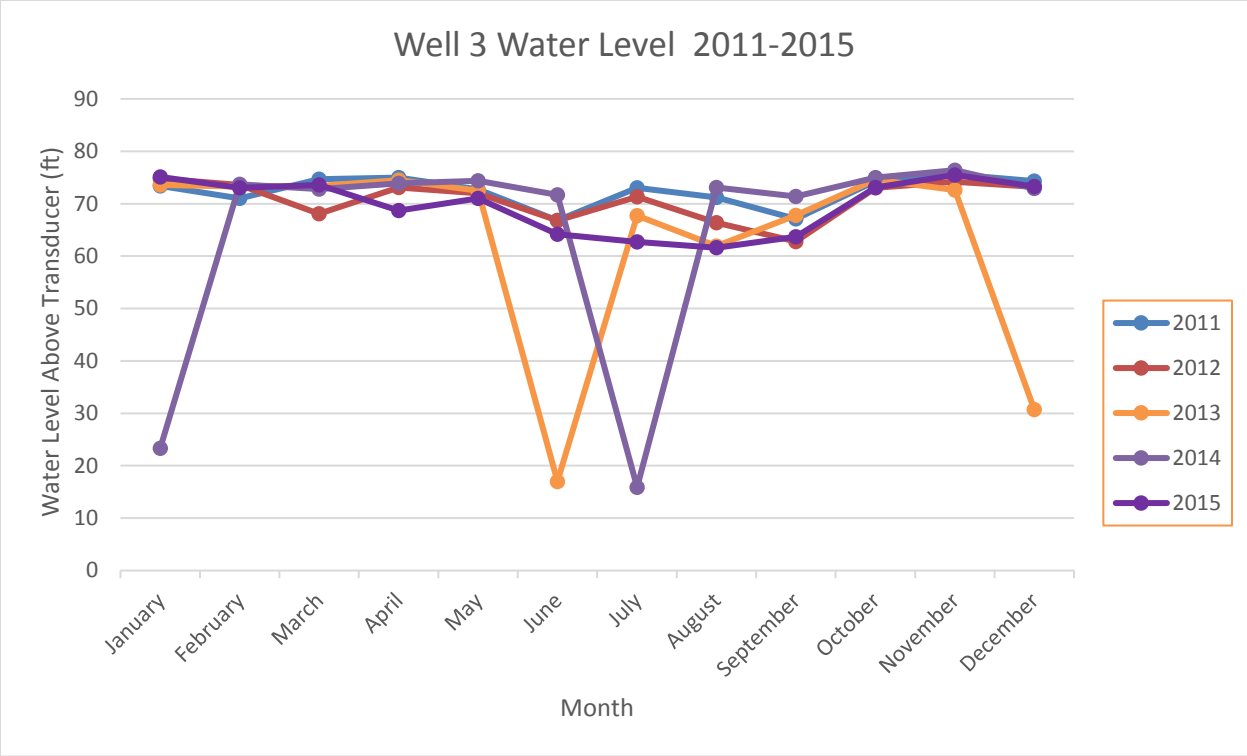
Permittee Well Number:	MDH Unique Well Number:	Well Address:	DNR Permit Number:	Measurement Frequency	SCADA Measurement Timing
1	161441	T32-R25-SEC 25-DCCA	1985-6005	1x/month (Last Day of Month)	11:30 pm
2	416183	T32-R25-SEC 25-ABAB	1985-6005	1x/month (Last Day of Month)	11:30 pm
3	580303	T32-R25-SEC 28-AACD	1985-6005	1x/month (Last Day of Month)	11:30 pm
4	580313	T32-R25-SEC 28-ABCC	1985-6005	1x/month (Last Day of Month)	11:30 pm
5	593672	T32-R25-SEC 28-ACCC	1985-6005	1x/month (Last Day of Month)	11:30 pm
6	706840	T32-R25-SEC 28-BCDC	1985-6005	1x/month (Last Day of Month)	11:30 pm
7	743832	T32-R25-SEC 20-DDAA	1985-6005	1x/month (Last Day of Month)	11:30 pm

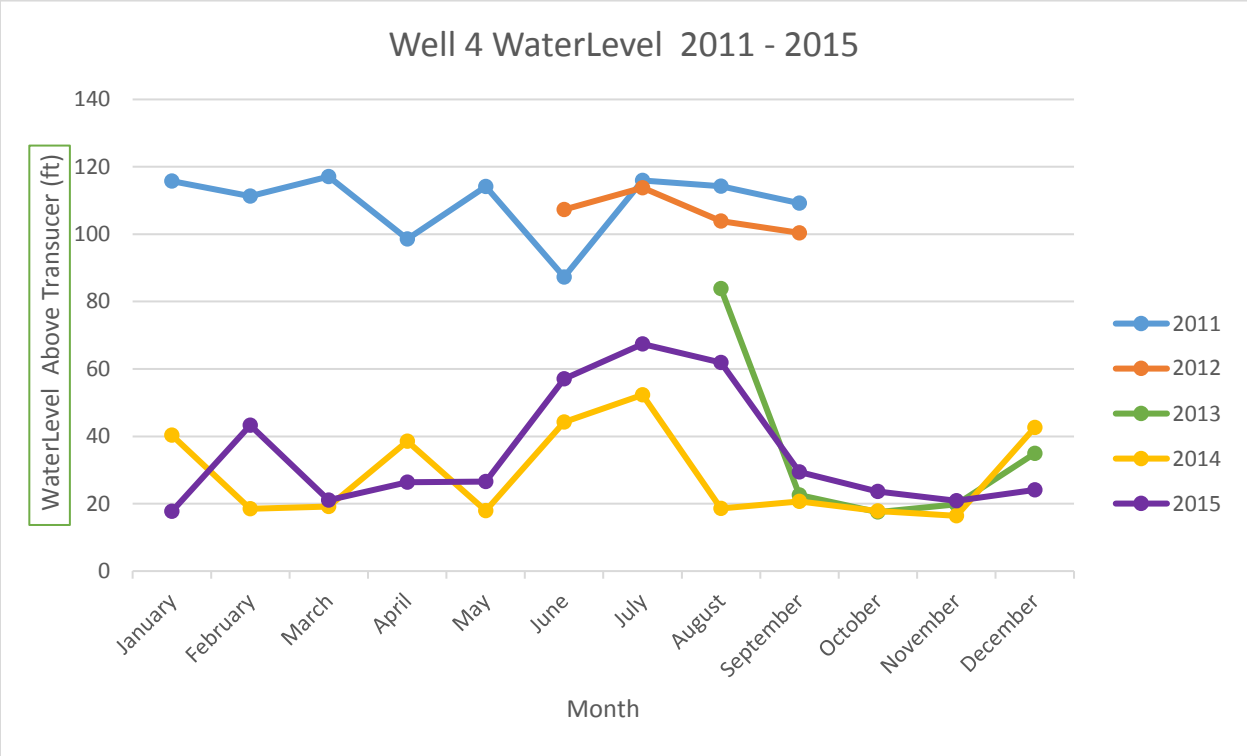
	731127	T32-R25-SEC 21-CCCC	1985-6005	Continuous	30 Min
8	743833	T32-R28-SEC 28-BABD	1985-6005	1x/month (Last Day of Month)	11:30 pm

Appendix 3: Water Level Graphs for Each Water Supply Well

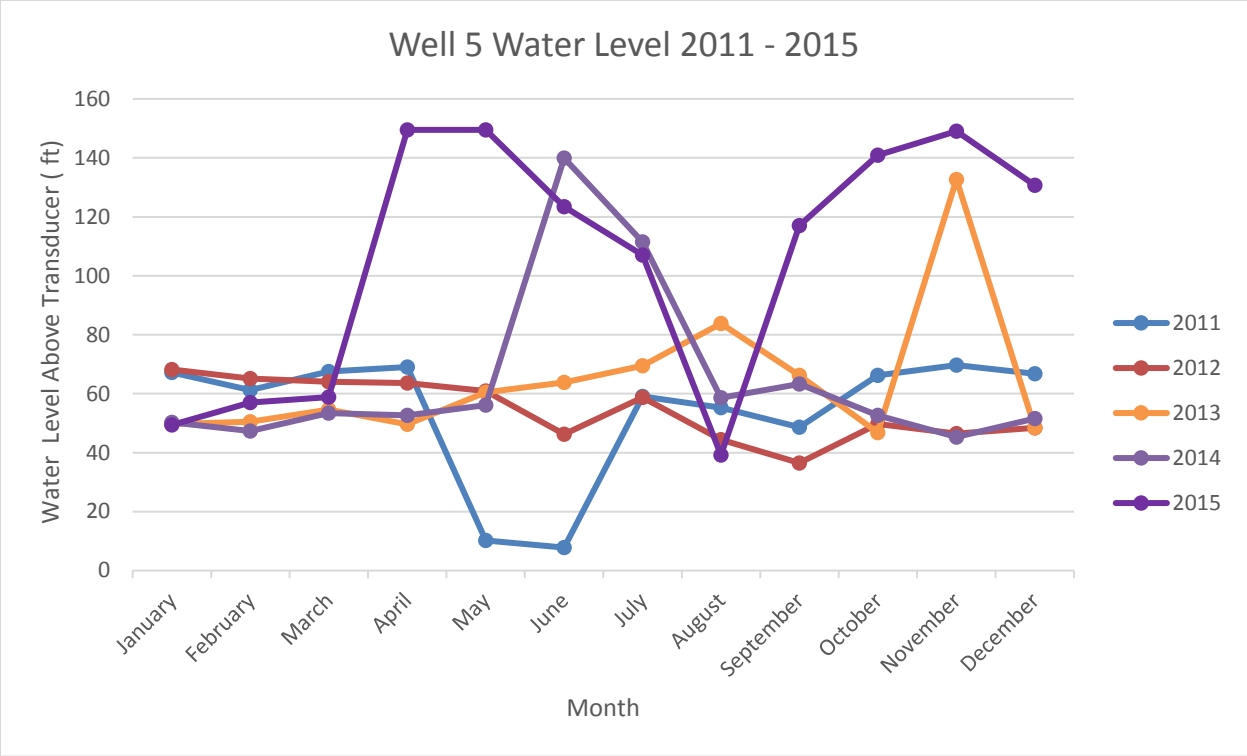


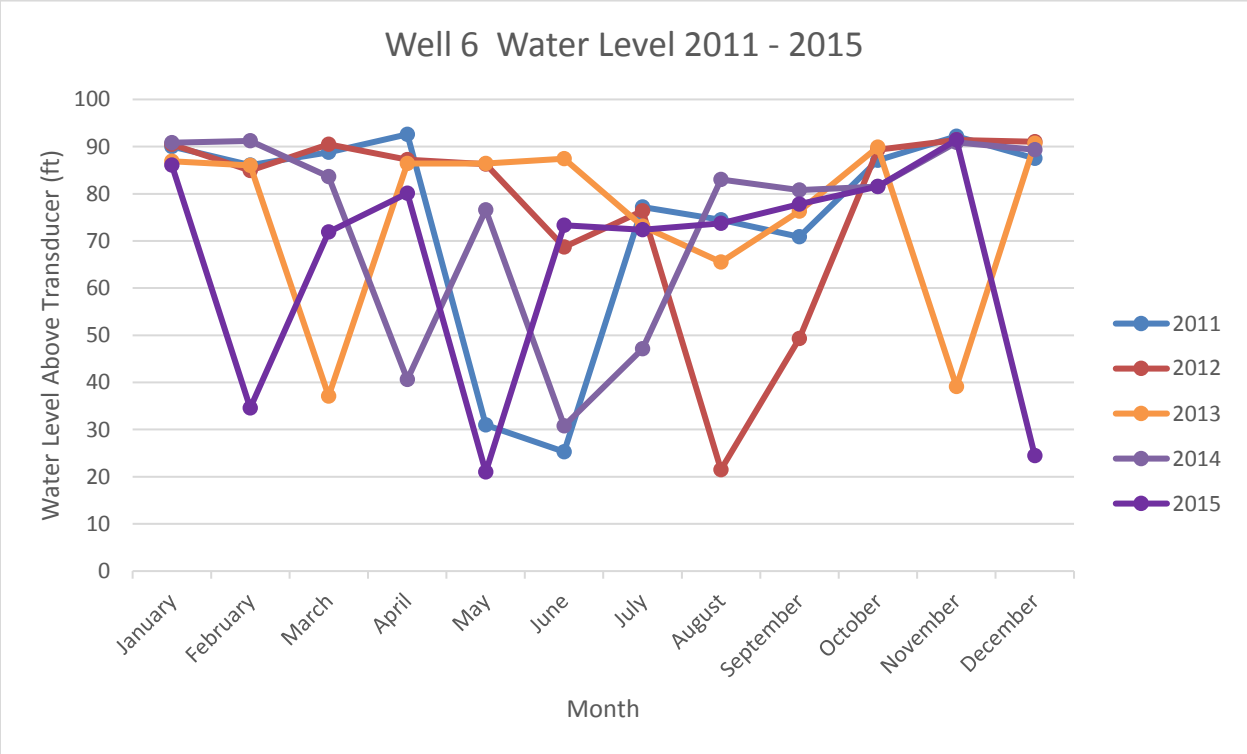
Well 2 is only used for extreme demand periods. It was not used in this period.

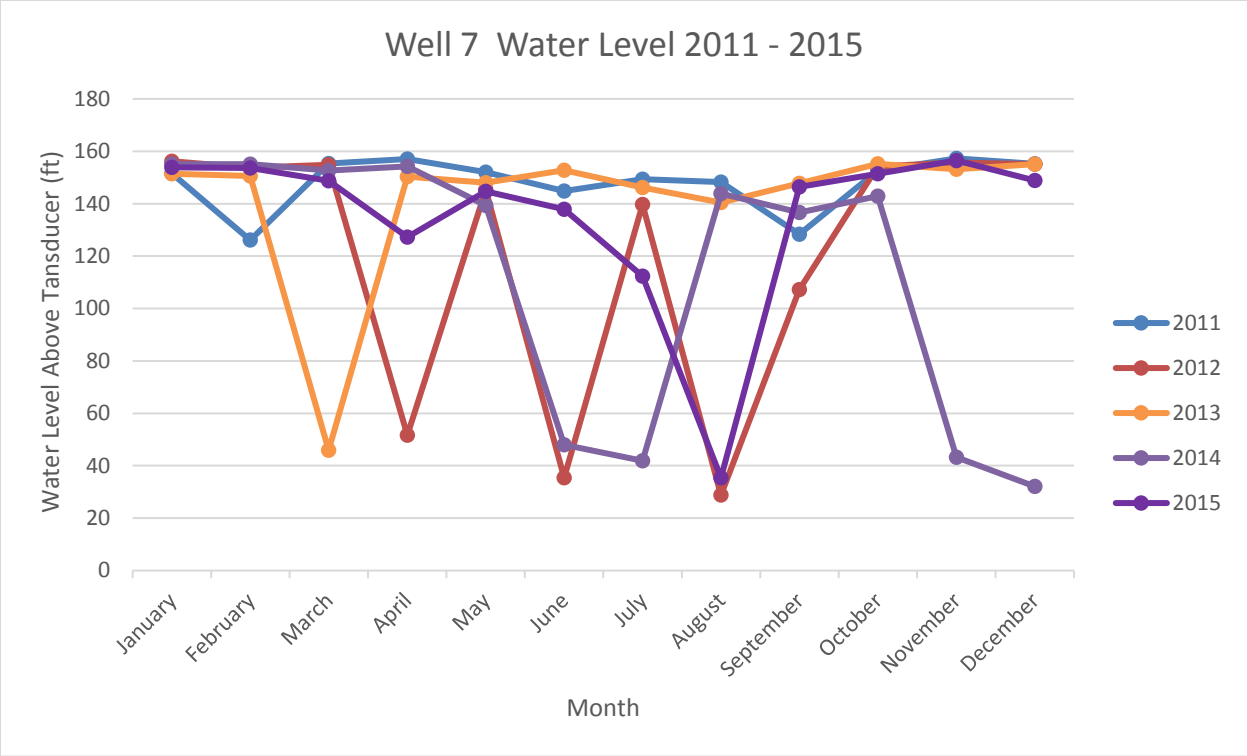


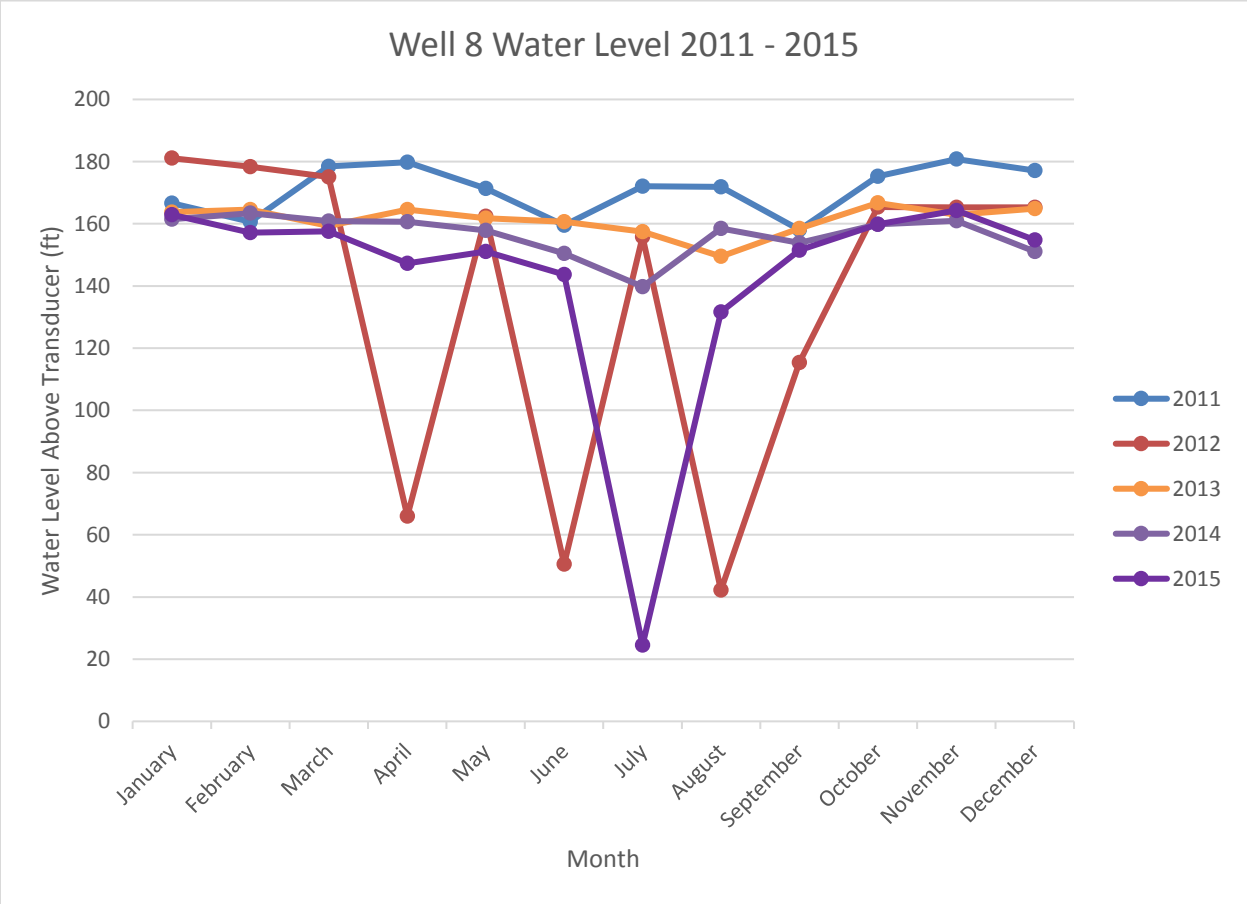


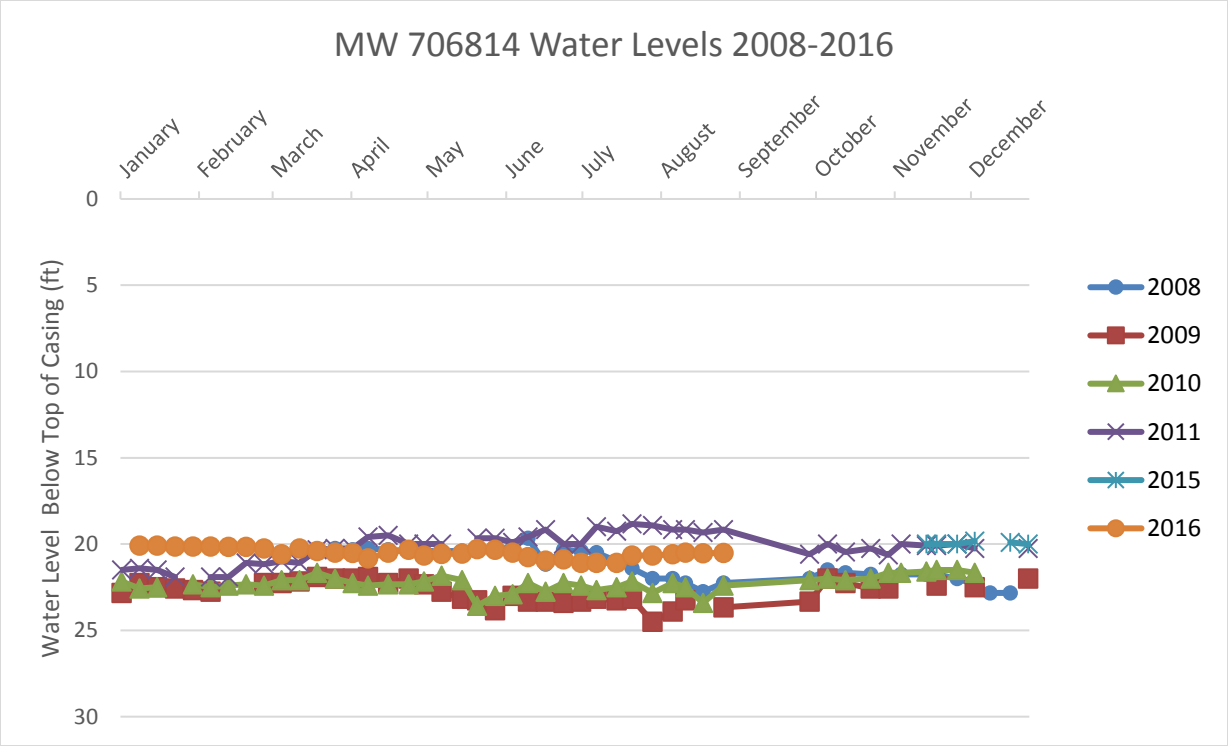
The Well 4 transducer was malfunctioning in late 2011 and early 2012 so there is no data for this period.

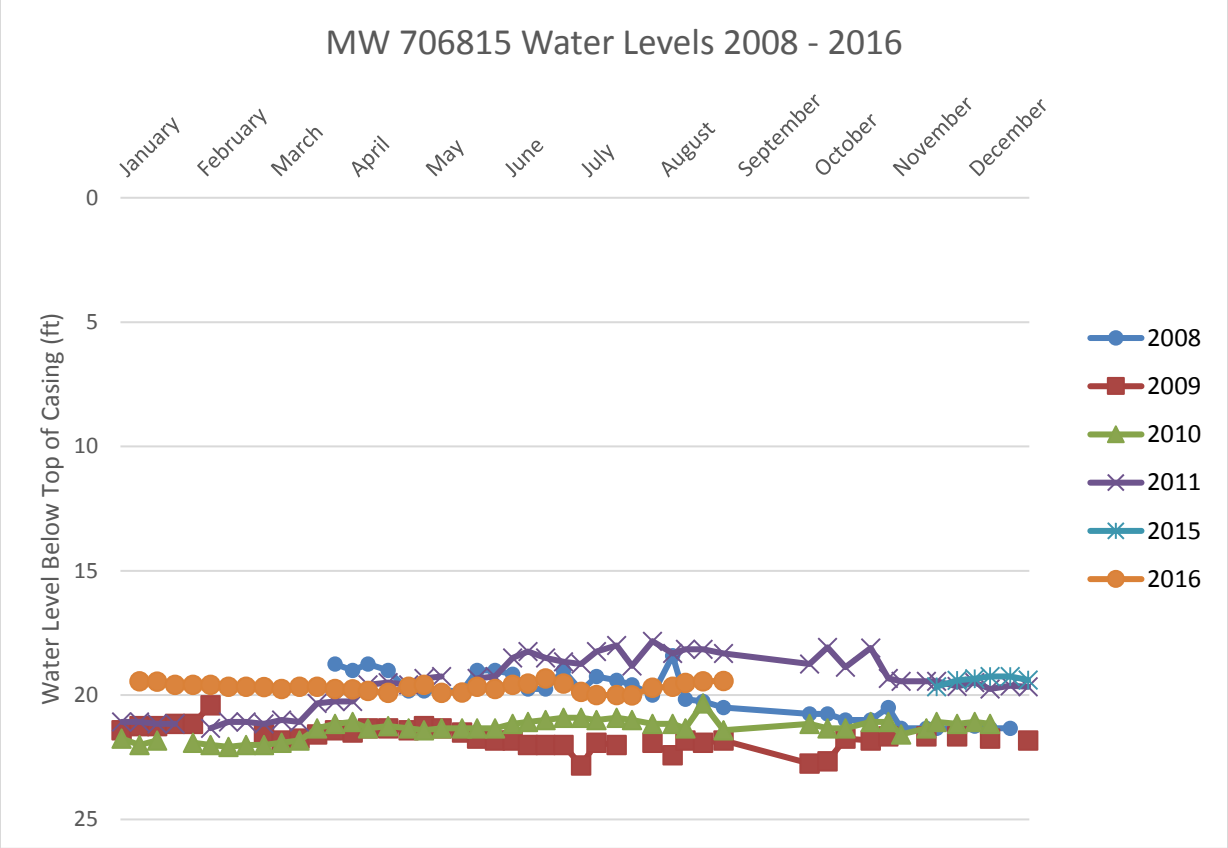

Well 5 Water Level 2011 - 2015
Water Level Above Transducer (ft)
160
140
120
100
80
60
40
20
0
January
February
March
April
May
June
July
August
September
October
November
December
Month
2011
2012
2013
2014
2015

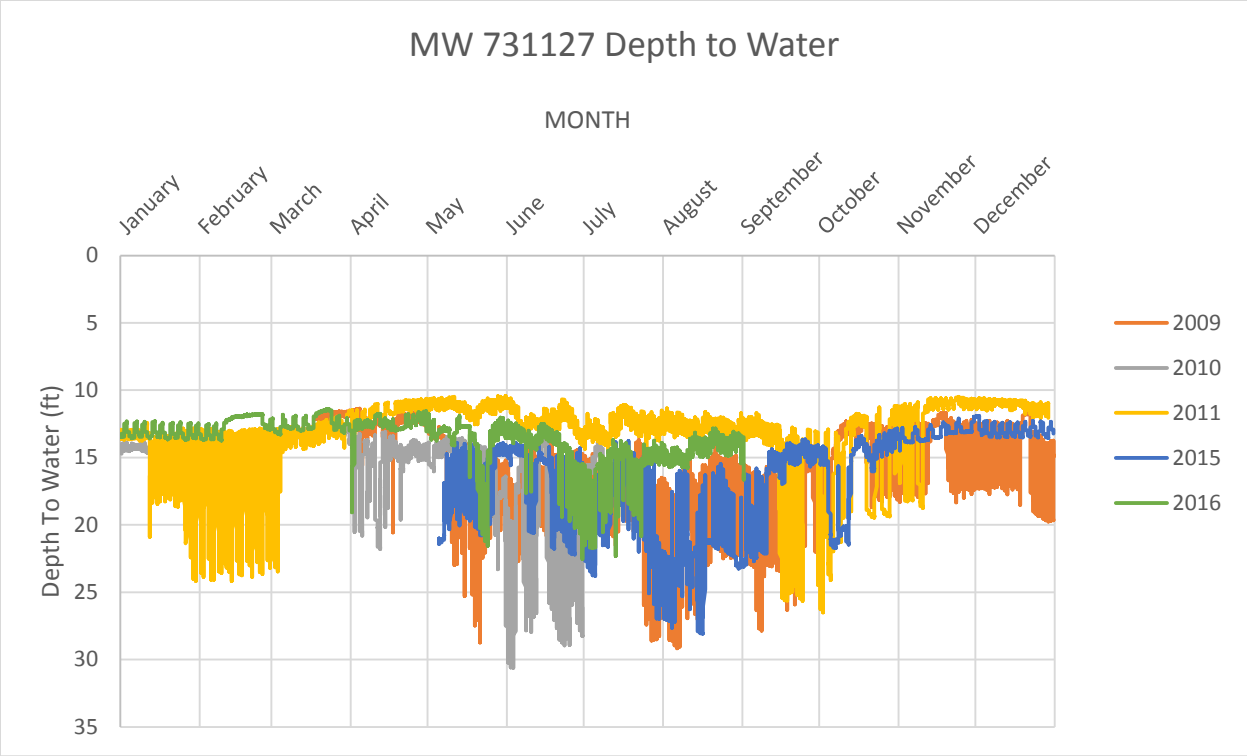

Well 6 Water Level 2011 - 2015
Water Level Above Transducer (ft)
100
90
80
70
60
50
40
30
20
10
0
January
February
March
April
May
June
July
August
September
October
November
December
Month
2011
2012
2013
2014
2015

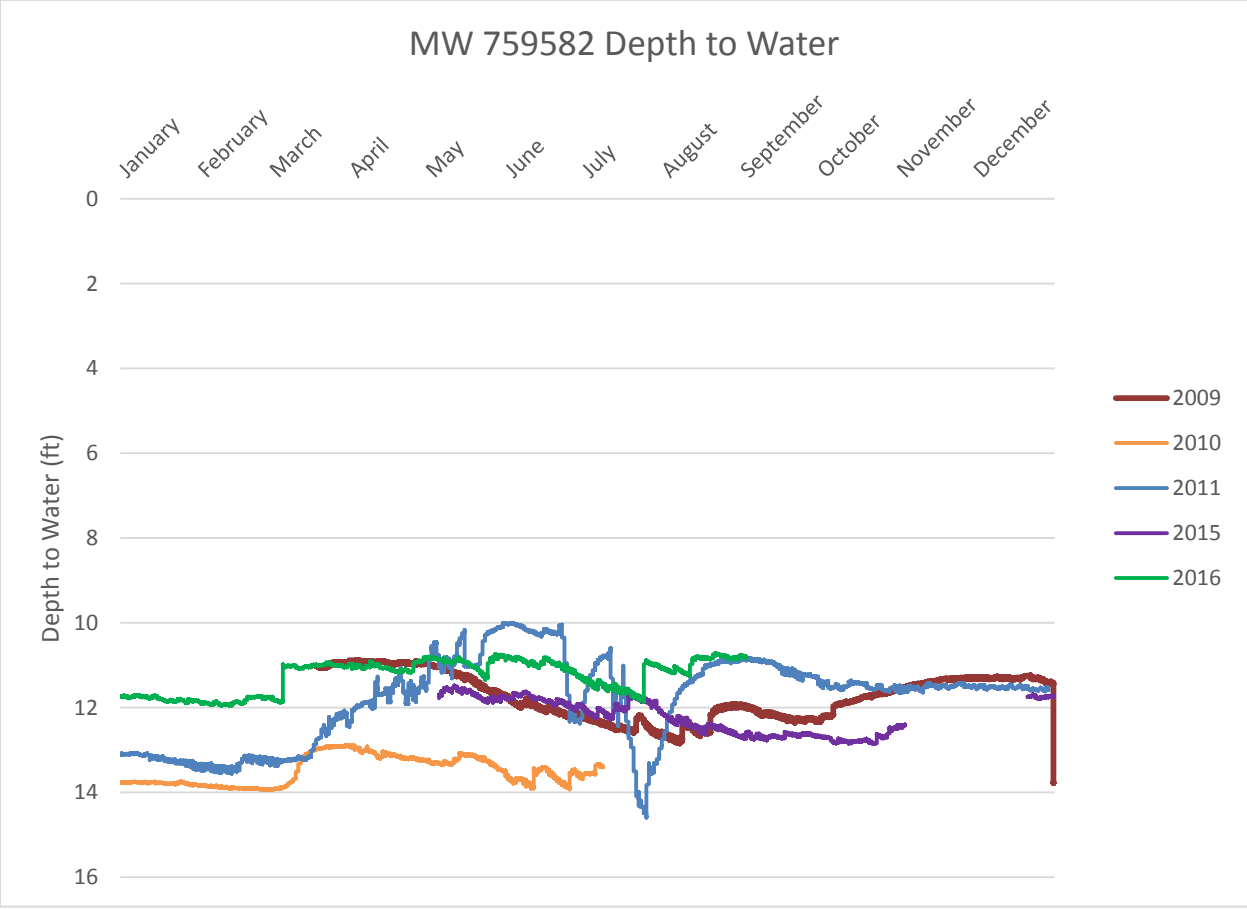

Well 7 Water Level 2011 - 2015
Water Level Above Tansducer (ft)
180
160
140
120
100
80
60
40
20
0
January
February
March
April
May
June
July
August
September
October
November
December
Month
2011
2012
2013
2014
2015


Well 8 Water Level 2011 - 2015
Water Level Above Transducer (ft)
200
180
160
140
120
100
80
60
40
20
0
January
February
March
April
May
June
July
August
September
October
November
December
Month
2011
2012
2013
2014
2015


MW 706814 Water Levels 2008-2016
January
February
March
April
May
June
July
August
September
October
November
December
0
5
10
15
20
25
30
Water Level Below Top of Casing (ft)
2008
2009
2010
2011
2015
2016


MW 706815 Water Levels 2008 - 2016
January
February
March
April
May
June
July
August
September
October
November
December
0
5
10
15
20
25
Water Level Below Top of Casing (ft)
2008
2009
2010
2011
2015
2016


MW 731127 Depth to Water
MONTH
January
February
March
April
May
June
July
August
September
October
November
December
Depth To Water (ft)
0
5
10
15
20
25
30
35
2009
2010
2011
2015
2016


MW 759582 Depth to Water
January
February
March
April
May
June
July
August
September
October
November
December
Depth to Water (ft)
0
2
4
6
8
10
12
14
16
2009
2010
2011
2015
2016

Appendix 4: Capital Improvement Plan

Project # 04-WTR-005

Project Name Complete Pump House 3

Department Water Utility
Contact Unassigned
Type Improvement
Useful Life 50 Years
Category Water Utility Improvement
Priority 3-Existing Obligation (Med)
Status Active

Total Cost $60,000

Description

Install brick exterior to match building style of The COR buildings; landscape to match streetscape.

Justification

The intent is to have the building and grounds match The COR and adjacent developments.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost		60,000									60,000
Total		**60,000**									**60,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund		60,000									60,000
Total		**60,000**									**60,000**

229

Project #	04-WTR-009
Project Name	The COR Bunker Lake Blvd (Armstrong - Ramsey Blvd)

Department	Water Utility
Contact	Unassigned
Type	Improvement
Useful Life	60 Years
Category	Water Utility Improvement
Priority	3-Existing Obligation (Med)
Status	Active

Total Cost $340,000

Description

Upgrades Bunker Lake Blvd between Armstrong and Ramsey Blvds, necessitated by the COR Development. Watermain segments along this portion of roadway will be lowered and extended as necessary.

Total Cost for Bunker Lake Blvd. = $4,520,000
Street Improvements: $3,650,000
Storm Water Improvements: $530,000
Water Utility Improvements: $340,000
Total Cost for Regional Roadway improvements = $14,607,860 (Per JPA)

Justification

The construction of the COR will add additional traffic to Bunker Lake Blvd. This project will upgrade Bunker Lake Blvd between Ramsey Blvd and Armstrong Blvd to better handle the traffic.

See projects Core Armstrong, Core Hwy 10 and Core Ramsey Blvd and Storm Sewer south of Bunker Lake Blvd.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost				340,000							340,000
Total				**340,000**							**340,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund				340,000							340,000
Total				**340,000**							**340,000**

Project # 04-WTR-018

Project Name Watermain Looping: (Ramsey Blvd to Traprock St.)

Department Water Utility
Contact Unassigned
Type Improvement
Useful Life 60 Years
Category Water Utility Improvement
Priority 2-New Addition (High)
Status Active

Total Cost $129,250

Description

This project includes the looping of a 12" watermain from Ramsey Blvd to Traprock Street with the extension of Riverdale Drive along the south side of Highway 10.

Watermain Extension (04-WTR-018)	$ 129,250
Stormwater (16-STM-003)	$ 118,120
Street Improvement (12-STR-007)	$ 911,905
Right-of-Way	$ 200,000
*Street Lighting (16-STLT-001)	$ 275,000 (related project not included in costs)
Total Project Cost	$ 1,359,275 (not including street lights)

Justification

Development south of Highway 10 is anticipated as a result of The COR, including through the Mississippi West County Park. The project will provide dependable water pressure and supply to this developing area.

The city was awarded a MNDOT cooperative agreement funds grant to extend Riverdale Drive from Traprock Street to Ramsey Blvd in 2016/2017. Installation of water with street construction will eliminate the need to dig up the street in the future.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost	129,250										129,250
Total	**129,250**										**129,250**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund	129,250										129,250
Total	**129,250**										**129,250**

Project # 08-WTR-003
Project Name River Pines Lift Station Water Connection

Department Water Utility
Contact
Type Improvement
Useful Life 50 Years
Category Water Utility Improvement
Priority 5-Opportunity/Unfunded/Placeholder
Status Active

Total Cost $20,000

Description

This project involves extending the watermain in conjunction with extending gravity sewer to the River Pines Lift Station.

Total costs including street & water utility = $120,000.

Justification

This project adds a water loop at the same time a lift station is eliminated.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost				20,000							20,000
Total				**20,000**							**20,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund				20,000							20,000
Total				**20,000**							**20,000**

Project # 11-WTR-003
Project Name Fire Station #1 Extension of Water

Department Water Utility
Contact
Type Improvement
Useful Life 50 Years
Category Water Utility Improvement
Priority 5-Opportunity/Unfunded/Placeholder
Status Active

Total Cost $55,000

Description

Extend municipal water from parking lot into Fire Station #1 building.

Related Project 12-SEW-002 $60,000
Total Project Cost $115,000

Justification

Treated water is currently at the west end of parking lot on the property. This extension would allow for the installation of a sprinkler system within the building while also improving water quality inside of the building. The current well would be used for irrigation on the site.

Trunk charges are waived for public buildings.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost				55,000							55,000
Total				**55,000**							**55,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund				55,000							55,000
Total				**55,000**							**55,000**

Project # 12-WTR-001

Project Name Watermain Sunfish Lk Blvd

Department Water Utility
Contact
Type Improvement
Useful Life 50 Years
Category Water Utility Improvement
Priority 4-New Addition (Med)
Status Active

Total Cost $450,000

Description

Extend watermain along Sunfish Lake Boulevard from Sunwood Drive to Fox Knoll approx. 4,000 feet.

Justification

This project will complete another watermain loop connection, providing increased fire flows, increased pressure and enhanced system reliability.

Coordinate with development east of Sunfish Lake Blvd.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost				450,000							450,000
Total				**450,000**							**450,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund				450,000							450,000
Total				**450,000**							**450,000**

234

Project # 14-WTR-001

Project Name Refurbish Water Tower #2

Department Water Utility
Contact Unassigned
Type Improvement
Useful Life 15
Category Water Utility Improvement
Priority 1-Existing Obligation (High)
Status Active

Total Cost $1,300,000

Description

Interior and exterior coatings at water tower #2.

Justification

Ongoing maintenance of interior and exterior coatings on 1.5mg water tower to include inspections.
Project will be scheduled after full inspection of tower.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost	1,300,000										1,300,000
Total	**1,300,000**										**1,300,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund	1,300,000										1,300,000
Total	**1,300,000**										**1,300,000**

235

Project # 14-WTR-002

Project Name Refurbish Water Tower #1

Department Water Utility
Contact Unassigned
Type Improvement
Useful Life 15
Category Water Utility Improvement
Priority 3-Existing Obligation (Med)
Status Active

Total Cost $700,000

Description

Interior and exterior coatings at water tower #1.

Justification

Ongoing maintenance of interior and exterior coatings on 0.5mg water tower to include inspections.
Project will be scheduled after full inspection of tower.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost		700,000									700,000
Total		**700,000**									**700,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund		700,000									700,000
Total		**700,000**									**700,000**

Project #	16-WTR-001
Project Name	Emergency Power Supply for Well #3

Department	Water Utility
Contact	
Type	Improvement
Useful Life	
Category	Water Utility Improvement
Priority	1-Existing Obligation (High)
Status	Active

Total Cost $115,000

Description

Purchase and install a back up generator for Pumphouse #2, 7301 Bunker Lake Blvd. The generator is 150 KW 480 Volt, 3 phase 60 hz 1800 rpm.

Justification

Currently the City has a backup generator on one well that has the ability to produce 850 gallons per minute (gpm). Our average consumption rate is 1,120 gpm. In the event of a power failure our well cannot keep pace with demand. Well #3 can produce 1,600 gpm so with both wells running we will be able to produce 2,450 gpm, thus able to keep up with demand during a long power outage.

This project includes running a natural gas service to the well house to supply fuel for the generator. The project will also include SCADA upgrades for the site.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost	115,000										115,000
Total	**115,000**										**115,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund	115,000										115,000
Total	**115,000**										**115,000**

Project #	16-WTR-002
Project Name	Construct Well and Pumphouse #9

Department	Water Utility
Contact	
Type	Improvement
Useful Life	50 Years
Category	Water Utility Improvement
Priority	5-Opportunity/Unfunded/Placeholder
Status	Active

Total Cost $1,775,000

Description

Construct new municipal groundwater supply well with supporting pumphouse and chemical feed system to remove pollutants, including iron and manganese and to add chlorine and fluoride.

A study will be conducted in 2020 to determine a desirable site - $75,000 est.

Justification

This project will provide a ninth municipal groundwater well with pumphouse and chemical feed system to treat the groundwater before supplying for public consumption. This project was added in lieu of the previously proposed surface water supply treatment facility which was removed due to excessively large project costs and a general lack of regional support for funding the proposed surfacewater treatment facility. As the City of Ramsey continues to grow, additional wells or a surface water supply facility will be needed.

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost				75,000			1,700,000				1,775,000
Total				**75,000**			**1,700,000**				**1,775,000**

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Water Utility Fund				75,000			1,700,000				1,775,000
Total				**75,000**			**1,700,000**				**1,775,000**

Appendix 5: Emergency Telephone List

Ramsey Emergency Telephone List

Emergency Response Team	Name	Work Telephone	Alternate Telephone
Emergency Response Lead	Matt Kohner	763 433-9859	
Alternate Emergency Response Lead	Jeff Katers	763 433-9882	
Water Operator	John Nelson	763 286-0296	
Public Works Superintendent	Grant Riemer	763 286-0282	
City Engineer	Bruce Westby	763 433-9825	
City Administrator/ Public Communications	Kurt Ulrich	763 433-9845	

State and Local Emergency Response Contacts	Name	Work Telephone	Alternate Telephone
State Incident Duty Officer	Minnesota Duty Officer	651 649-5451 Metro	800 422-0798 Out State
County Emergency Director	Terry Stoltzman	763 421-4760	
National Guard	Minnesota Duty Officer	651 649-5451 Metro	800 422-0798 Out State
Mayor	Sarah Strommen		
Fire Chief	Matt Kohner	763 433-9859	
Sherriff	Anoka County Sheriff	763 427-1212	
Central Communications	Anoka County Sheriff	763 427-1212	
Ambulance	Allina	763 576-9593	
Hospital	Mercy Medical Center	763 236-7144	
Doctor or Medical Facility	Allina Clinic Ramsey	763 236-0000	

State and Local Agencies	Name	Work Telephone	Alternate Telephone
MDH District Engineer			
MDH	Drinking Water Protection	651 201-4700	
State Testing Laboratory	Minnesota Duty Officer	651 649-5451 Metro	800 422-0798 Out State
MPCA	St. Paul Regional Office	651 296-6300	800 657-3864
DNR Area Hydrologist	Kate Drewry	651 259-5753	
Anoka County Environmental Services	Bart Biernat	763 422-6985	
MNWARN	Minnesota Duty Officer	651 649-5451 Metro	800 422-0798 Out State

Utilities	Name	Work Telephone	Alternate Telephone
Electric Company	Connexus Energy	763 323-2660	763 323-2600
Gas Company	CenterPoint Energy	612 372-5050	612 372-4727
Telephone Company	Century Link	763 712-5020	763 712-5002
Utility Locations	Gopher State One Call	800 252-1166	651 454-0002
County Highway Department	Anoka County	763 862-4201	
State Highway Department	MNDOT	651 296-3000	911

Mutual Aid Agreements	Name	Work Telephone	Alternate Telephone
Neighboring Water System	City of Anoka	763 576-2980	763 576-2860
Emergency Water Connection	City of Anoka	763 573-2980	
Materials	HD Supply	952 937-9666	

Technical/ Contracted Services/ Supplies	Name	Work Telephone	Alternate Telephone
MRWA Technical Services	MN Rural Water Association	800 367-6792	
Well Driller/ Repair	E. H. Renner	763 427-6100	
Electrician	3 Way Electric	612 865-3262	
Water Main Repair	Dave Perkins Contracting	763 427-0109	612 363-6459
Chemical Feed	Hawkins Chemical	612 331-9100	
Meter Repair	City of Ramsey	763 433-9861	
SCADA System	Total Control	763 286-7365	
Valves, Pipes and Fittings	Ferguson Water Works	763 560-5200	
Laboratory	Twin Cities Water Clinic	953 935-3556	

Communications	Name	Work Telephone	Alternate Telephone
Newspaper	Star Tribune	612 673-4000	
	Pioneer Press	651 222-1111	
School Superintendent	David Law	763 506-1001	
Property and Casualty Insurance	League of MN Cities	651 281-1200	

Critical Water Users	Name	Work Telephone	Alternate Telephone
Long Term Care Center	Stoney River Assisted Living	612 615-9936	

Appendix 6: Cooperative Agreements for Emergency Services

JOINT POWERS AGREEMENT BETWEEN THE
CITY OF ANOKA AND THE CITY OF RAMSEY
FOR THE SUPPLY OF MUNICIPAL WATER SERVICE
TO PORTIONS OF THE CITY OF RAMSEY

THIS AGREEMENT is entered into between the City of Anoka, Minnesota, a Charter City under the laws of the State of Minnesota ("Anoka"), and the City of Ramsey, Minnesota, a Charter City under the laws of the State of Minnesota ("Ramsey"), on the 14th day of August, 1996.

WHEREAS, both Anoka and Ramsey own and operate municipal water systems for the purpose of providing municipal water service to their citizens, and

WHEREAS, Anoka's and Ramsey's corporate boundaries are adjacent and their respective water systems are in close proximity at the West boundary of Anoka and the East boundary of Ramsey; and

WHEREAS, Anoka has reserve municipal water system capacity beyond that which is currently needed to supply its peak day demand, and Ramsey has an expanding customer base which has exhausted Ramsey's municipal water system capacity, and

WHEREAS, it would be in the best interests of both cities to cooperate in providing municipal water service to portions of Ramsey and providing Ramsey with a secondary emergency water source, by utilizing Anoka's excess capacity, and

WHEREAS, such cooperation will provide revenue to Anoka and postpone the need for Ramsey to spend substantial amounts to expand its water system capacity.

NOW, THEREFORE, Anoka and Ramsey, pursuant to the authority contained in Minnesota Statutes, Section 471.59, commonly known as the "Joint Powers Act," in order to accomplish the foregoing purposes, agree as follows:

1. CONSTRUCTION OF INTERCONNECTIONS. Anoka and Ramsey shall and have constructed two interconnections between the Anoka municipal water system and the Ramsey municipal water system, as follows:

(a) Highway 10 Connection - a permanent connection located at the Anoka/Ramsey boundary on the North side of Highway 10 which consists of water main, a manhole, a back flow preventer, water meter, and valves and fittings. The purpose of this connection is to provide a supplemental source to Ramsey and an emergency water supply to Ramsey in the event of a water main break or interruption of Ramsey's water supply.

(b) County Road #116/Thurston Avenue Connection - a connection at the Southeast corner of the intersection of County Road #116 and Thurston Avenue. This connection is temporary in nature and has been accomplished by the connection of fittings and a hose line between two fire hydrants. Water drawn at this location will be for emergency use only. The connection contains a backflow preventer and meter.

2. OWNERSHIP OF HIGHWAY 10 CONNECTION EQUIPMENT. Anoka shall own all equipment East of the metering manhole and within the corporate limits of Anoka, and shall own and maintain the meter within the metering manhole and have access to the meter. Ramsey shall own and maintain the metering manhole and all equipment West of the manhole and within the corporate limits of Ramsey. All water flow through this connection shall be from Anoka to Ramsey and the one-way flow is insured by a double check backflow preventer owned and maintained by Ramsey. All equipment has been

purchased and installed by Ramsey, and Anoka has credited Ramsey for that portion of the equipment owned by Anoka. The construction, equipment, engineering, and other costs are described in Exhibit A attached hereto, as is the portion of the cost charged to Anoka and the credit given by Anoka. Ramsey has furnished Anoka a set of reproducible "as built" drawings of the connection.

3. **SALE OF WATER**. Anoka shall sell, at Ramsey's option, at least one million gallons of water per day through both connections described above, provided however:

(a) Anoka may, without notice to Ramsey, reduce or eliminate the amount of water sold to Ramsey in the event of a catastrophic event or emergency circumstance which causes an extraordinary demand for water within Anoka. The existence of any such catastrophic event or emergency circumstance shall be determined in the sole discretion and judgment of Anoka.

(b) Commencing upon and after January 1, 2000, Anoka may, upon nine months' written notice, reduce or eliminate the amount of water sold to Ramsey

4. **WATER CONSERVATION**. Ramsey agrees, with regard to its customers drawing water from Anoka, to implement water conservation and water restriction regulations similar to those imposed by Anoka on its water customers.

5. **COMPENSATION**.

(a) Ramsey shall pay Anoka for water supplied pursuant to this agreement according to the following schedule:

That standard industrial rate charged by Anoka to its industrial customers from time to time (currently 85 cents per 1,000 gallons) plus an additional monthly charge, based on the high usage day of each month, in the following amounts:

$150.00 if the high usage day of the month is less than 250,001 gallons.

IN WITNESS WHEREOF, the undersigned Cities, by action of their governing bodies, have caused this agreement to be executed in accordance with the authority of Minnesota Statutes, Section 471.59.

CITY OF RAMSEY

By: _____ Mayor Date

Attest: _____ City Clerk Date 8/14/96

Approved as to form: _____ City Attorney

CITY OF ANOKA

By: Peter M Beby 8-19-96 Mayor Date

Attest: Mark Nagel 8/16/96 City Clerk Date

Approved as to form: _____ City Attorney

Appendix 7: Municipal Critical Water Deficiency Ordinance

DRAFT

10-1-13: **DEFICIENCY OF WATER:**

A. General Requirements: The city shall not be liable for any deficiency or failure in the supply of water to consumers, whether occasioned by shutting the water off for the purpose of making repairs or connections or from any other cause whatsoever. In case of fire, or alarm of fire, or in making repairs or construction of new works, water may be shut off at such time and kept off as long as necessary. In addition, the City Council or City Administrator shall have the right to impose reasonable restrictions on the use of the city water system in emergency situations. (Amended Ord. 55, 5-5-1981; amd. 2003 Code)

B. Irrigation And Sprinkling Restrictions: The following irrigation and sprinkling restrictions shall apply to those persons on the municipal water system:

1. Cross Connections Prohibited: No person shall construct, cause to be constructed or operate any device which provides a cross connection between the municipal water supply and a private well or the sewer system.

2. Waste Of Water Prohibited:
    a. Customers shall maintain taps, faucets, valves and other water facilities so that water waste is eliminated from seeps, dripping faucets, etc.

    b. No person shall waste water deliberately by allowing irrigation or sprinkling water to run off onto the street or into the drains.

3. Permission To Use Hydrant: No person shall open, close or tamper with any fire hydrant except under the authorization of the Public Utilities Department personnel.

4. Odd-Even Day Sprinkling: Sprinkling will be curtailed from May 1 through August 31. Even numbered houses can sprinkle on even numbered calendar days. Odd numbered houses can sprinkle on odd numbered calendar days.

5. Prohibited Hours: There will be no watering in the city (on the city water system), odd or even, between the hours of twelve o'clock (12:00) noon and six o'clock (6:00) P.M.

6. Warning; Penalty: There will be only one written warning for violators of the sprinkling restrictions. Any subsequent violations carry a penalty as set forth by city ordinance.
7. Exemptions:

a. Newly sodded or seeded yards will be exempt from the odd-even restriction for a period of two (2) weeks only. Overseeding or spot patching of existing established yards can be watered every day with a hand controlled hose. No watering will be allowed between twelve o'clock (12:00) noon and six o'clock (6:00) P.M.

b. Other exemptions are: car washing, filling of children's swimming pools, children playing in a hose operated sprinkler or water toy.

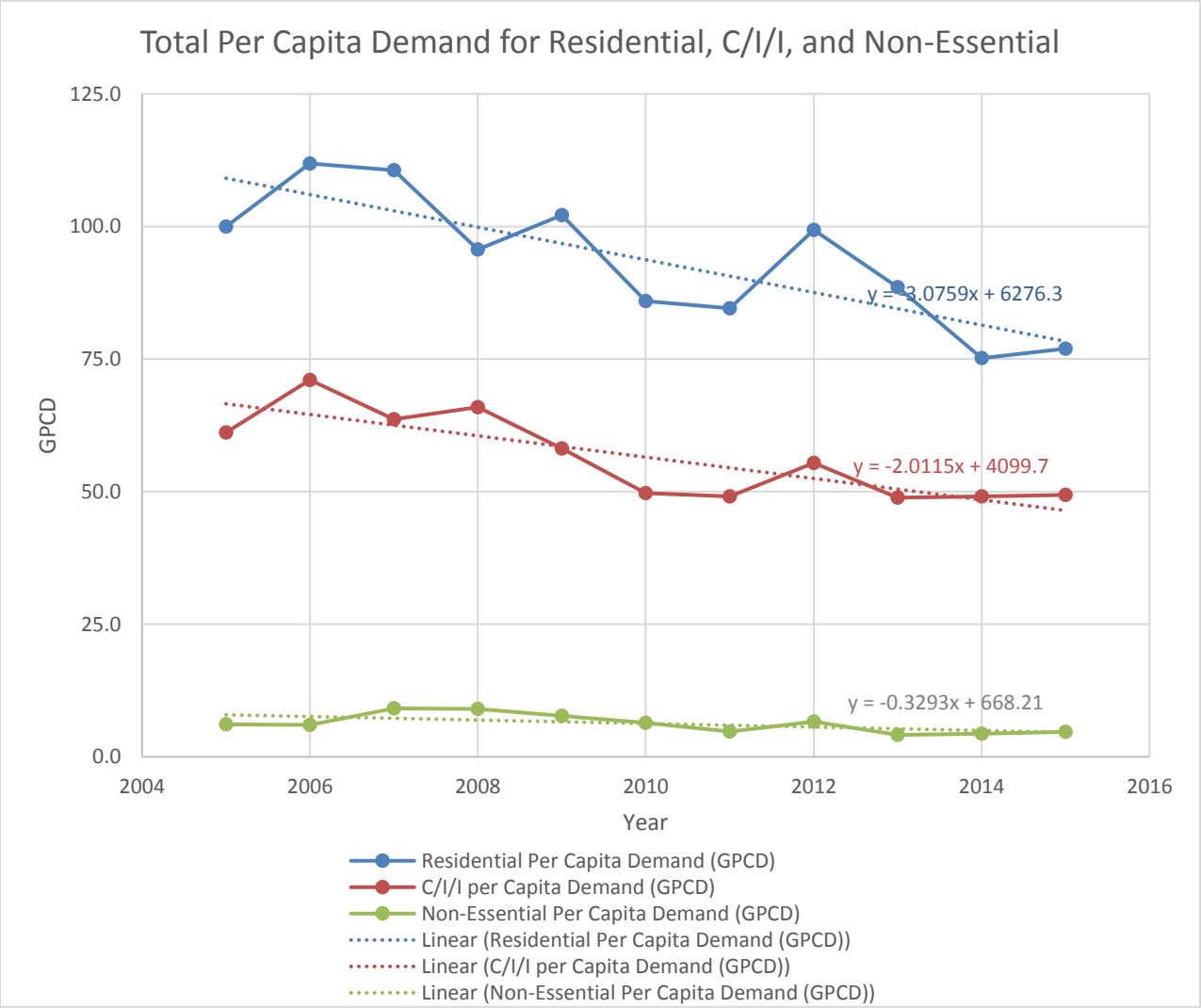
8. Additional Restrictions:

a. Additional curtailment of water usage in dry weather will be by order of the City Administrator. When restricted, no person shall discharge water for the purposes of watering lawns, shrubs, trees, washing cars or structures. All unnecessary uses of water are prohibited for the duration of the imposed restriction. If such restriction endangers the life of a new lawn, shrubs or trees, the Water Department shall be notified. If justified, limited permission may be granted to deviate from restrictions.

b. If more drastic restrictions are necessary, orders may issued by the City Administrator to take necessary action to protect the water system so that ample water may be available for health, sanitation and fire protection. (Amended Ord. 55, 5-5-1981; amd. 2003 Code)

Appendix 8: Graph Showing Annual Per Capita Water Demand for Each Customer Category During the Last 10 Years

Figure 1 – Annual Per Capita Water Demand for Each Customer Category During the Last Ten Years



Appendix 9: Water Rate Structure

Water Rate Structure for the City of Ramsey Effective 1/1/2016

Source: http://cityoframsey.com/utility-billing

Water Rates			2016
	Minimum usage fee/qtr	Per 2012 Comprehensive Water System Study	37.80
	Quarterly Rate Structure		
		Conservation Rates	$37.80 Minimum
			$2.61 per 1,000 for 15,001-25,000
			$2.69 per 1,000 for 25,001-40,000
			$2.86 per 1,000 for 40,001-60,000
			$3.08 per 1,000 for 60,001-99,000
			$3.40 per 1,000 for 99,001-201,000
			$4.07 per 1,000 for 201,001 and above
	Odd/Even Sprinkling Violations:	Effective day after Memorial Day thru Day after Labor Day	
		No Sprinkling between 10 am-8:00 pm	
	First Violation		Written Warning & Registered Letter
	Second Violation		50.00
	Third Violation		100.00
	Fourth Violation		Water Service turned off
	Meter Replacement Admin Fee for Non-Compliance		$75/qtr.

Appendix 10: Adopted or Proposed Regulations to Reduce Demand or Improve Water Efficiency

Adopted or Proposed Regulations to Reduce Demand or Improve Water Efficiency
Note: Ramsey is not proposing and new regulations to reduce demand. Listed in the table below are current regulations that are already in place.

Regulations Utilized	Website Link
☒ Rainfall sensors required on landscape irrigation systems	"Rain Sensors are required: Section 117-588, 589 (www.municode.com/library/mn/ramsey/codes/)
☐ Critical/ Emergency Water Deficiency ordinance	Ordinance will be developed within 6 months of plan approval by DNR.
☒ Watering restriction requirements (time of day, allowable days, etc.)	Rules for Lawn Irrigation Odd and Even Number Houses Time Restrictions 10:00 am – 8:00 pm Chapter 58 of City Code found at: (www.municode.com/library/mn/ramsey/codes/)
☒ Water waste prohibited	Chapter 58 of City Code found at: (www.municode.com/library/mn/ramsey/codes/)
☒ Soil preparation requirements (after construction, requiring topsoil to be applied to promote good root growth)	A minimum of 4" of approved topsoil is required under lawn areas of all newly constructed buildings. Section 117-348 of City Code found at: (www.municode.com/library/mn/ramsey/codes/)
☒ Tree ratios (requiring a certain number of trees per square foot of lawn)	Two trees are required per single family lot, additional trees are required for multi-family dwellings and commercial/ industrial lots. Section 117-111,112,113,114,115,116,117,118,119 (www.municode.com/library/mn/ramsey/codes/)
All air conditioning systems connected directly or indirectly with public water system must be equipped with water conserving and regulating devices.	

Appendix 11: Implementation Checklist – Summary All the Actions That A Community Is Doing or Proposes To Do, Including Estimated Implementation Dates

Implementation Checklist – Summary of all the Actions That a Community Is Doing or Proposes To Do, Including Estimated Implementation Dates

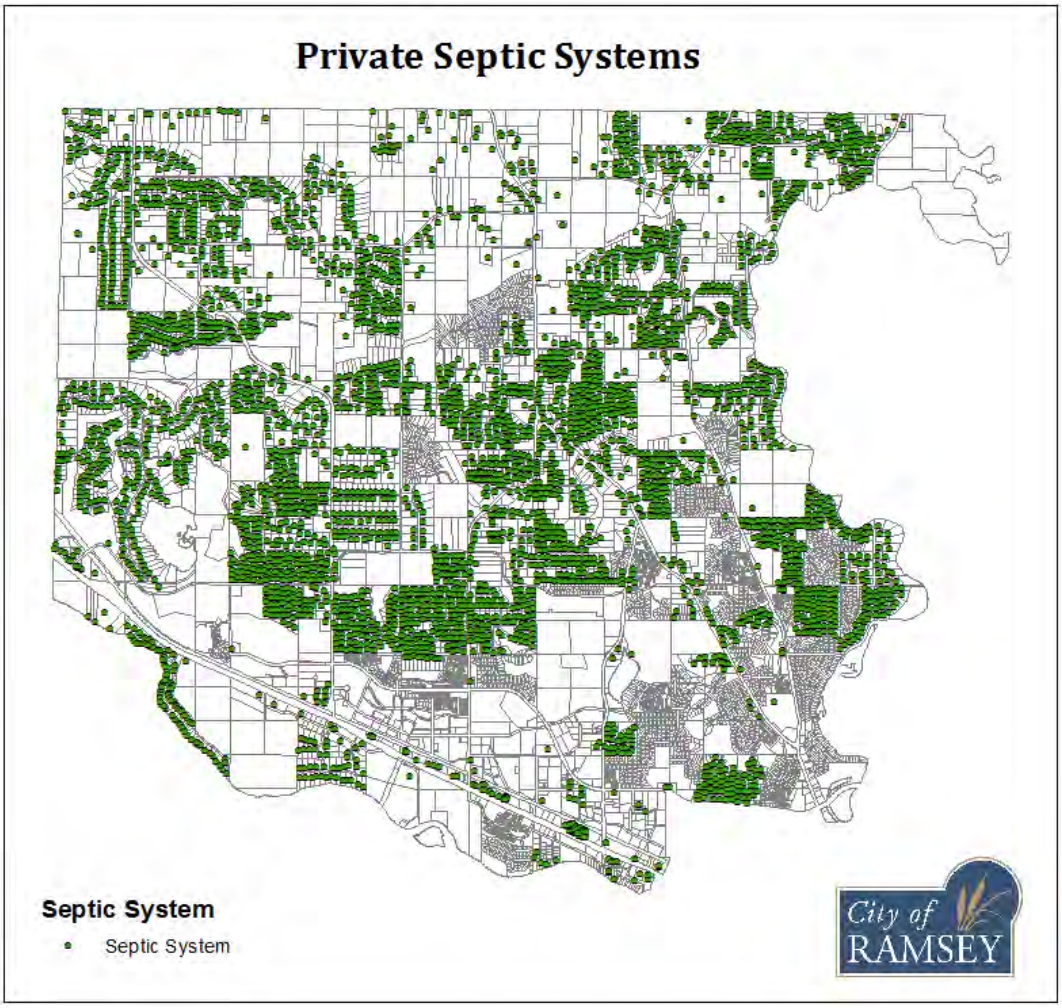
Ramsey is a developing city with an increasing number of irrigation systems. The City plans to focus on reducing irrigation to decrease the total per capita water demand. Listed below is a table summarizing the actions Ramsey is proposing to complete within the next five years to reduce irrigation usage.

Proposed Action	Implementation Date
Promote videos on how to operate and program irrigation systems. This will be done through Anoka County. The videos will be promoted through individual contact, QCTV, Newsletter, social media and "Know the Flow" website.	2021
Rain Sensor Promotion – Ramsey and Anoka County will promote installation of rain sensors. Ramsey has applied to participate in a study of irrigation water use for 2017.	2021

Community and Subsurface Treatment Systems

Community and Subsurface Treatment System Management Program

Ramsey maintains a database of approximately 4,100 private subsurface septic systems. A majority of these are for single-family homes. There is one group septic system for a six (6) unit townhome development owned and operated by a private Home Owners Association (HOA). In 2016, the Minnesota Pollution Control Agency (MPCA) reported a total of approximately 541,000 septic systems in Minnesota. Anoka County has an estimated 28,000 systems, the second highest number of septic systems per County in the State and the highest number of systems of any County in Metropolitan Area. When properly maintained, these systems are an adequate means of treating wastewater. However, given the number of private septic systems in the community, Ramsey must dedicate resources to ensure that these systems are being properly maintained in order to protect groundwater quality, prevent public health threats, and avoid public nuisances.



Ramsey is a Home Rule Charter City. Ramsey City Charter states the following.

> *Connection Policy.* The city may not compel any property owner with a functional private sewer and water system to connect to city sewer and/or water.
>
> *Assessment policy.* The city may not levy an assessment for any component of any project which includes sewer and/or water improvements against a property whose owner elects to remain on a functional private sewer and/or water system.
>
> *Request for urban services.* Property owners who remain on private sewer and water systems after urban services become available may request connection to urban services at any time. Upon connection to urban services an assessment may be levied provided it is consistent with the original assessment.

Ramsey tracks septic systems with a permit management system known as Permit Information Management System (PIMS). PIMS is a product of the Local Government Information System (LOGIS) consortium of local communities.

Public Treatment Systems

Ramsey has no public treatments in our community. Ramsey does have three (3) cluster systems serving four (4) units each, resulting in twelve (12) units being served by a clustered (shared) system.

Subsurface Treatment Systems

Ramsey has an estimated 4,170 subsurface treatment systems.

Public Education

Ramsey has set a goal to improve public education on proper maintenance of septic systems. Ramsey's primary clearinghouse for education materials is www.cityoframsey.com/septic. The website serves as a clearinghouse leveraging a number of existing resources including, but not limited to the Minnesota Pollution Control Agency (MPCA) and Know the Flow (Anoka County).

Ramsey actively participates in Septic Smart Week each September.

Additionally, during the 2017-2018 Academic Year, Ramsey collaborated with the University of Minnesota through its Resilient Communities Project (RCP). One of the projects this partnership worked on was septic education. The partnership developed printed materials and website content. Ramsey is working on incorporating these resources within our new website rolling out in 2018.

Required Pumping and/or Maintenance Reminders

Each year Ramsey sends reminders to septic system owners that are due for septic pumping and/or maintenance at an interval not to exceed once every three (3) years as required by the State of Minnesota.

Financial Assistance for Public Health or Safety Concerns

In instances where a septic system has failed to the point it poses a threat to public health or safety, Property Owners may request the City replace a private septic system and assess the costs of the replacement to the benefitted property. The Property Owner must enter into an Assessment Agreement

and the costs of replacement will be levied against the Property as a Special Assessment. The Property Owner must submit proof that they have exhausted all other financial options to replace the system.

Anoka County also has potential dollars and/or loans available for septic replacement needs.

Administrative Enforcement of Septic Rule Violations

Ramsey has established an administrative process to enforce violations of various sections of our City Code, including our Septic Code. When the City becomes aware of a septic system in violation of the Septic Code, we track the violation through our code enforcement management system. Property Owners are provided two (2) notices of violation with instruction on how to comply with Septic Code. The City is able to issue Administrative Fines in addition to the Notices of Violation.

Civil Prosecution

In the rare occasion where Ramsey's Administrative Enforcement is unsuccessful in achieving compliance, the City will file civil prosecution charges in order to obtain an injunction from District Court to remedy the situation.

Criminal Prosecution

In extremely rare occasions, especially in events of threats to public health or safety, Ramsey may choose to seek criminal charges to remedy the situation.

Future Community Treatment Systems

In certain instances, Ramsey may consider allowing private, community septic systems.

Land Uses and Physical Conditions

Ramsey will generally only allow a private, community system outside of the Metropolitan Urban Service Area (MUSA). In certain circumstances where an agreement for future connection is reached, Ramsey may allow private, community septic systems within the MUSA boundary.

Rural Residential

Private septic systems are generally reserved for rural residential lots of at least one (1) acre in size. Properties shall ensure adequate space for a primary and secondary drainfield area.

Shoreland Areas

Ramsey is supportive of private, community septic systems in areas located within our Shoreland Overlay District, Rum River Wild and Scenic Overlay District, and Mississippi River Corridor Critical Area (MRCCA). These are environmentally sensitive areas, and the public benefits from limiting the number of potential individual source points of pollution that could pose a threat to water quality.

Urban Residential

For areas in the future urban service area but future municipal utilities are not expected within the current planning period (20 years), Owners may cluster lots and serve through a private, community septic system. The Owners must enter into a Future Connection Agreement providing for future connections when municipal services are available.

Administrative Procedures

Ramsey will require that a legal entity be established prior to the construction of any private, community septic systems. Although Ramsey will have no enforcement responsibilities of the entity, Ramsey will require a review of the articles of incorporation by the City Attorney. The participating properties shall enter into a Maintenance Agreement with the City and shall agree to allow the City to assess the costs of future repair in the event of failure to repair a non-compliant system.

Compliance with Applicable Regulations

Owners and Installers of private, community septic systems shall design and construct consistent with Minnesota Rules, Anoka County Ordinances, and Ramsey City Code.

Ramsey Administration

Ramsey shall administer applicable Minnesota Rules consistent with other private septic systems. Ramsey shall require the issuance of a permit prior to installation and shall ensure ongoing compliance.

COMPREHENSIVE SANITARY SEWER STUDY UPDATE

IN COORDINATION WITH 2040 COMPREHENSIVE PLAN UPDATE

CITY OF RAMSEY, MN

SEPTEMBER 2017

Submitted by:
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Suite 206
Ramsey, MN 55303
P: 763-433-2851
F: 763-427-0833

COMPREHENSIVE SANITARY SEWER STUDY UPDATE
IN COORDINATION WITH
2040 COMPREHENSIVE PLAN UPDATE

CITY OF RAMSEY, MINNESOTA

A. PURPOSE

The purpose for this report is to update the City's 2012 Comprehensive Sanitary Sewer Study based on current population and land use projections. The 2012 Comprehensive Sanitary Sewer Study included a plan for meeting the City's infrastructure needs based on development projected within the City's 2030 Comprehensive Plan.

City staff has identified development which has occurred since the 2012 study was completed and has provided projections for development which is likely to occur in the next 23 years (Year 2040). This report evaluates the impact of the recent and projected development on the proposed sanitary sewer infrastructure implementation.

The following paragraphs present a summary of key updates to the 2012 plan. The intent is to complete the following:

- Estimate costs associated with infrastructure needed to serve future development areas,
- Provide estimations of growth and development anticipated through Year 2040, and
- Develop a connection amount based on the estimated costs and development.

B. SUMMARY OF INFRASTRUCTURE REVISIONS TO THE 2012 COMPREHENSIVE PLAN

Section 4 of the 2012 report describes the trunk infrastructure improvements needed to serve each defined subdistrict within the MUSA boundary. For this report, each subdistrict was reviewed and revisions were made to the required infrastructure based on:

- Improvements made over the last 5 years, and
- Considerations of improvements required.

Through discussions with the City, we were able to determine the improvements made within each subdistrict over the last 5 years. We also made revisions based on anticipated development patterns and anticipated future needs. The following paragraphs describe the revisions made within each subdistrict to allow us to quantify the total improvement costs throughout the City. We attached the updated 2017 "Proposed Trunk Sewer Extensions" map showing the subdistricts and the proposed trunk sewer extensions.

1. Subdistrict M3

This subdistrict is located in the Southwest corner of the City, south of Highway 10. The primary sewer crossing of Trunk Highway 10 has been completed and was removed from the figure and cost estimate. The Bower's Drive NW trunk sanitary sewer line has been converted from a trunk facility to a lateral sewer line. This line was removed from the 2017 proposed trunk sewer extensions as it is now anticipated to serve the area as a standard lateral line. All trunk line project costs have been updated to 2017 unit prices.

2. Subdistrict M4

This subdistrict is located north of Highway 10 and west of Armstrong Boulevard. The trunk sanitary sewer facilities have been modified to reflect the findings of the 2015 Future Business Park study that was completed for this area of the City. Lift station MLS-5 was added to the improvements required for this subdistrict. All project costs have been updated to 2017 unit prices.

Because portions of these improvements have been, or are programmed to be constructed in 2017, we included some in the Capital Improvement Plan and others in the future improvements plan.

3. Subdistricts R21 Through R25

These subdistricts are located north of Trott Brook in the north central portion of the City. No layout revisions to these trunk extensions were made. All trunk line project costs have been updated to current 2017 unit prices.

4. System Extension for 167th Avenue Future MUSA Study Area

The Future MUSA Study Area identifies an area to better understand the feasibility of extending a trunk sewer line to the 167th Avenue/Saint Francis Boulevard (TH 47) land use node. Municipal Water service exists to the area, but Sanitary Sewer does not. The City has a land use goal to revitalize this node and surrounding area, and the availability of Sanitary Sewer is a major variable in future land use decisions. The MUSA boundary does not currently include this area. Findings from this study area will be utilized to influence the City's 2040 Comprehensive Plan Update and discussions with private developers currently proposing certain land use scenarios.

C. TRUNK SANITARY SEWER SYSTEM COSTS

Attached are the updated cost estimates related to the above revisions, totaling $7,571,929. These costs include 25% for indirect costs such as administration, engineering, legal and financing. Additionally, we have included a 20% contingency for unforeseen improvements which may be required during the study period, for a total cost of $9,086,315 in 2017 dollars.

The City's current Capital Improvement Plan was used to determine expenditures for the years 2017 to 2020. For the years 2021 to 2040, the above described costs were spread evenly over the 20 year period, while being inflated at a rate of 3% per year.

D. DEVELOPMENTAL IMPACT ON THE COMPREHENSIVE SANITARY SEWER STUDY

Actual and projected development within the City of Ramsey since the 2012 Comprehensive Sanitary Sewer Study are summarized as follows:

- Actual Total Connections from 2012-2015 are as follows:
  - 2012: 295
  - 2013: 164
  - 2014: 66
  - 2015: 258
  - Avg: 196

- Projected development rates used in 2012 study (through 2030) were as follows:
  - 260 Residential Units/Year (25% High Density)
  - 25 Commercial/Industrial Acres/Year
- Projected development rates (through 2040) are anticipated to be as follows:
  - 160 Residential Units/Year (50% High Density)
  - 10 Commercial/Industrial Acres/Year

The projected Residential development rate was lowered by 38.5% to 80 Units/Year, the projected Commercial/Industrial development rate was lowered by 15 Acres/Year (-60%), while the projected number of high density units increased from 65 Units/Year to 80 Units/Year (+23%).

Based on these considerations, the Residential Equivalent Units (connections) is conservatively estimated at 160 per year.

The 2017 sewer connection charge is $1,154 per residential unit and $3,475 per commercial/industrial acre.

E. ANALYSIS

Many factors impact the actual fee required to sustain and expand the trunk sanitary sewer facilities. We have included a more comprehensive spreadsheet analysis of the sanitary sewer expenses and revenues. Assumption made in the spreadsheet are:

- Anticipated revenue from utility billings of $1,528,683 were used for 2017 and then inflated at 1% per year.
- Trunk Connection charges and SAC fees were set at $1,154 and $2,485 for 2017 and then inflated at 2.5% per year.
- Operating expenses were set at $1,014,301 for 2017 and then inflated at 3% per year.
- Capital expenditures for 2016 to 2020 were taken from the City's current Capital Improvement Plan.
- Capital expenditures for 2021 to 2040 was determined as described in Section 3 of this report.

The information provided in this report should be considered when setting sanitary sewer connection charges within the City.

2040 MUSA - Trunk Sanitary Sewer System Improvements (2021 - 2040)

DISTRICT	LOCATION	SIZE (IN.)	LENGTH (FT.)	COST PER FOOT*	LIFT STATION	COST
M3	MLS-2				$393,928	$393,928
	MLS-2 to MH-11A	12" FM	1750	$124		$216,660
	MLS-2 to MH-9A	18"	3600	$259		$931,921
				TOTAL M3 DISTRICT		**$1,542,510**
M4	MLS-5		(Constructed 2017. Included in CIP)			$0
	MH-92 to MLS-5	12"	1000	$146		$146,316
	MLS-5 to MH-9	6" FM	(Constructed 2017. Included in CIP)			$0
	MH-9 to MH-10A	18"	(Constructed 2017. Included in CIP)			$0
				TOTAL M4 DISTRICT		**$146,316**
R1	MH-89 to MH-92	21"	1300	$326		$424,317
				TOTAL R1 DISTRICT		**$424,317**
R23, 24 & 25	RLS-8				$343,280	$343,280
	RLS-8 to MH-82	8" FM	720	$90		$64,829
	RLS-8 to MH-82	8" FM Jacking	80	$281		$22,510
	RLS-8 to MH-84A	10"	4400	$129		$569,507
	RLS-8 to MH-83A	12"	2500	$146		$365,790
	MH-83A to MH-83	10"	2700	$129		$349,470
				TOTAL R23, 24 & 25 DISTRICT		**$1,715,388**
R21 & 22	MH-79 to MH-78	10"	5100	$129		$660,111
	MH-81 to MH-79	12"	900	$146		$131,685
	MH-81 to MH-82	18"	3900	$259		$1,009,581
	RLS-3 to MH-81	18"	850	$259		$220,037
				TOTAL R21 & 22 DISTRICT		**$2,021,414**
RLS-3	RLS-3				$241,984 (upgrade existing LS)	$241,984
				TOTAL RLS-3 DISTRICT		**$241,984**
FUTURE MUSA STUDY AREA						
RLS-9	RLS-9				$500,000	$500,000
	RLS-9 to MH-14	8" FM	10000	$98		$980,000
				TOTAL RLS-9 DISTRICT		**$1,480,000**
					SUB-TOTAL	**$7,571,929**
					20% CONTINGENCY FOR UNFORSEEN IMPROVEMENTS	**$1,514,386**
					TOTAL IMPROVEMENT COSTS	**$9,086,315**
					AVERAGE YEAR FOR 20 YEARS (2017 DOLLARS)	**$454,316**
					INFLATED AT 3% PER YEAR TO YEAR 2021	**$511,336**

* INCLUDES 25% INDIRECT COSTS

Sanitary Sewer System Rate Impact Summary
City of Ramsey, Minnesota
9/15/2017

	Actual 2016	Projected / Actual 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2030	Projected 2035	Projected 2040
Beginning Balance		**10,730,177**	**10,731,811**	**9,894,880**	**10,774,551**	**11,199,678**	**11,565,438**	**11,909,244**	**12,229,589**	**12,524,903**	**13,566,487**	**13,375,837**	**11,944,107**
Sanitary Sewer System Revenue													
Billings and Interest													
From Utility Billings (2016 is based on current activity and inflated 1% per year to 2040)		1,528,683	1,543,970	1,559,410	1,575,004	1,590,754	1,606,661	1,622,728	1,638,955	1,655,345	1,739,784	1,828,530	1,921,804
Internal Loan to offset Muni Center Debt beginning year 2010-2029 @ 2%		47,814	48,770	49,746	50,741	51,755	52,791	53,846	54,923	56,022			
Interal loan to offset RTC land Purchase - 10 Year @ 2% (When land proceeds received)		-	-	-	-	-	-	-	-	-			
Interest Earnings		107,302	160,977	148,423	161,618	167,995	173,482	178,639	183,444	187,874	203,497	200,638	179,162
Total Billings and Interest		**1,683,799**	**1,753,717**	**1,757,578**	**1,787,362**	**1,810,504**	**1,832,933**	**1,855,213**	**1,877,322**	**1,899,240**	**1,943,281**	**2,029,168**	**2,100,965**
SAC and Connection Charges													
New Customers (REUs)		**160**	**160**	**160**	**160**	**160**	**160**	**160**	**160**	**160**	**160**	**160**	**160**
Residential Connection (Trunk) Fees per Connection (Actual 2016 value and then inflated at 2.5% per year to 2040)		**1,154**	1,183	1,212	1,243	1,274	1,306	1,338	1,372	1,406	1,591	1,800	2,036
Residential Sewer Availability Charge (SAC) (Actual 2016 value and then inflated at 2.5% per year to 2040)		**2,485**	2,547	2,611	2,676	2,743	2,812	2,882	2,954	3,028	3,426	3,876	4,385
Trunk Revenue (Based on 2016 activity) (2017 to 2040 based on 160 REUs per year)		184,640	189,256	193,987	198,837	203,808	208,903	214,126	219,479	224,966	254,528	287,975	325,818
SAC Revenue (1% of Total) (Based on 2016 activity) (2017 to 2040 based on 160 REUs per year)		3,976	4,075	4,177	4,282	4,389	4,498	4,611	4,726	4,844	5,481	6,201	7,016
Total SAC and Conenction Fees		**188,616**	**193,331**	**198,165**	**203,119**	**208,197**	**213,402**	**218,737**	**224,205**	**229,810**	**260,009**	**294,177**	**332,834**
Sanitary Sewer System Expenses													
Operating Expenses (Personal Services, Supplies, Other Services & Charges) Based on 2016 Activity and inflated at 3% per year from 2017 to 2040)		**(1,014,301)**	**(1,044,730)**	**(1,076,072)**	**(1,108,354)**	**(1,141,605)**	**(1,175,853)**	**(1,211,128)**	**(1,247,462)**	**(1,284,886)**	**(1,489,535)**	**(1,726,780)**	**(2,001,811)**
CIP Projects-Sewer Utilities													
Bunker Lake Boulevard Trunk Sanitary Sewer		(105,658)											
Utility Truck(s)		(25,000)	(23,500)										
Puma Street Trunk Sanitary Sewer and Lift Station		(725,822)											
Abandon Wildlife Sanctuary Lift Station					(352,000)								
Public Works Campus			(1,715,750)										
Fire Station #1 Sanitary Sewer					(60,000)								
Abandon Liftstation River Pines					(45,000)								
Armstrong Boulevard Extend Sewer to Riverdale													
TOTALS Note: CIP Project 2021 to 2040 ($505,980/Year in 2017 Dollars. Inflated 3%/Year.)	**-**	**(856,480)**	**(1,739,250)**	**-**	**(457,000)**	**(511,336)**	**(526,676)**	**(542,476)**	**(558,751)**	**(575,513)**	**(667,178)**	**(773,442)**	**(896,631)**
Remaining Working Capital Balance	**10,730,177**	**10,731,811**	**9,894,880**	**10,774,551**	**11,199,678**	**11,565,438**	**11,909,244**	**12,229,589**	**12,524,903**	**12,793,554**	**13,613,065**	**13,198,960**	**11,479,464**

*** This fund is created to offset the repairs of lines. The city currently has over $21,000,000 of sewer lines (per 2013 audit) which includes over $5.8M of accumulated depreciation

Indicates adjustable values

CITY OF RAMSEY
MINNESOTA

FIGURE 1

PROPOSED 2040 SERVICE AREAS
COMPREHENSIVE SANITARY SEWER PLAN
PROPOSED TRUNK SEWER EXTENSIONS

SEPTEMBER 2017

R24
R21
R23
R25
R22
RLS-8
RLS-3
RLS3
RLS9
R1
R2
R19
M4
MLS-5
M3
MLS-2

N

0 1000 2000
SCALE FEET

LEGEND

- RUM RIVER SEWER DISTRICT
- MISSISSIPPI RIVER SEWER DISTRICT
- NORTH TROTT BROOK MISSISSIPPI RIVER DISTRICT
- NORTH TROTT BROOK RUM RIVER DISTRICT
- TRUNK SEWER IN PLACE
- 2030 MUSA
- FUTURE MUSA STUDY AREA
- PROPOSED TRUNK SEWER
- PROPOSED FORCEMAIN
- PROPOSED MH
- PROPOSED LIFT STATION
- EXISTING TRUNK SEWER
- EXISTING LATERAL SEWER
- EXISTING FORCEMAIN
- EXISTING LIFT STATION

NOTE:
The information for this map was obtained from various sources of existing maps, construction plans, and City records, some of which were prepared by others. While this information is believed to be reliable Bolton & Menk, Inc. is not responsible for its accuracy nor for errors or omissions which may have been incorporated into this document as a result.

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H:\RAMS\R161100561\CAD\2040_PROPOSED SEWER PLAN - 2016 UPDATED.DWG 10/21/16 2:58 PM

The City of Ramsey
Surface Water Management Plan

Project 14-31
October 21, 2015

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

By: _____

Leonard L. Linton, P.E.

Date: October 21, 2015 Registration No. 21112

I hereby certify that this plan, specification or report was reviewed for Quality Control and Quality Assurance purposes and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

_____

Bruce Westby, PE

Date: October 21, 2015 License No. 40116

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Appendix A - Ramsey Stormwater Pollution Prevention Plan (not included)
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I. PURPOSE OF PLAN

The purpose of this Surface Water Management Plan (SWMP) is to promote, preserve and enhance the natural resources within the City of Ramsey. The City will protect water quality and unique and fragile environmentally sensitive land from adverse effects that can potentially be caused by poorly sited development or incompatible activities. The City proposes to accomplish this by regulating land disturbances and development activities.

This plan was originally prepared in 2008 by Bolton and Menk, Inc. (the "2008 Plan"). This document is intended to update the 2008 Plan as required (the "2015 Update"). The City has prepared the 2015 Update utilizing the 2008 baseline data prepared by Bolton and Menk.

Minnesota Rules Chapter 8410 (Metropolitan Area Local Water Management) requires specific elements to be addressed in local water management plans. The various chapters of this report are designed to address each element required under these rules. In addition, this plan follows the Metropolitan Council's 2040 Water Resources Management Policy Plan requirements. At the time of drafting of this report, the Metropolitan Council was in the process of completing the 2040 Water Resources Policy Plan, which replaces the plan mentioned in this paragraph. As part of the City's 2040 Comprehensive Plan Update, the City will review the need to update this document. IN 2002, the Minnesota Pollution Control Agency designated the City of Ramsey as a mandatory Municipally Separate Storm Sewer System (MS4) community needing to submit a National Pollutant Discharge Elimination System (NPDES) permit regulating its storm water runoff. As such, the City submitted a Storm Water Pollution Prevention Plan (SWPPP) with its permit application in 2003. The permit was reissued in 2006 and 2013. The City has update the SWPPP to meet the requirements of each reissue. Accordingly, an additional purpose of this SWMP is to control or eliminate storm water pollution. Key contributors to storm water pollution are soil erosion and sedimentation. The city-wide SWPPP incorporates ordinance changes that address erosion control, sedimentation associated with construction activities as well as illicit discharges to surface waters, all primary contributors of storm water pollution.

The City's goal is to minimize conflicts and encourage compatibility between land disturbing activities, water quality and environmentally sensitive lands. This will be accomplished through detailed development ordinances, plan review standards and recommended pollution control procedures in an effort to strike a balance between urban growth and the protection of water quality and natural areas. This SWMP, in conjunction with the policies set forth in the City ordinances, establishes standards and specifications for conservation practices and planning activities to minimize storm water pollution, soil erosion and sedimentation.

This submittal is a culmination of research, mapping, land use analysis/planning and hydraulic design. The end product is a detailed design tool that can be used by the City of Ramsey in planning growth and infrastructure replacement. This summary report represents only a small part of the total work product created through the master planning process. The current City ordinances have also been revisited as part of this process, as they are the best means to implement the recommendations made in this report.

Following the approval of this SWMP by the Lower Rum River Watershed Management Organization (LRRWMO), the City will have administrative authority for the approved SWMP and ordinances. The City will also have the duty to enforce the SWMP and associated ordinances. The City places a high priority in improving impaired waters and intends to work with the LRRWMO and other agencies to achieve water quality goals by reducing the impact created by the City.

II. EXECUTIVE SUMMARY

A. Plan Purpose and Background

Storm water regulations have changed significantly since the original Comprehensive Storm Drainage Plan was approved in 1980 and the southeast growth area was revisited in 1997 and 2002. The plan was updated in 2008 and renamed the Storm Water Management Plan. The following is a listing of those regulatory changes:

1. 1982

   The *Metropolitan Surface Water Management Act* was passed. The Act was originally included in Minnesota Statute Chapter 509. The Act was recreated and modified in 1990 and became Minnesota Statue 103B.205 to 103B.255.

   Originally, the former State of Minnesota Water Resources Board oversaw implementation of the act. When that board was merged with two other boards to form the Minnesota Board of Water and Soil Resources in 1987, the Board of Water and Soil Resources assumed responsibility for the act. Forty-six watershed management organizations (36 joint powers Watershed Management Organizations and 10 Watershed Districts) were originally responsible for preparing plans to:

   - protect, preserve, and use natural surface and groundwater storage and retention systems
   - minimize public capital expenditures needed to correct flooding and water quality problems
   - identify and plan for means to effectively protect and improve surface and groundwater quality
   - establish more uniform local policies and official controls for surface and groundwater management
   - prevent erosion of soil into surface water systems
   - promote groundwater recharge
   - protect and enhance fish and wildlife habitat and water recreational facilities
   - secure the other benefits associated with the proper management of surface and groundwater [1]

2. 1985

   The Lower Rum River Water Management Organization (LRRWMO) was formed to meet the requirements of the Metropolitan Surface Water Management Act.

[1] Excerpt taken from the Minnesota Board of Water & Soil Resources Website: http://www.bwsr.state.mn.us/watermgmt/metroareasurface.html

3. 1987

The Federal Clean Water Act was amended to address storm water as a pollution source. This resulted in the EPA developing a NPDES Phase I permit that targeted Cities with populations in excess of 100,000. As a result, in 1991, Minneapolis and St. Paul were required to apply for permits. One permit requirement was the development of a city-wide Storm Water Pollution Prevention Plan (SWPPP) that included approximately 30 mandatory Best Management Practices (BMPs) addressing everything from education and good housekeeping for municipal operations to mandatory city ordinances.

4. 1991

The Minnesota Legislature passed the Wetlands Conservation Act (WCA). The WCA is administered according to Minnesota Rules Chapter 8420 to implement the purpose of the Act, which is to:

- Achieve no net loss in the quantity, quality, and biological diversity of Minnesota's existing wetlands
- Increase the quantity, quality and biological diversity of Minnesota wetlands by restoring or enhancing diminished or drained wetlands;
- Avoid direct and indirect impacts from activities that destroy or diminish the quantity, quality, or biological diversity of wetlands
- Replace wetland values where avoidance of activities is not feasible and prudent. [2]

5. 1992

The Board of Soil and Water Resources (BWSR) developed Minnesota Rules Chapter 8410. This set of rules consists of 18 parts that define the scope, general structure and content required for BWSR approval of a Local Surface Water Management Plan. The table of contents of this report and the content within each chapter has been structured to meet MN Rule 8410 as well as the specific requirements of the City of Ramsey.

6. 2003

NPDES Phase II, the second round of the 1987 Federal Clean Water Act amendment, targeted cities with populations over 10,000. The City submitted a permit application and SWPPP in accordance with MPCA deadlines.

The City finalized its most recent SWPPP in 2013. That SWPPP is attached in Appendix A to this report.

[2] Excerpt taken from the University of Minnesota Duluth website: http://www.d.umn.edu/fm/safety_envir/wetlands/pdf_pages/4.0%20Wetland%20Regulations.pdf

7. 2005

The Metropolitan Council has requirements for local governments to include local water management plans as part of their Comprehensive Plans. The Metropolitan Council does not have authority to set policy or administer local storm water regulations. This Surface Water Management Plan Update is designed to address current requirements governing local water management plans. The general boundary of the plan includes all property within the City limits of Ramsey. When accepted by all local, regional, state and federal agencies having jurisdiction, the City of Ramsey will be the sole responsible party for administering this plan.

8. 2012

The Lower Rum River Watershed Management Organization adopted their Third Generation Plan. The new plan requires infiltration for new and redeveloped sites, use of the Atlas-14 rainfall distributions and reductions in Total Suspended Solids (TSS) and Total Phosphorus (TP) for runoff discharged from new permitted projects.

B. General Content of Required Local Plans

This SWMP follows the general report structure listed in Minnesota Rules Chapter 8410.0170, the general requirements in Minnesota Statute sections 103B.205 - 103B.255, and the Metropolitan Council's requirements for local water management plans as adopted May 2005 as part of the Metropolitan Council's *Water Resources Management Plan*. As stated above, the City will update this plan subsequent to the adoption of the Metropolitan Council's 2040 Water Resources Policy Plan.

C. Summary of the Goals, Problems, and Potential Solutions

The general findings of this Surface Water Management Plan report are summarized as follows:

1. Ramsey is located in the Anoka Sand Plain. The area is well known for its highly permeable soil. As such, the runoff from significant rainfalls is generally reduced to the extent that the existing drainage network functions well with no significant flooding outside the Mississippi River, Rum River, Trott Brook, Ford Brook, County Ditch 43 and County Ditch 66 flood plains.

   Because of the pervious nature of the Anoka Sand Plain, the City will need to review its development ordinances to mitigate the adverse effect that a significant increase in impervious surfacing and mass grading can have on runoff conditions. The addition of significant amounts of impervious surfaces and the reduced permeability associated with the soil compaction in mass grading without a reasonable attempt to restore or duplicate the current infiltration pattern could create very significant increases in runoff volumes and downstream flooding. This is especially true in the Trott Brook, D66, EMISS and WMISS watersheds (see Figure 9), where improvements in uppermost watershed limits must flow a significant distance to the ultimate watershed outlet. The longer flow path associated with each of these watersheds allows greater opportunities for peak flows from conventional detention ponds to coincide.

   One solution to the problem of coincident peak flows is the use of low impact development techniques. There are a variety of low impact development

techniques. The current low-density residential developments in northern Ramsey are a close approximation of what a low impact development can be like. This area has a noticeably lesser storm water impact than that of either high-density residential developments or commercial/industrial developments.

However, Ramsey's land use plan creates a variety of land use types in which low-density residential is not planned for all areas of the community. With these development plans in mind to balance low impact development with the City's economic development goals, the City must consider other techniques to encourage maximized infiltration of storm water.

This report recommends modifying the current development ordinances to encourage infiltration and soil ripping of mass grading to compensate for lost infiltration conditions as well as requiring oversized retention ponding to mitigate and compensate for increases in runoff. Innovative solutions to the storm water runoff increases associated with the increase in impervious surface will be investigated and encouraged when deemed appropriate. Potential solutions include pervious pavements, rain gardens, infiltration basins and low impact development among others.

2. An integral part of this SWMP is updating the comprehensive storm water runoff modeling performed in 2008. The 2008 modeling effort captured the existing conditions throughout the entire city. This modeling includes:

   a. Mapping out the small watersheds draining to general collection points such as low points in roadways and intersections, wetlands or ponds.

   b. Estimating the runoff from the 2, 10 and 100-year rainfall events.

   c. Routing the runoff through the existing system.

   The existing system may be a pipe network, a pond, a wetland or a waterway. The modeling predicts the high water levels and flows associated with each rainfall event modeled.

   This modeling provides a baseline for comparison purposes as new developments change the drainage pattern. With this modeling information, City staff can readily review the cumulative impacts of large developments for effects on the baseline conditions across the entire watershed.

   Storm and Sanitary Analysis (SSA) software was used in the comprehensive modeling. This software is based on the industry standard EPASWMM process and the St. Vennant equations. The model can be used to input actual rainfall events from rain gauges and can model the transport of pollutants through the system. This will be very useful in evaluating the BMP measures to address future TMDLs.

3. Where the cumulative effect of regulated development is potential flooding, the recommended practice is the construction of retention ponds or detention basins, including infiltration, as a requirement of further development of the outlying growth areas. It is further recommended that the post construction peak outflows from new developments be limited to no more than the existing peak flow for the 2-, 10-, and 100-year storms. The Third Generation Lower Rum River Watershed Management Plan requires infiltration of the first 1" of runoff from new

impervious surfaces. This will better mitigate the cumulative effects of increased impervious surfacing and increased runoff volume from new developments.

Because the majority of the area is served by large stream/wetland complexes, regional ponding is not possible for a significant part of the city. Where they are possible, the creation of regional ponds is preferred because of the limited maintenance (compared to a multitude of individual development ponds) and the opportunity to control larger drainage areas. By contrast, a multitude of scattered ponds associated with each individual site development may be designed to reduce the peak outflow for its smaller area, by storing the excess runoff and releasing it at a lesser rate for a longer duration. This longer pond outflow duration may coincide with the reduced peak flows from other individual site ponds and create a larger combined peak flow than the original undeveloped condition. Hence, regional ponds are recommended where physically possible, because of the opportunity to control the runoff on a larger scale and ensure that the downstream system is not adversely impacted by uncoordinated development that meets a typical runoff ordinance. The greater control afforded by regional ponds may also reduce the flows to the downstream system and allow for decreased costs in downstream infrastructure improvements.

4. The proposed infiltration requirements and pond network is part of the goal of accommodating continued responsible growth. Revisions will be required as formal developer layouts are presented to the City. Although this plan forms a sound basis for future development, it is important to remain flexible in finding ways to manage runoff while still accommodating the continued development of the city.

5. The maps attached at the end of this report are for general illustration purposes. As part of the plan development, large scale maps and GIS compatible files have been prepared as part of the 2008 SWMP and updated with preparation of this plan. The GIS maps and files show more detailed information including watershed areas, proposed pond areas and storage volumes, estimated flow rates into and out of the proposed ponds for both the existing and developed conditions, proposed interconnecting pipe sizes between ponds, etc.

6. The City will pursue outside funding to help finance the recommended capital improvements described in this plan. Local financing will most likely come from a combination of storm sewer trunk fees and the City's storm water utility fund.

   Any determined storm water management charges or area charges to new developments should be reviewed on an annual basis to ensure that changes in land acquisition, construction cost, bonding cost, legal cost, etc. are included in the computed fee.

7. The 2008 SWMP included a complete wetland functions and values assessment as part of a greater wetlands management plan.

   The wetland buffers recommended in the Wetlands Function assessment were approved by City Council when the 2008 SWMP was approved. Further review of the buffers by the City Council resulted in a policy decision to delay the implementation of the wetland buffers recommendations.

   Wetlands are to be further protected by controlling discharges from developing areas. The proposed controls include pretreatment BMPs and runoff controls

designed to maintain the current hydrology and maintain or improve the current functions and values of the wetland.

D. Amendments and Updates

This report is intended for the coverage period to 2022. It should be considered as a working document that should be updated and amended in accordance with the procedures described in Section IX. Amendment will be needed as development progresses and actual new development data is integrated into the overall model.

The Minnesota Pollution Control Agency (MPCA) has not completed total maximum daily load (TMDL) studies for the impaired waters within the city boundaries of Ramsey (see Table 15 for the list), and is still completing the TMDL study of Lake Pepin (downstream from Ramsey). The Lake Pepin TMDL may have a major impact on all NPDES permittees in the metro area. The City of Ramsey is aware of the potential need to amend the local water management plan prior to 2022 based on the implications and requirements of the Lake Pepin TMDL and the TMDLs for the impaired waters within the city.

The City has updated the SWPPP in accordance with the reissuance of the MS4 permit in 2013. The SWPPP addresses the education components required by the surface water management plan.

III. REGULATORY REQUIREMENTS AFFECTING PLAN

The following is a brief summary of the primary Statutes and Rules governing storm water management in the 7-County metropolitan area. These requirements establish and control the content of this plan and cite objectives regarding surface water management:

A. Minnesota Rules Chapter 8410.0170

These rules outline the structure of a SWMP. Each SWMP must have the following at a minimum:

1. A purpose statement outlining the purposes of the water management programs required by MN Statute sections 103B.205 - 103B.255.
2. A section of water resource related agreements
3. A land and water resource inventory (required by part 8410.0060)
4. A section on the establishment of policies and goals
5. A section on assessment of problems
6. A section on corrective actions
7. A section on financial considerations
8. An implementation program discussing which components of the implementation program the City will prioritize
9. A section on the City's amendment procedures

This document is intended to meet these rules and hence each requirement is included.

B. Minnesota Statute 103B.235

This state law predates Minnesota Rule 8410 and includes additional requirements as follows:

1. Subdivision 1 - *Requirement* states that the City of Ramsey is required to submit a watershed management plan because it is within the 7-County metropolitan area.
2. Subdivision 2 - *Contents* states that the SWMP shall:
    a. Describe existing and proposed physical environment and land use;
    b. Define drainage areas and the volumes, rates, and paths of storm water runoff;
    c. Identify areas and elevations for storm water storage adequate to meet performance standards established in the watershed plan;
    d. Define water quantity and water quality protection methods adequate to meet performance standards established in the watershed plan;
    e. Identify regulated areas; and
    f. Set forth an implementation program, including a description of official controls and, as appropriate, a capital improvement program.
3. Subdivision 3 - *Review* states that, after consideration but before adoption by the governing body, the City shall submit its SWMP to the area water management

organization (WMO) for review for consistency with the watershed plan adopted pursuant to section 103B.231. The Lower Rum River Water Management Organization (LRRWMO) has WMO jurisdiction in Ramsey. According to the statute, the LRRWMO must approve or disapprove the plan or parts of the plan. The LRRWMO has 60 days to complete its review; provided, however, that the LRRWMO shall, as part of its review, take into account the comments submitted to it by the Metropolitan Council pursuant to subdivision 3a. If the WMO fails to complete its review within the prescribed period, the SWMP shall be deemed approved unless the City agrees to an extension.

3a. Subdivision 3a - *Review by Metropolitan Council* states that the City shall submit its SWMP to the Metropolitan Council for review and comment. The council shall have 45 days to review and comment upon the SWMP or parts of the plan with respect to consistency with the Metropolitan Council's comprehensive development guide for the metropolitan area. The Metropolitan Council's 45-day review period shall run concurrently with the 60-day review period by the LRRWMO. The Metropolitan Council shall submit its comments to the LRRWMO and shall send a copy of its comments to the City. If the Metropolitan Council fails to complete its review and make comments to the LRRWMO within the 45-day period, the LRRWMO shall complete its review as provided in subdivision 3 of State Statute 103B.235.

4. Subdivision 4 - *Adoption and Implementation* requires the City to adopt and implement its plan within 120 days after approval of the SWMP by the LRRWMO and to amend its official controls accordingly within 180 days.

5. Subdivision 5 - *Amendments* states that to the extent and in the manner required by the LRRWMO, all major amendments to the SWMP shall be submitted to the LRRWMO for review and approval in accordance with the provisions of State Statute 103B.235, subdivisions 3 and 3a for the review of plans. All minor amendments will be reviewed and approved by the City Council.

All of these required MS 103B.235 items are covered in this document.

C. **Local Ordinances**

The City of Ramsey will administer and enforce the water resource-related ordinances under the direction and control of, and subject to the powers expressly reserved to, the City Council. Following approval of this SWMP and ordinances, the City shall have administrative authority for the approved SWMP and ordinances. The Applicant, permittee or any other person or political subdivision with an interest in the determination of the City's interpretation or application of these ordinances may file a written appeal to the City Council within fifteen (15) business days of said determination. Said appeal shall state the specific grounds upon which the appeal is based. Within thirty (30) days of the date of receipt of the appeal, the City shall schedule the appeal for a regular or special meeting of the City Council. The City Council shall make its decision to affirm, reverse, or remand the determination by adopting a resolution stating findings of fact.

D. **Total Maximum Daily Loads and Impaired Waters**

The 1987 amendment to the Federal Clean Water Act required all impaired waters to be corrected. In making rules to meet the 1987 Amendment, the Environmental Protection Agency (EPA) first set criteria to determine a list of impaired waters depending on the potential use of the water. The Minnesota Pollution Control Agency (MPCA) worked to set guidelines to establish intended uses for the waters of the state and then set acceptable water quality criteria. After testing to determine the water quality, waters failing to meet the water quality criteria are placed on the 303d Impaired Waters list that is submitted to the EPA. Table 15 in Section IV, page 16 of this report, lists the current (2006) MPCA 303d Impaired Waters in Ramsey. It should be noted that, as of 2007, only about 25% of the waters of the State of Minnesota had been tested. Hence, the impaired waters list is likely to increase in the Ramsey area.

The process to remedy the impairment includes establishing a Total Maximum Daily Load (TMDL) allocation to each contributor to the problem. A TMDL is a calculation that determines the allowable pollutant load that can be discharged into the impaired water so that the limited load will ensure that the water improves to levels where it is no longer impaired. The typical process is initiated by the MPCA and includes a series of stakeholder meetings to formulate viable solutions and mutually work out a reasonable allocation of acceptable pollutant loading.

E. **Specific Lakes and Streams with Water Quality Problems**

Since a TMDL study has not been completed for the known impaired waters in Ramsey and downstream from Ramsey (such as Lake Pepin), the City should identify the priority it places on addressing impaired waters and how the City intends to participate in the development or implementation of TMDL projects. The Rum River and Mississippi River watersheds are too large for the City of Ramsey to take the lead on the TMDL Stakeholder process for these two waters. It is recommended that the City volunteers to participate in the Stakeholder process for these waters. Through this SWMP, the City of Ramsey has the capability of modeling contaminant transport using the SSA model. The City will work with the LRRWMO and the MPCA to formulate a TMDL for the impaired Rogers Lake.

Once a TMDL study is completed for the impaired water, the City must include, in this SWMP and its City-wide SWPPP, an implementation strategy including funding mechanisms that will allow the implementation of the TMDL requirements. As MPCA completes its TMDL process for each impaired water, the implementation of the measures to meet the TMDL will immediately become a priority item for the City of Ramsey.

F. **Lower Rum River Water Management Organization**

The City of Ramsey entered into a Joint and Cooperative Agreement for the Establishment of the *Lower Rum River Watershed Management Organization to Plan, Control and Provide for the Development of the Lower Rum River Watershed* in June of 1995. The Minnesota Board of Water and Soil Resources officially signed the Findings of Fact, Conclusions and Order accepting the Second Generation Watershed Management Plan on August 26, 1998. The LRRWMO updated its plan in 2012. The LRRWMO's plan update will trigger the mandatory re-evaluation and potential need for an update of the City's SWMP within two years from the date the LRRWMO's plan is approved by

BWSR. Update of the City's SWMP was delayed to incorporate the requirements associated with the reissuance of the MS4 permit in 2013.

G. **NPDES Requirements**

In 1987, the US Congress amended the Clean Water Act to include storm water pollution and directed the Environmental Protection Agency (EPA) to initiate rulemaking. The first round of EPA rules were implemented in 1991 when NPDES Phase I permits were required for all cities exceeding 100,000 in population. Phase II was implemented in 2003 and targeted all cities with populations exceeding 10,000. The Minnesota Pollution Control Agency (MPCA) assumed responsibility for implementing the rules and issuing all Phase II permits. The City of Ramsey was required to submit a permit for its Municipally Separate Storm Sewer System (MS4) in March of 2003. The permit was reissued in 2006 and 2013. The permit required the City of Ramsey to meet six minimum storm water control measures as follows:

1. Public education and outreach
2. Public participation and involvement
3. Detection and elimination of illegal discharges
4. Control of large construction sites runoff
5. Post construction storm water management
6. Pollution prevention or housekeeping for municipal operations

To show that the City of Ramsey is committed to implementing its Phase II permit, it was required to submit a Storm Water Pollution Prevention Program (SWPPP), which is essentially a list of promised steps the City proposes to make to meet these minimum control measures. The promises are in the form of Best Management Practices (BMPs) to be implemented at specified times over the life of the permit.

In general, the NPDES storm water discharge permit program is designed to reduce adverse impacts to water quality. The primary targets of acceptable storm water management plans are urban runoff and construction runoff. This is because urban runoff carries pollutants from cars, lawn fertilizers, pesticide spills and other contaminants into our lakes, wetlands and streams without entering wastewater treatment systems. Construction runoff is often laden with sediment caused by large amounts of un-vegetated soil that is loosened by excavation and grading.

The MPCA mandates are intended to regulate these sources of continued environmental degradation. To comply with the NPDES permit requirements, the City's SWPPP was drafted to establish measurable goals using the Best Management Practice (BMP) approach and to be able to track performance and progress.

Erosion and sediment control measures must be included in the City-wide SWPPP. The minimum standard is the General Permit Authorization to Discharge Storm Water Associated With Construction Activity Under the National Pollutant Discharge Elimination System/State Disposal System Permit Program Permit MN R040000 (NPDES/SDS Permit) issued by the Minnesota Pollution Control Agency on August 1, 2013, as amended. Some components of the NPDES/SDS Permit include:

1. If land disturbing activity is taking place on a site where the soils are currently disturbed (e.g., a tilled agricultural site that is being developed), areas that will

not be disturbed as part of the development and areas that will not be disturbed according to the time frames and slopes specified in the NPDES General Construction permit Part IV.B.2, shall be seeded with temporary or permanent cover before commencing the proposed land disturbing activity.

2. Where one (1) or more acres of disturbed soil drain to a common location, a temporary (or permanent) sediment basin must be provided prior to the runoff leaving the site or entering surface waters. The basins must be designed and constructed according to the standards in the NPDES General Construction Permit Part III.B.

3. The Permittee or applicant must ensure final stabilization of the site in accordance with the NPDES General Construction Permit requirements. The site will be considered as having achieved final stabilization following submission of Certificate of Completion by the permittee or applicant, and inspection and approval by the City.

H. Non-Degradation Rulemaking

The MPCA is currently going through due process to update its non-degradation rulemaking effort and amend the state rules governing the non-degradation of waters (Minn. R. 7050.0180 and 7050.0185). Rules protecting Outstanding Resource Value Waters were adopted in 1984, while rules governing non-degradation of all waters were adopted in 1988. Since then, there have been many changes to the state and federal structure for water protection and to the understanding of water quality. The MPCA intends, with the assistance of a significant stakeholder effort, to thoroughly investigate the issues associated with non-degradation of waters, and to adopt rules that will address those concerns.

The MPCA has already taken the first steps in the rulemaking process by publishing two Requests for Comments regarding our intent to amend the current non-degradation rules. These Requests for Comments were published in the *State Register* on January 29, 2007, May 29, 2007 and February 25, 2013.[3]

This language was copied from the MPCA website in January 2015. The City of Ramsey will incorporate the non-degradation policies into this SWMP when they are formally adopted into the state rules.

[3] Excerpt taken from MPCA website: http://www.pca.state.mn.us/http://www.pca.state.mn.us/index.php/water/water-permits-and-rules/water-rulemaking/nondegradation-rulemaking.html

IV. LAND AND WATER RESOURCES INVENTORY

Each plan must contain an inventory of water resource and physical factors affecting the water resources based on existing records and publications. If data publications and maps are available at a convenient central location, they may be included by reference. The plan must include a brief summary of the data and must identify where the publication can be obtained. The following subsections are required.

A. Precipitation

The state climatology office has records of all official rain gauges throughout Anoka County. The monthly precipitation totals and county-wide monthly averages for Anoka County are available online at:

http://climate.umn.edu/HIDENannual/

The two closest high-density rain gauges are:

1. No. 211785, Coon Creek
2. No. 217308, Saint Francis

Information is readily available from 1971 to the present. Over this time period, the aggregate annual precipitation ranged as follows:

Lowest annual precipitation	16.5 inches in 1976
Highest Annual Precipitation	39.09 inches in 1983
Average Annual Precipitation	29.54 inches per year

The following is the average annual precipitation per decade:

1970s	26.8 inches per year
1980s	29.9 inches per year
1990s	31.2 inches per year
2000s	29.6 inches per year
2010s	29.2 inches per year

On the average, June is the wettest month, followed by July and May.

B. General Geology and Topographic Data

The City of Ramsey is nestled between the Rum and Mississippi Rivers and within 2 miles of the confluence of these rivers. The general terrain is relatively flat and is often called the Anoka Sand Plain. The elevations range from approximate elevation 920 feet above mean seal level in northwestern Ramsey to near 840 feet at the lower Rum River. The straight-line distance between these points is approximately 60,000 feet, making the average slope less than 1 percent. In general, the land slope is in the 2 to 5 percent range.

There are steep slopes within the shoreland protection zone of the Rum and Mississippi Rivers, as well as scattered locations throughout the City. From the aerial photographic contour map, the slopes near the rivers can be as high as 65 percent. A map showing the areas with slopes between 12 and 18 percent and separately showing the areas with slopes greater than 18 percent is attached as Figure 1.

Virtually all of the Ramsey city limits is within the Anoka Sand Plain, which consists of highly permeable soils. Figure 2 shows the general subsurface geology of aquifers in the vicinity of Ramsey. The Anoka Sand Plain is part of the undifferentiated drift (Layer 1). The Minnesota Department of Natural Resources and the Minnesota Geological Survey generated Figure 3 as part of the Regional Hydrogeologic Assessment for the Anoka Sand Plain.[4] Based on Figure 3, waterborne contaminants in the Ramsey area can reach upper aquifers within hours or months of release, necessitating additional care in regulating surface water contamination. The majority of Ramsey is rated with the highest geologic sensitivity to pollution in the uppermost aquifer.

The Board of Water and Soil Resources website indicates that Anoka County, though not participating in the official metropolitan groundwater planning process, has prepared a "groundwater protection assessment." The county public health department coordinates the county groundwater planning and management activities.[5] However, there is no mention of the assessment on Anoka County Health and Environment Department website.

The City Wellhead Protection Plan was completed in the September of 2007. The final draft of Part 1 was accepted by all review agencies and City staff is currently working on Part 2. Figure 4 shows the 10-year capture zone (Well Head Protection Area, WHPA) as well as the Drinking Water Supply Management Area (DWSMA) for the seven municipal drinking water wells in Ramsey. Storm water infiltration will not be allowed inside the 10 year capture zone.

C. Surface Water Resource Data

1. Public Waters

A map of the public waters, streams, lakes, and public ditch systems established under Minnesota Statutes, chapter 103D or 103E, including the location of existing dams and control structures is shown in Figure 5. A map of the natural drainage routes is also attached as part of the Parks Map in Figure 6.

The Minnesota Department of Natural Resources (DNR) uses the U.S. Fish and Wildlife classification system (Circular 39) for wetlands and currently requires a permit for alteration of wetland types 3-5 which are 2.5 acres or larger. Ramsey City Code Section 117-124, Environmental Protection Overlay Districts includes provisions designed to further protect wetlands. . As stated previously, this section of code does not include required vegetative buffers for new developments around the perimeter of wetlands.

[4] Minnesota Dept. of Administration / Office of Geographic and Demographic Analysis / Land Management Information Center. Website: http://www.lmic.state.mn.us/chouse/metadata/asp.html

[5] http://www.bwsr.state.mn.us/watermgmt/metrogroundwaterplans.html

In addition to the protected waters list, the Mississippi River has a designated Critical Area Corridor and the Rum River is designated as a Wild & Scenic Outstanding Resource Value Water (see Figure 6 – Parks Map).

2. Shoreland

In order to control the development and utilization of shoreland along protected waters thereby preserving the water quality, natural characteristics, economic values and the general health, safety and welfare, the following waters in the city limits have been given a shoreland management classification. These protected waters within the city limits have been classified by the Commissioner of Natural Resources as follows:

	Natural Environment Lakes	**DNR I.D. #**
1.	Lake Eddy	2-109
2.	Itasca	2-110
3.	Rogers	2-104

	Recreational Development Lakes	**DNR I.D. #**
1.	Jeglens Marsh	2-111
2.	Peltzer Pond	2-112
3.	Grass (Sunfish)	2-113

	General Development Lakes	**DNR I.D. #**
1.	Ramsey Terrace Pond	2-114
2.	Magnesium Street Pond	2-116
3.	Industry Avenue Pond South	2-117
4.	Industry Avenue Pond North	2-118

	General Development Streams	**Locations**
1.	Trott Brook	Sections 1, 2, 3, 7, 8, 9, T32N, R25W
2.	Ford Brook	Sections 1 & 2, T32N, R25W

The above shorelands of the city are designated as a Shoreland Overlay District. The purpose of the Shoreland Overlay District is to control the utilization of shoreland areas and to preserve the quality and natural character of these protected waters within the City. The shoreland overlay districts are shown on the City's Mississippi/Rum River Overlay Districts Map. Boundaries of the overlay districts can be determined by scaling distances off the official environmental overlay map.

All wetlands on the National Wetlands Inventory map are shown on Figure 7. The National Wetlands Inventory Map is not all inclusive, wetlands exist in the

City of Ramsey that are not shown on the map. Each site proposed for development must be evaluated for wetlands as required in City Code.

Pretreatment of all storm water from new developments is required prior to discharge into any wetlands. Wetlands may be, and are currently being used for storm water storage for larger rainfall events. They may continue to be used for this purpose – even after upstream development, provided that:

1. There is acceptable Best Management Practice pretreatment of the runoff in accordance with the MPCA NPDES/SDS Construction Permit, Section III.D., Permanent Stormwater Management System.
2. The impacts of stormwater from new development discharging into a wetland will be determined through a Minnesota Routine Assessment Methodology (MnRAM) assessment of the wetland.

The Minnesota Wetland Conservation Act (WCA) requires the designated Local Governmental Unit (LGU) in charge of administering the WCA to generate a Notice of Wetland Conservation Act Decision for any impact to wetlands within the City of Ramsey. In all but minor decisions, the LGU will call for a Technical Evaluation Panel (TEP) review of the application or impact prior to issuing a decision. The LGU must give notice of proposed actions affecting wetlands to all of the following:

a. The Minnesota Board of Water and Soil Resources
b. The Soil and Water Conservation District
c. The Minnesota Department of Natural Resources
d. The Lower Rum River Watershed Management Organization
e. The U.S. Army Corps of Engineers
f. Interested citizens requesting notification of such actions

If a TEP meeting is required, all listed parties are invited to review the proposed action. However, it is not uncommon for a TEP meeting to consist of only a small contingent of this list, as some invitees may have no jurisdiction over the proposed action.

3. Watersheds

A general watershed map breaking the City of Ramsey into seven primary watersheds is attached as Figure 8. The naming convention for the nodes (i.e., pipes, channels, junctions, manholes, and ponds) is based on the county section and quadrant numbers and is described in Figure 9. The subsequent Figure Nos. 10 through 23 show the subwatersheds and drainage pattern within each of the separate primary watersheds. Storm water ponds, 100-year peak pond elevations and outfalls are also shown on these maps.

The City Storm Sewer infrastructure is also shown on the individual primary watershed maps. In the GIS database for these maps, the pipe network is color coded to reflect the various pipe sizes.

4. Flood Levels

Floodplains are covered by City of Ramsey Code Section City Code Chapter 117, Article II, Division 4, Subdivision III. A comprehensive map showing all of the FEMA Flood Insurance Rate Map (FIRM) flood plains is attached as Figure 24. Flood studies have been performed for the following waterways:

a. Mississippi River

b. Rum River

c. Trott Brook

d. Ford Brook

Copies of the flood studies are available at the office of the City Engineer or online at the FEMA Map Service Center. These studies have been incorporated into the Official Zoning Map in accordance with Ramsey City Code Section II Chapter 117, Article II, Division 4, Subdivision III... The Official Zoning Map is on file in the Office of the City Administrator and the City Zoning Administrator.

In addition to the flood levels predicted by the FEMA flood studies, Bolton & Menk performed a flood study of County Ditch 66 using the HEC-RAS stream modeling program. This information has been coordinated with the SSA modeling software and submitted to FEMA for agency acceptance as a flood plain elevation. The 100-year flood plain has been recorded on the map along with the FEMA data. The color-coded legend of Figure 24 helps to differentiate between the federally modeled floodplain and the unofficial City flood plain.

In addition to the flood map, Tables 1 through 7, located in the Tables Appendix of this report summarize the modeled 100-year flood levels and peak discharges of existing storm water ponds and natural depressions that correspond to the peak discharges of channel flow passing through the watershed.

After a detailed review of the new and available flood profile information, the results appear consistent and provide a reasonable hydraulic grade from the upper reaches of the various flood channels to the ultimate confluence with the Rum and/or Mississippi Rivers.

5. Water Quality Information

Section 303d of the Clean Water Act requires that each state submit a list of Impaired Waters. The MPCA website lists the impaired waters as officially designated in 2014. Table 15 lists the impaired waters found in Ramsey:

Table 15

303d Impaired Waters List Excerpt from MPCA

Name	Affected Use	Pollutant or Stressor	Year Designated	Target Start	Target Completion
Rogers Lake	Aquatic Recreation	Excess Nutrients	2006	2013	2017
Rum River	Aquatic Consumption	Mercury, FCA	1998	2008	2025
Mississippi River	Aquatic Consumption	Mercury, FCA	1998	2008	2025
	Aquatic Consumption	PCB, FCA	2002	2002	2025

The Minnesota DNR maintains a database on all Minnesota lakes. Some of this data is very limited or not available, while other lakes have been studied in great detail. To find the most current data on the lakes in Ramsey, access the Lake Finder on the DNR Website.

The WMO document has a list of monitoring locations. The Anoka Conservation District (ACD) has water quality information. The ACD has also published a water atlas.

6. Water Appropriations

Upon approval by all of the review authorities, the City's approved Wellhead Protection Plan will be incorporated into this plan by reference. At present, the draft includes all of the current municipal ground water appropriations. The City is considering obtaining surface water appropriations from the Mississippi River for a 20 MGD water treatment plant. The scope of the project will require Regional Participation. The City is working with the Metropolitan Council and other regional partners to explore a regional funding solution to locally operated surface water supply treatment plant. The water treatment plant is intended to supply water for the anticipated population growth of the City. When the new water treatment plant is approved and constructed, the existing City wells and permitted groundwater appropriations are planned to remain unchanged to be readily available as backup for water needs.

7. Soil Data

Ramsey City Code, Section 117-424 covers types of soil that are adequate for septic systems. According to Ramsey City Code, the City adopts the Anoka County Soil Survey, 1977 (Soil Survey) and supplemental operational soil surveys as its official soil survey and makes it a part of the City Code. The Anoka County soil survey map of the Ramsey area is attached as Figure 25. In general, the City of Ramsey has soils in SCS Hydrologic Soil Type A. Table 16 lists the recommended infiltration rates based on SCS hydrologic soil types.

Table 16
Infiltration Rates per Soil Type

Hydrologic Soils Type	Unified Soil Classification	Infiltration Rate	Soil Texture
A	GW, GP	1.63 inches/hour	Gravel, sandy gravel, and silty gravels
A	GM, SW, SP	0.8	Sand, loamy sand, and sandy loam
B	SM	0.45	Silty Sand
B	ML, OL	0.3	Silt loam, loam
C	GC, SC	0.2	Sandy clay loam
D	CL, CH, OH, MH	0.06	Clay, clay loam, silty clay loam, sandy clay, and silty clay

Source: Minnesota Stormwater Manual.

8. Land Use and Public Utility Services

   Necessary land use and public utility services information is limited to information that existed at the time the plan or plan amendment was developed, including:

   a. A general map of existing land uses (Figure 26A);

   b. A general map showing anticipated land uses (Figure 26B); and

   c. A reference to the location of the metropolitan urban service area.

   Land use is one of the primary mechanisms that affect flooding and water quality. As prairie and forested areas are converted to agricultural and urban uses, the volume and rate of storm water runoff increases. This increase in storm water runoff can cause a change in the bank full flow of area streams and conveyances. This can cause stream bank erosion and deterioration of the stream. In addition, increased area runoff can cause erosion in steep areas. The conversion of natural land cover also increases the amount of pollutants in storm water runoff such as the levels of pesticides and nutrients from agricultural land use, and trace metal concentrations from urban land use. Pollutant loading analysis has not been included within this report. This plan estimates the future land use throughout the study area in order to evaluate the drainage system needs.

   Although pollutant concentrations may not vary greatly between land uses, pollutant loadings are a function of both runoff volume and concentration. The volume of runoff is directly related to the amount of impervious surface from a particular land use. For example, if a fictitious *Area A* has twice the runoff due to higher impervious land cover as *Area B* with the same pollutant concentration, *Area A* will have twice the pollutant loading. This is the basis for the major difference in water quality between residential and commercial land uses and affects surface water planning strategies for the different land uses. The Minnesota Land Cover Classification System (MLCCS) cover types for the Ramsey area are shown in Figure 26C.

9. Water-based Recreation Areas and Land Ownership

   Figure 6 – Parks Map shows the location of all Parks and the location of all DNR public water accesses within the City of Ramsey.

10. Fish and Wildlife Habitat

    The City of Ramsey has applied to the DNR for an updated list and description of the conclusions and recommendations of biological surveys or reconnaissance studies in December of 2014. The list has been received. Since this list is sensitive it is not included in this report, but is on file in the office of the City Engineer.

11. Unique Features and Scenic Areas

    The Mississippi and Rum River Corridors within the City are unique and valuable local, state, regional and national resources. The rivers are an essential element in the local, regional, state and national transportation, sewer and water and recreational systems and serve important biological and ecological functions.

The prevention and mitigation of irreversible damage to these resources and the preservation and enhancement of their natural, aesthetic, cultural and historic values is in furtherance of the health, safety and general welfare of the City. The Mississippi River Corridor Critical Area and the Rum River Scenic River are protected under Ramsey City Code Chapter 117, Article II, Division 4, Subdivisions II and V Respectively.

Ramsey City Code Section 117-252 regulates bluff land and river land development in order to protect and preserve the outstanding scenic, recreational, natural, historical, and scenic values of the Rum River in the city of Ramsey in a manner consistent with Minnesota Statutes, §104.31 - 104.40, Minnesota Regulations NR78-81, and the Management Plan for the Rum River (6 MCAR 1.2700 - 12720).

The City has an Environmental Policy Board that has been actively documenting and mapping the City's existing natural features, through a Natural Resources Inventory and a Wetland Functions and Values Assessment, including:

a. Native prairie communities

b. Woodlands

c. Functions and values of wetlands

d. Rare and endangered species

e. Historic and heritage buildings and features

Their report, which may be found on the City website, is included in this document by reference. The link is: http://cityoframsey.com/environmental-services.

The Scenic River Land Use District is divided into two areas designated as the Urban Area Overlay District, or Rural Area Overlay District and are covered under City of Ramsey Code Section 117-254.

Pollutant Sources

The City of Ramsey has one closed landfill (the Anoka Regional Solid Waste Facility). The MPCA keeps the records. The City is not aware of any other landfills.

There was a high nitrate area east of Armstrong Boulevard between 158th Avenue and 161st Avenue that was attributed to agricultural activity. There was a hog farm west of TH47 at 157th Avenue. The City does not have any permitted wastewater discharges.

The City does not keep a list of storage tanks. These records are currently kept at the Anoka County Environmental Services office.

The MPCA "What's in My Neighborhood?" website lists known and potential sources for soil and groundwater contamination. The majority of the sites listed are Voluntary Investigation and Cleanup (VIC) sites. There are 215 sites listed in Ramsey. A text based search for Anoka County and Zip code 55303 will list over 600 permits; however, some of the addresses were in the Cities of Anoka or Andover which share a zip code with Ramsey. Additionally many sites had multiple permits at the same address. These are listed in Table 17.

Table 17

Known or Potential Sources of Soil or Groundwater Contamination

Activity ID	Activity Name	Address	
VP20690	14140 Azurite	14140 Azurite St NW	Ramsey
VP24480	A1O0143 - Alpine Park	6600 Alpine Dr NW	Ramsey
MND985724061	Aca Management 367	5195 142nd Ave NW	Ramsey
MNR000058230	Accent Precision Wood Products	6250 McKinley St NW	Ramsey
MNR000118802	Accurate Auto Inc.	9716 Highway 10	Ramsey
MND982220089	Accurate Auto Inc.-Ramsey	9617 Highway 10 W	Ramsey
VP18690	Ace Solid Waste - Ramsey	6601 McKinley St NW	Ramsey
MND985702851	Adrien Mechanic Services	6021 Bunker Lake Blvd NW	Ramsey
MNR000079889	Aero Restoration & Repair Co	7101 143rd Ave NW Ste B	Ramsey
MNRNE35D6	All-Brite Graphics LLC - ISW	6320 Highway 10 NW	Ramsey
MNS000177972	Allina Health Ramsey Clinic	7231 Sunwood Dr NW	Ramsey
MNR000060970	Allina Medical Clinic - Ramsey - Alpine Drive	5300 Alpine Dr NW	Ramsey
MND985752047	Alloy Recovery Co Inc.	7060 142nd Ave NW	Ramsey
MNR000027722	Alpha Power & Technology	14000 Unity St	Ramsey
SA7044	Alsil Stephens Dump	See location description	Ramsey
MND089476451	Altron Inc.	6700 Bunker Lake Blvd NW	Ramsey
MNR000081067	Amcor Precast Inc.	6640 Industry Ave	Ramsey
MND982071714	American Trade A Bus Inc.	14000 Sunfish Lake Blvd NW	Ramsey
MNR000078246	Anderson & Dahlen Inc.	6850 Sunwood Dr NW	Ramsey
MNR000015057	Anderson Wade	15031 Hematite St NW	Ramsey
SA7100	Anoka County State Hospital Demo Fill	See location description	Ramsey

Activity ID	Activity Name	Address	
SA7111	Anoka Municipal Regional Landfill	14730 Sunfish Lake Blvd NW	Ramsey
MND985705292	Anoka Ramsey Automotive - Hwy 10	6262 Highway 10 NW	Ramsey
MND985753730	Anoka Ramsey Dental	5300 153rd Ave NW Ste 3	Ramsey
MNR000032169	Anoka Ramsey Sport Center	6760 Highway 10 NW	Ramsey
MNS000177618	Anoka-Ramsey Dental	5400 140th Ave NW Ste 104	Ramsey
MNR000114918	AR Honing	6250 Bunker Lake Blvd NW Ste 219	Ramsey
MNS000143404	Arrow Components Corp	6230 McKinley St NW Ste A	Ramsey
3789	Auto Ranch	7665 Highway 10 NW	Ramsey
MN0000036038	Auto Truck Hydraulics	7445 Highway 10 NW Ste 3	Ramsey
MNR000115139	Automated EDM Inc.	6231 McKinley St NW	Ramsey
MNR000023234	B & A Cylinder Head - Ramsey	14165 Ramsey Blvd NW	Ramsey
MND985684406	B & D Auto	14966 Nowthen Blvd NW	Ramsey
MND982642936	B & D Repair - Ramsey	9451 Highway 10 NW	Ramsey
MNS000172445	B&K Swiss Inc.	14220 Basalt St NW	Ramsey
MNR000115022	Bailey Woodworking	6250 Bunker Lake Blvd NW Ste 216	Ramsey
MNR000101824	Baker White Inc.	6111 Highway 10 NW	Ramsey
MNS000131292	Barnett Family Dentistry	7962 Sunwood Dr NW Ste 200	Ramsey
VP4771	Barnett Olds #2	6415 Hwy 10 NW	Ramsey
MNS000178897	B-Brothers Auto	7103 Highway 10 NW	Ramsey
VP8482	BK Ramsey Site	7205 Hwy 10 NW	Ramsey
MND985709401	Blass Automotive	6100 Industry Ave	Ramsey
MND982212045	Blatz Automotive	7105 Highway 10 NW	Ramsey

Activity ID	Activity Name	Address	
MND985720952	Blue Line Collision Center	6260 Highway 10 NW	Ramsey
VP8481	BNSF R-O-W #2	See location description	Ramsey
MN0000380881	Boart Longyear Co - Anoka	6300 Industry Ave	Ramsey
MNR000064659	C & F Race Cars	7101 143rd Ave NW Ste P	Ramsey
VP18650	Cabinetry Concepts	14410 Azurite St	Ramsey
MNRNE35J5	Carbon Products/ Division of Graphel Corp - ISW	6251 McKinley St NW	Ramsey
MN0000043513	Champlin Towing	14300 Sunfish Lake Blvd NW	Ramsey
MNS000133942	Chips Tool Repair Inc.	6250 Bunker Lake Blvd Ste 206	Ramsey
MND985695808	Cjs Auto Repair	17600 Gibbon St NW	Ramsey
MNS000135558	Class C Components Inc.	6825 Sunwood Dr NW	Ramsey
MND985738293	Coated Abrasive Products Co	14059 Sunfish Lake Blvd	Ramsey
MNS000174011	Coborn's Pharmacy 33	7900 Sunwood Dr NW	Ramsey
MNS000118869	Collision 2000 Inc.	3345 Viking Blvd	Ramsey
MNR000042424	Command Tooling Systems	13931 Sunfish Lake Blvd NW	Ramsey
MND985680040	Commercial Asphalt Co - Plant 906	6640 141st Ave NW	Ramsey
MNS000141010	Concrete Masonry Unlimited	9411 Alpine Dr NW	Ramsey
MNR000033787	Connexus Energy	14601 Ramsey Blvd NW	Ramsey
MNRNE373P	Countryside Printing Inc. - ISW	6250 Bunker Lake Blvd NW Ste 113	Ramsey
MNS000186908	Courage Kenny Sports & Physical Therapy Center Ram	7231 Sunwood Dr NW Ste A	Ramsey
VP26500	CSAH 116 Reconstruction - ROW	6100 Industry Ave NW	Ramsey
VP25020	CTT Properties, LLC	6600 Sunwood Dr NW	Ramsey
MNS000140152	Cullinan Rigging & Erecting Inc.	6815 McKinley St NW	Ramsey

Activity ID	Activity Name	Address	
MN0000012450	D Cobey Co Inc.	9340 Highway 10 NW	Ramsey
MND006220719	Dahlheimer Beverage LLC	13554 Tungsten St NW	Ramsey
MND982640476	Danny's Trannys Inc.	14050 Basalt St NW	Ramsey
MNR000004036	Detail Tool & Engineering Inc.	6511 Industry Ave	Ramsey
MND985669936	Diamond Automotive Inc./ Auto Fitness & Service Ctr	7029 Highway 10 NW	Ramsey
MNS000141085	Diamond Graphics	14350 Azurite St NW	Ramsey
PW6124218640	Dickenson Diesel	NW Highway 10	Ramsey
MNR000119271	Die Concepts Inc.	13915 Radium St NW Ste F	Ramsey
MNR000077495	Digital Tool & Automation	6501 McKinley St NW	Ramsey
MNR000103978	Dynamic Group Inc. - Ramsey	13911 Unity St NW	Ramsey
MND985729847	E & L Machine	5944 168th Ln NW	Ramsey
MNS000168625	Eddy's Auto & Body Repair Inc.	6845 Highway 10 NW	Ramsey
MNR000076554	Egan Oil Co	500 Bunker Lake Blvd NW	Ramsey
MNR000013532	Erin Contracting	8050 147th Ave NW	Ramsey
MNR000119669	E-Z Auto Sales Inc.	7751 Highway 10 Ste 6	Ramsey
MNR000115501	Falcon Machine Inc.	7101 143rd Ave NW Ste N	Ramsey
MNR000060186	Ferrellgas - Anoka	7255 Highway 10 NW	Ramsey
MNR000100057	First Cut Products Inc.	6250 Bunker Lake Blvd NW Ste 104	Ramsey
MNNONGEN1170	Flavor Midwest Inc.	9459 Highway 10 NW	Ramsey
MN0000275925	Food N Fuel C15	13939 Saint Francis Blvd	Ramsey
MN0000196147	Galindo Electric	15645 Traprock St NW	Ramsey
MN0000083741	GEC Auto Service ink - Ramsey	7129 Highway 10 NW Site C	Ramsey
MND985722420	Gerdes Racing	7321 152nd St	Ramsey

Activity ID	Activity Name	Address	
MNS000177170	Gibbs Lawn	6300 Bunker Lake Blvd NW	Ramsey
MNR000080655	Gibbs Lawn - Radium Street	13915 Radium St NW Ste D	Ramsey
MNRNE39NX	Graphel Carbon Products ISW	6251 McKinley St NW	Ramsey
MNR000015867	H Ten Sports	8110 Highway 10 NW	Ramsey
VP26700	Harber Industries	6690 Sunwood Dr NW	Ramsey
MND985749530	Harold's Our Own Hardware	6000 167 Ave NW	Ramsey
MNRNE39BB	Health Care Marketing Inc. dba Perry Products ISW	6023 167th Ave NW	Ramsey
MNS000147306	Heartland Tire	7151 Riverdale Dr	Ramsey
MND982642894	Heichel Brian	6933 164th Ln NW	Ramsey
MN0000036061	Hi Tech Collision Frame	7445 Highway 10 NW Ste 2	Ramsey
3700	Hills Property	7443 Highway 10	Ramsey
MNR000066407	Hitech Motorsport Inc. - Ramsey	13915 Radium St NW Ste C	Ramsey
3473	Hi-Ten Sports Center	8110 Highway 10 NW	Ramsey
MNS000117358	Home Dame Brothers Painting	15621 Barium St NW	Ramsey
MNR000117317	Import Auto Sales Inc.	7443 Highway 10	Ramsey
MNR000115113	Intech Industries Inc.	7180 Sunwood Dr NW	Ramsey
MNR000051607	Integrity Tool & Engineering	6221 McKinley St NW	Ramsey
MNR000022061	Intercity Oil	6021 Highway 10 NW	Ramsey
MNR000076778	ISD 11 Ramsey Elementary	15000 Nowthen Blvd NW	Ramsey
MND985704634	Jac Auto Repair & Sales	6336 Highway 10 NW	Ramsey
MND985764141	Jacks Auto Repair	14290 Sunfish Lake Blvd NW	Ramsey
MNS000130245	JDI Signs & Graphics	6451 McKinley St NW Ste P	Ramsey

Activity ID	Activity Name	Address	
MNR000112235	JR Data Solutions Inc.	6250 Bunker Lake Blvd NW Ste 204	Ramsey
MN0000367144	Julian M Johnson Construction Corp	6191 140th Ave NW	Ramsey
MNR000078725	Just Precision Inc.	6250 Bunker Lake Blvd Ste 213	Ramsey
MND071773733	Kens Automotive	15415 St Francis Blvd	Ramsey
MNR000111534	Kit Masters Inc.	6250 Industry Ave NW Ste 211	Ramsey
MNS000214106	Kovar Sales	14047 Azurite St NW	Ramsey
MND985721208	Ksiazek Charles	15710 Juniper Ridge Dr NW	Ramsey
MND981535230	Lamey Dave	15940 Sodium St NW	Ramsey
MND981802390	Lano Equipment Inc.	6140 Highway 10 NW	Ramsey
MNR0534DB	Life Fitness Div of Brunswick Corp - SW	14150 Sunfish Lake Blvd NW	Ramsey
MN0000190736	Links At Northfork	9400 153rd Ave NW	Ramsey
A00002353	Listul Industries Inc. - SW	13900 Sunfish Lake Blvd NW	Ramsey
MNR000007898	Mach 5 Auto Service	7129 Highway 10 NW	Ramsey
MND985714658	Marshall Concrete Products Inc. - Ramsey	14141 Unity St NW	Ramsey
MNR000058859	Mat Inc.	6230 McKinley St NW Ste E	Ramsey
MND057087678	Mate Punch & Die Co	6400 Industry Ave	Ramsey
MND022705834	McKay's Auto Sales	6415 Highway 10 NW	Ramsey
MNS000191544	Metro Dentalcare - Ramsey	7600 Sunwood Dr NW	Ramsey
MNR000078980	Midwest Car Care - Ramsey	6745 Highway 10 NW	Ramsey
MNR000027802	Midwest Overhead Crane Corp	13900 Sunfish Lake Blvd NW	Ramsey
MN0000625962	Minnesota Sawdust & Shavings Co Inc.	14100 Jasper St NW	Ramsey

Activity ID	Activity Name	Address	
MNR000069252	Minnesota Tool & Die Works Inc.	6220 McKinley St NW	Ramsey
VP22410	Minnesota Waterjet	See location description	Ramsey
MNS000111344	Mississippi West Regional Park	13935 Traprock St NW	Ramsey
VP21480	MNDOT TH 10 & CTY RD 56	Ramsey Blvd & Hwy 10	Ramsey
MND982605495	MPCA Ramsey Municipal Center	15153 Nowthen Blvd NW	Ramsey
MNS000172833	Multisource Manufacturing LLC Ramsey	6690 Sunwood Dr NW	Ramsey
MND982613234	Noard Machine Tool Inc. - Anoka	6760 Highway 10 NW	Ramsey
MND008797938	Noons RV Center	7405 Highway 10 NW	Ramsey
MNR000069179	North Country Concrete	7040 143rd Ave NW	Ramsey
MN0069396	Northern Lights 2009-2010 Zone EF	Address Unknown	Ramsey
MNS000174284	Northwest Metro VA Clinic	7545 Civic Center Dr NW	Ramsey
MNU000661	Oak Terrace Mobile Home Park	6545 Highway 10 NW	Ramsey
MNR000016972	Oil Change Anywhere Inc.	14620 Fluorine St NW	Ramsey
MNS000138859	Oldcastle Precast Inc.	6820 143rd Ave NW	Ramsey
MNS000179796	Optimum Appliance & Recycling Center LLC	9539 Highway 10 W	Ramsey
MN0000998948	Outside Services Inc.	14140 Azurite St	Ramsey
MNS000107490	PACT Charter School - Ramsey	7250 Ramsey Pkwy E	Ramsey
MNR000119677	Park RV	9919 Highway 10 W	Ramsey
MND982212532	Pearsons Trucking Inc.	14050 Azurite Blvd	Ramsey
4542	Peck Construction	13900 Sunfish Lake Blvd NW	Ramsey
MNR000026880	Pine Ridge Pet Care - Ramsey	7245 Highway 10 NW	Ramsey

Activity ID	Activity Name	Address	
MNR000080648	Plateworks Inc. - Ramsey	6230 McKinley St NW Ste B	Ramsey
MNS000162735	Pleasureland RV Center	7900 Riverdale Dr	Ramsey
MN0068691	Prairie Meadows/Kelly Acres	Armstrong Blvd NW & Tiger St NW	Ramsey
MNR000023374	Pro Power Sports & Marine Inc.	6781 Highway 10 NW	Ramsey
MND985717925	Production Products Inc.	14161 Basalt St NW	Ramsey
VP15161	QDP and JBT Alliance Site (see Waste Management Site)	See location description	Ramsey
MNS000100776	Quail Manufacturing Co Inc.	6250 Bunker Lake Blvd NW Ste 222	Ramsey
MNS000147835	Qwest - Ramsey Garage	6651 141st Ave NW Ste 2	Ramsey
MNS000147546	Rain for Rent	9550 156th Ave NW	Ramsey
MNS000113290	Ramsey Brake & Exhaust Inc.	5143 179th Ln NW	Ramsey
MNR000013086	Ramsey city of Public Works	14100 Jasper St NW	Ramsey
MND985703941	Ramsey Dental Center	15243 Nowthen Blvd NW	Ramsey
MNS000177782	Ramsey Police Department	7550 Sunwood Dr NW	Ramsey
MND985677723	Ramsey Public Works Shop	St Francis Blvd & 142nd Ave	Ramsey
VP26860	Ramsey School Site	See location description	Ramsey
VP22580	Ramsey Vacant Land Parcel	See location description	Ramsey
MND985764968	Renolette Trucking	6100 Industry Ave Ste 201	Ramsey
MNS000210823	Residence - 9131 178th Ave	9131 178th Ave NW	Ramsey
4573	Rivenwick Village North	6897 139th Ln NW	Ramsey
3591	Rivenwick Village Outlot B	Riverdale Dr & Highway 10	Ramsey
MNS000123760	RJM General Paper Products Inc.	6650 143rd Ave NW	Ramsey
MND982219297	Rockford Autobody	14000 Basalt St NW	Ramsey
VP19380	Rotary Systems	Azurite St NW	Ramsey
MND985700012	Royal Concrete Pipe Ramsey	6640 Industry Ave	Ramsey

Activity ID	Activity Name	Address	
MND138781364	Rum River Hills Golf Club Inc.	16600 Saint Francis Blvd	Ramsey
MNR000109751	Sauter & Sons Inc.	6651 141st Ave NW Ste 2	Ramsey
MND099055691	Sauter & Sons Inc. - Azurite St	14050 Azurite St NW	Ramsey
VP19550	Senior Housing Parcel	County Road 116	Ramsey
MNR000059618	Shorewood RV Center	8390 Highway 10 NW	Ramsey
MNR000103952	Signature USA Inc.	8781 162nd Ln	Ramsey
MNR000078733	Simhof Manufacturing Tech	6250 Industry Ave Ste 112	Ramsey
A00022596	Solo Manufacturing Inc. - ISW	6230 McKinley St NW Ste C	Ramsey
MN0000341545	Sorby Jan	16301 Azurite St NW	Ramsey
MNR000080069	Specialized Coatings Inc.	6250 Bunker Lake Blvd NW Ste 214	Ramsey
MN0001025162	Spider Staging Corp	6250 Industry Ave Ste 108	Ramsey
VP19590	St. Anthony Gun Club	16128 Variolite St NW	Ramsey
VP18800	St. Paul Terminals - Ramsey	14050 Basalt St NW	Ramsey
MNR000055376	Star Auto Sales Inc.	7009 Highway 10 NW	Ramsey
MNR000023036	State Of Minnesota Weigh Scale	9225 Highway 10 NW	Ramsey
VP16770	Sunfish Business	See location description	Ramsey
MNR000017889	SuperAmerica 4508	14000 Saint Francis Blvd	Ramsey
MNR000004333	Superior Striping Inc.	14021 Basalt St NW	Ramsey
MNR000056010	Tech One Motorsports Inc.	6250 Industry Ave Ste 106	Ramsey
4270	The Lighthouse Bar And Grill	6937 Highway 10	Ramsey
MND985749522	Tim’s RV Service	14050 Azurite St NW	Ramsey
MND922222135	Trade A Bus	Sunfish Blvd	Ramsey
MNR000056887	Utili Trax Contracting Partnership	6300 Industry Ave	Ramsey

Activity ID	Activity Name	Address	
MND982619983	Vance Brothers Inc.	14021 Azurite St NW	Ramsey
SA7043	Ve-Ve, Inc. Caustic Soaps	See location description	Ramsey
MN0065501	Vision-Ease LP dba Vision-Ease Lens	7000 Sunwood Dr NW	Ramsey
MNR000109900	V-Tech Motorsports Inc.	14000 Sunfish Lake Blvd Ste I	Ramsey
MNR000100792	Walser Outlet Center	7955 Riverdale Dr NW	Ramsey
VP5021	Waltek Inc. II	14310 Sunfish Lake Blvd	Ramsey
VP15160	Waste Management Site	Sunfish Lake Boulevard	Ramsey
MN0000234179	Welsh Engine Sales	6150 Highway 10 NW	Ramsey
MND985677970	Welsh Engine Sales	15443 Ramsey Blvd NW	Ramsey
VP31280	Wendell's Inc.., Ramsey	6601 Bunker Lake Blvd NW	Ramsey
MN0000010769	Westside Auto Body	6140 1/2 NW Highway 10	Ramsey
VP20930	Wildlife Research Center	Azurite St	Ramsey
PW6124274140	Wuorio Truck Sales	9619 Highway 10 W	Ramsey
MNRNE35LF	Zero Zone Refrigeration - ISW	6151 140th Ave NW	Ramsey

D. **Design Requirements**

The Ramsey SWMP has a dual purpose: 1) It will serve as a guide for the construction of storm drainage facilities, and 2) It will provide a basis for a consistent approach to the preservation of lakes, wetlands, streams, and the Mississippi and Rum Rivers. The following issues have been incorporated into this plan:

1. Division of the City into major watersheds based on contour maps, grading plans and natural topography
2. Determination of storm water runoff problems under current land use conditions
3. General layout and sizing of trunk storm sewers and open channels
4. Tributary areas, storage volumes, and high water levels of all existing ponding areas
5. Recommendations to accommodate the ultimate land use conditions
6. Recommendations for the revision of the current development ordinances
7. Recommendations for standard Operations and Maintenance procedures
8. Recommendations for specific construction site erosion control practices
9. Estimated construction and implementation costs of the SWMP
10. Recommendations for education of City residents, staff, and development community.

The primary function of an urban storm drainage system is to minimize economic loss and inconvenience due to periodic flooding of streets and other low-lying areas. Adequately designed storm drainage facilities provide flood control, minimize hazards and inconvenience associated with flooding, and protect or enhance water quality. The SWMP takes the entire drainage basin with future saturation development into consideration.

Design of stormwater facilities shall be governed by Appendix E of the LRRWMO Third Generation Plan and City Code. These standards are summarized below:

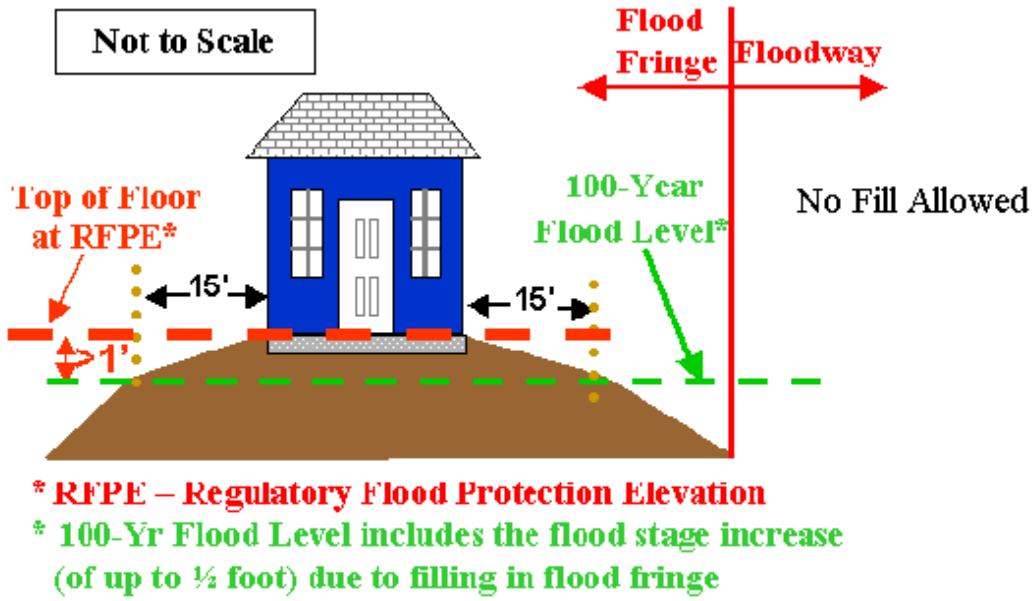
- Volume control – infiltration of the first 1 inch of runoff from all impervious surfaces on site.
- Peak Flow Rate Control – Post Development peak runoff rates shall not exceed existing rates for the 2, 10 and 100 year storm peak discharges.
- Water Quality – Storage areas shall be designed to NURP standards and provide annual removal efficiencies of 60% total phosphorus and 90% total suspended solids.
- Precipitation Data Sources – rainfall amounts for hydrologic analyses shall be based on NOAA Atlas 14.
- Storage Design – ponding areas shall be designed to retain the 100-year event. Ponding areas without a discharge shall be designed to retain runoff from the 100-year/10-day runoff or 100-year/10-day snowmelt, whichever is more restrictive.

Wet water quality ponds upstream of dry regional infiltration basins (where possible) will help control the rate and the volume of storm water runoff. To provide flood protection for adjacent property, the design storm interval for ponding areas is a 100-year storm as compared to a 10-year storm for design of storm sewer piping. Any new residential, commercial, industrial and other habitable structures shall be constructed with the following low floor elevation: The low floor elevation of all development, including basements, must be at least 3 feet above the highest anticipated ground water table, 2 feet above the designated or designed 100-year flood elevation, or 1 foot above the emergency overflow, whichever is higher. The area of a pond's HWL plus 1 foot of freeboard shall be contained entirely within an outlot that is owned and maintained by the City or within a drainage and utility easement.

In areas adjacent to designated flood plains as mapped on a Flood Insurance Rate Map, the Regulatory Flood Protection Elevation (RFE) applies. The RFE is defined as the mapped 100-year flood elevation plus 1 foot. However, the LRRWMO requires that the low floor elevation of structures be 2 feet above the calculated flood elevation. Therefore, all structures, including accessory structures, must be elevated on fill so that the lowest floor including basement floor is 1ft above the Regulatory Flood Protection Elevation or 2 foot above the mapped 100-year flood elevation. The finished fill elevation for structures shall be no lower than the Regulatory Flood Protection Elevation and the fill shall extend at such elevation at least fifteen (15) feet beyond the outside limits of the structure erected thereon. The following drawing better defines the Regulatory Flood elevations.[6]

[6] Taken from the Minnesota DNR website: http://www.dnr.state.mn.us/waters/watermgmt_section/floodplain/rfpe.html

The following exhibit applies <u>only when fill is required</u> to bring a structure at least two (2) feet above the 100-year flood level.



Minimum Standards for Structures in 100-year floodplain

The numerous natural depressions found throughout Ramsey have been incorporated into the SWMP as ponding areas. The effective use of ponding areas enables the installation of outflow sewers with reduced capacities since the design storm duration is effectively increased over the total time required to fill and empty the ponding reservoirs. Storm sewers represent a sizable investment for the community and this investment can be more efficiently utilized by ponding storm water in designated ponding areas and allowing smaller diameter pipes to be used as outfall lines.

Equally as important as flood control and cost considerations, is the use of ponding areas to:

1. Improve water quality;
2. Return storm water to the groundwater table;
3. Increase water amenities in developments for aesthetic, recreational and wildlife purposes.

For water quality ponds, the storage below the outlet is the most important consideration. The area and depth of the ponds may differ from the values presented here, storage below the outlet must be provided so that the prescribed pollutant loading of the system is not exceeded.

From time to time, local developers proposed enhancing required storm water ponds to also serve as an amenity for new development. Most frequently, this entails allowing the storm water pond to consistently maintain a certain level water. Amenity aspects are maximized by careful planning in the initial development of any residential or industrial

area and by integrating the ponding system into an overall comprehensive SWMP. However, care should be given to make the developer responsible for the design water level to serve as the amenity above and beyond the base storm water requirements. If development plans show a permanent water level, it is strongly advised that the City include a provision in its development agreements making the developer and ultimately the subdivision or development area responsible for maintaining the water level. The City's review should include wording that specifically addresses water quality and hydraulics and not the permanent water level. The Anoka Sand Plain is known for its high infiltration capacity as well as its fluctuating water levels. The City of Ramsey should not be involved in maintaining or engineering water level maintenance.

The wildlife aspects of the ponding areas shall be maximized in design and the proper location of the trail system will allow good access to these areas for wildlife observation.

It is extremely important that each area be re-evaluated at the time of final design to confirm the criteria used in this study and to make any changes that a proposed development may dictate. Special consideration must be given to areas that develop differently than shown in the Comprehensive SWMP, especially when a higher runoff coefficient (higher impervious surface ratio) is likely to result from development.

All storm sewer facilities, especially those conveying large quantities of water at high velocities, shall be designed with efficient hydraulic characteristics. Special attention shall be given during final design to those lines that have extreme slopes and create high hydraulic heads.

The Best Management Practices (BMPs) recommended by the MPCA shall be followed wherever necessary or plausible. Before the City would enforce any of these BMPs, they first need to be adopted by ordinance on a case by case basis. This paragraph is not intended to be a blanket adoption of BMPs.

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Rain gardens and infiltration basins are a viable alternative to storage ponds. These structures are encouraged by many review agencies as a way to mimic the original runoff conditions from a site. By incorporating infiltration, the basin provides volume and water quality management. A water quality basin does not need to have standing water, just a permanent "dead-pool" volume to meet the MPCA water quality requirements. The rain gardens and infiltration basins will assist in meeting MPCA regulations. However, rain gardens and infiltration basins are not recommended in a wellhead protection zone. Figure Nos. 3 and 4 show areas where rain gardens and infiltration may not be the best runoff management solution. City Policy adopted in conjunction with infiltration requirements of the LRRWMO Third Generation Plan permits infiltration in areas within the Drinking Water Supply Management Area (DWSMA), so long as it is not also within the 10-year capture zone.

The process outlined in the LRRWMO Third Generation Plan shall be followed when a development is proposed inside the 10-year capture zone and infiltration is not permitted on site.

The LRRWMO Third Generation Plan includes specific Wetland Protections that are stated below (refer to Appendix G of the LRRWMO plan for details):

- Temporary Wetland Protections During Construction – Areas within 16.5 feet of a wetland boundary must be protected from land grading and other disturbance during the construction process. The area shall be demarcated with properly installed heavy duty silt fence.
- Native Plant Seeding in Common Spaces at the Conclusion of Construction – Within common spaces, areas adjacent to wetlands that are disturbed through the construction process and ponding areas (stormwater management areas) should be seeded with a BWSR native seed mix that matches site conditions.
- Wetland Protections after Construction – Following construction, site stabilization, and vegetation establishment certain activities shall be prohibited within 16.5 feet of the wetland edge. Activities prohibited include:
    - Structures, excluding fences. Fences are not allowed inside the wetland boundary.
    - Paving, except projects with a public purpose such as public trails.
    - Retaining walls.
    - Filling, dumping or yard waste disposal.
    - Fertilization
    - Septic Systems.
- Relationship to Drainage and Utility Easement - Drainage and utility easements must encompass the area within 16.5 feet from the wetland edge.

The process outlined in the LRRWMO Third Generation Plan shall be followed when a development is proposed adjacent to wetlands.

E. Storm Water Modeling

1. Runoff

Storm water runoff is defined as that portion of precipitation, which flows over the ground surface during, and for a short time after, a storm. The quantity of runoff is dependent on the intensity of the storm, the length of storm, the amount of rainfall, the type of ground cover, and the slope of the ground surface.

The intensity of a storm is described by the amount of rainfall that occurs during a specific time interval. A specific rainfall amount occurring during a given time interval will statistically recur, on the average, at a certain frequency (usually measured in years). This is called a return frequency. A return frequency designates the average time span during which a single storm of a specific magnitude is likely to occur. For example, a 100-year rainfall event in Ramsey is that 24-hour rainfall amount (7.1 inches) that recurs, on the average, once in 100 years.

The degree of protection afforded by storm sewer facilities is determined by selecting a return frequency to be used for design based on good economic sense and current engineering practices. See section E.3 for further discussion.

2. Hydrographs

Storm sewer and associated detention basin design is typically based on hydrograph analysis. A hydrograph is graphical depiction of the time versus rate of runoff for a particular area. For example, if a rainstorm started at midnight, the first few minutes is spent with sprinkles and wetting the various surfaces. As the storm intensifies, the rainfall overwhelms the ability of the pavement and adjacent ground to absorb it, and water begins to runoff. At the peak of the storm, the water runs off at its greatest rate. Finally, as the storm passes, the runoff begins to slowly taper off. Figure 28 is an example of a typical runoff hydrograph.

The U.S. Soil Conservation Service (SCS) has performed extensive research in hydrograph analysis and developed a standard hydrograph. Technical Release No. 20 (SCS TR 20) describes a methodology that is generally accepted by the reviewing authorities and hydrologic engineers across the United States. The SCS procedure is based on a standard rainfall hydrograph that is modified by local parameters (i.e., rainfall, soil type, watershed size, watershed shape, the fall across the watershed, etc.). Based on local conditions, the SCS hydrograph was used for development of the Ramsey storm water models in this plan.

A SCS 24-hour Type II storm distribution with 100-year intensity was used for the design of ponds and drainage systems. The Soil Conservation Service has determined from National Weather Bureau data that a Type II distribution is the storm event recommended for the upper-Midwestern United States.

The SCS hydrograph method is based on sound hydrologic theory and is commonly used to analyze runoff for the design and analysis of flows and water levels. The detailed modeling computations for this plan have been performed using the SSA Modeling Software as developed by Boss International, Inc.

3. Rainfall Probability

Rainfall amounts for hydrologic analyses should be based on:

NOAA Atlas 14: Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffrey Bonnin (2013). NOAA Atlas 14, Volume 8, Version 2, *Precipitation-Frequency Atlas of the United States, Midwestern States*. NOAA, National Weather Service, Silver Spring, MD.

More recent updates of these documents shall be used, if available.

The SCS National Engineering Handbook snowmelt data shows the 100-year, 10-day snowmelt event is 7.3 inches over 10 days.

4. Pond and Pipe Design Criteria

To provide reasonable protection of downstream facilities, analysis of flood levels, storage volumes and flow rates for water bodies and detention basins shall be based on the range of rainfall and snow melt durations producing the critical flood levels and discharges. This report recommends a 10-year frequency design for storm sewer pipe using the Rational Method[7]. It is further recommended that

[7] The Rational Method is markedly different than the SCS methodology in that it does not deal with runoff volumes, only flow rates. An explanation of the Rational Method is made later in this report.

pond design be based on the greater of the 100-year, 24-hour frequency SCS rainfall event, or the 100-year, 10-day snowmelt event for overland drainage and pond storage design. In comparing the peak pond elevations for each of these events, the 100-year SCS rainfall event, with the assumption that the infiltration rate was negligible, created the highest peak pond elevations. Hence, throughout the remainder of this report, the peak 100-year pond rates are discussed for typical pond High Water Levels (HWL). These design criteria were selected for the analysis and design of the drainage system for this SWMP. In addition, a 10-inch, 24-hour rain event has also been modeled over the entire city to analyze all ponds, overflow drainage ways and natural channels to evaluate whether the emergency over flows (EOFs) function as intended.

All detention facilities must be designed to limit discharge from to the existing rates for the 2, 10 and 100 year storm peak discharges.

Storm water detention facilities with peak discharge rates less than 2 cfs/40 acres are typically susceptible to high water levels during snowmelt conditions. Special consideration of the snowmelt condition becomes critical for areas, like the Anoka Sand Plain where infiltration dampens the effect of runoff from rainfall. These areas can accept high amounts of rainfall during the warm, summer months, but often remain frozen later in the season and are relatively impervious in the spring during the snowmelt. Hence, snowmelt runoff can be a greater flood hazard than a large summer rainfall due to the impermeable nature of frozen soil. Accordingly, final basin design must consider snowmelt conditions when sizing storage and outlet structures.

When rainfalls exceed the recommended 10-year storm sewer infrastructure design, the excess runoff will be accommodated by ponding in low spots in streets for short periods of time and outflow through overland drainage routes and/or EOFs. With proper planning, this short-term flooding and overland drainage should minimize damage to property that would occur if those facilities were not provided. Drainage routes and EOF locations should be protected and preserved either by ordinance or through recorded permanent easements. Where possible, storm water pond designs shall include an emergency overflow to provide an outlet one-foot below the lowest floor elevation of any adjacent structure for added safety.

The Rational Method is a flow rate design method that ignores volumes and assumes a peak flow to each pipe based on hydrologic parameters such as watershed area, time of concentration, and standard rainfall intensity curves. This design method requires the selection and/or computation of a time of concentration and a runoff coefficient. The time of concentration is the time required for the runoff from a storm to become established and for the flow from the most remote point (in time, not distance) of the drainage area to reach the design point. The time of concentration will vary with the slope and type of surface that the rain falls on. Rational Method design including design methodology and hydrologic references should be based on the Minnesota Department of Transportation Drainage Manual.

A minimum concentration time of fifteen minutes for residential areas and ten minutes for commercial/industrial areas shall be used for design of the trunk storm sewer systems. These minimum times shall be considered in the design of

lateral systems. As the storm water runoff enters the system, the flow time in the storm sewer is then added to the concentration time and compared to the downstream drainage area concentration time. The maximum of these values is used downstream, which results in a longer concentration time and peak runoff rate as the flow moves downstream from the initial design point.

5. Land Use Factors in Modeling (Runoff Coefficients)

The percentage of rainfall falling on an area that must be collected by a hydraulic facility is dependent on watershed variables such as soil permeability, ground slope, vegetation, surface depressions, type of development and antecedent rainfall. These factors are taken into consideration when selecting a runoff coefficient (C) for the Rational Method or a runoff curve number (CN) for use in SCS methodology.

Under ultimate (fully developed) conditions, the values of the coefficient will increase with increases in the amount of impervious surfaces caused by street surfacing, building construction, and grading.

The antecedent moisture condition (AMC) relates to the moisture content of the soil prior to a given storm event. Curve numbers based on land use can be adjusted based on an assumed moisture condition. For purposes of the model, normal antecedent moisture condition (AMC II) was assumed. Curve number values can be adjusted for dry conditions (AMC I) or wet conditions (AMC III).

Curve numbers are also dependent on the type of soil in a given drainage area. Soil types are classified into four basic hydrologic groups as follows:

Group A - Includes well-graded gravels, sandy gravels, gap-graded or uniform gravels, sandy gravels, silty gravels, silty sandy gravels, well-graded gravely sands, gap-graded or uniform sands, gravelly sands.

Group B - Includes silty sands, silty gravelly sands, micaceous silts, diatomaceous silts, volcanic ash.

Group C - Includes silts, very fine sands, silty or clayey fine sands.

Group D - Includes clayey gravels, clayey sandy gravels, clayey sands, clayey gravelly sands, low plasticity clays, sandy or silty clays, organic silts and clays of low plasticity, highly plastic clays and silty sands, organic silts and clays of high plasticity.

Curve numbers that were assumed in the development of the model were based on the hydrologic soil group for each watershed based on the information contained in the County Soil Survey. Development plans shall consider post-development site soil conditions when choosing runoff curve numbers for final design.

Curve numbers (CN) are given in SCS TR-55. Average CN values for each land use type are used in the design of the storm drainage facilities in undeveloped areas. For the modeling of existing facilities, CN values were determined for each type of development and current zoned land use in each subwatershed. In general, the unpaved, non-wetland areas were modeled with curve numbers that

most closely represent the Anoka Sand Plain. The curve numbers were then adjusted to reflect the percentage of impervious surfacing.

It should be noted that if land use changes to more or less impervious surfacing than the model, it will affect the model and updates may be needed.

V. GOALS AND POLICIES

Problem Statement

The increase in developed areas within the community, with its associated runoff and sediment-related pollutants will have an impact on wetlands and other water resources including the Rum River and Mississippi River.

Mission Statement

The City of Ramsey, in cooperation with the LRRWMO, Anoka County, state and federal agencies, will prepare a watershed plan which will accommodate anticipated community development and redevelopment while providing clear direction to the developers for controlling the quality and quantity of storm water runoff and properly managing surface and groundwater resources and the physical habitat of existing wetlands, lakes and the Mississippi and Rum Rivers in a consistent fashion. The City is committed to a goal of no adverse impact to, and nondegredation of, its water resources.

Goals

This plan identifies several specific goals to control the City's water resources planning and management functions. The goals of this plan were established in accordance with the purposes of the water management programs required by Sections 103B.201 to 103B.251.

Policies

Each goal has several corresponding policies. A policy is a governing principle that provides the means for achieving established goals.

Standards

Standards are an extension of the policies. They provide specific, detailed guidance regarding water management practices. Plan standards are included in the Implementation Program (Section VIII) of this document.

A. Water Quantity

The following runoff quantity goals and policies are considered part of this plan.

Goal 1: Control flooding and minimize public capital expenditures.

- Policy 1.1: Natural storm water storage areas and manmade detention areas should be utilized to control flooding.
- Policy 1.2: The storage capacity of the natural drainage system will be utilized to control rates of runoff. The City will jointly define and adhere to flow rates at municipal boundaries as established in this plan.
- Policy 1.3: The City will pursue regional detention wherever targeted land acquisition opportunities arise.
- Policy 1.4: All hydrologic studies will be based on standard hydrologic criteria and ultimate or anticipated development of the entire tributary drainage area.

Policy 1.5: Major storm water facilities (i.e., ponds, pond outlet systems, and major conveyance systems) will be designed using a return period of 100 years.

Policy 1.6: The peak outflow from all new developments shall be limited to the existing peak outflow for the 2-, 10- and 100-year SCS 24-hour rainfall events.

Policy 1.7: All minor drainage system analyses and design (i.e., piped collection systems and minor conveyance systems) will be based on a return period of 10 years unless otherwise specified. The minor drainage system pipe will be sized using the full gravity flow capacity of the pipe. Pressure flow based on surcharging the upstream manhole or structure to near the street will not be allowed.

Policy 1.8: Where plausible, detention facility design will include a paved access route or a "Netlon" or approved equal stabilized access route; and dedicated right-of-way, outlot access and/or drainage and utility easement for maintenance of the outlet structure and to the facility in general. Construction and long-term maintenance of these accesses will need to be negotiated on a case-by-case basis.

Policy 1.9: Where plausible, fences will be restricted from crossing drainage and utility easements. The City will consider encroachment of fences; however, the Owner will be responsible for entering into an Encroachment Agreement to allow the City to remove obstructions for necessary maintenance and waives the City of any liability stemming from improvements within the easement.

Policy 1.10: The design of storm water facilities will consider and identify location(s) of overflow(s) that prevent property damage to adjacent properties from extreme water levels.

Policy 1.11: Minimum building elevations should be above designed designated flood levels. The minimum building floor elevation shall be two (2) feet above the 100-year level or 1-foot above the EOF. The 100-year level shall be on the highest 100-year level resulting from a single event analysis; the 100-year, 10-day snowmelt event; a multiple day runoff event analysis, or the critical event analysis. This will likely require that the City begin to require As-Built Certificates of Grading, a practice that is not currently required by the City.

Policy 1.12: Landlocked runoff basins shall be sized to handle back-to-back 100-year Atlas14 24-hour rainfall events, the 10-inch SCS 24-hour rainfall event or the 100-year, 10-day snowmelt snow melt event, whichever produces the higher peak pond elevation (Landlocked HWL). The minimum building floor elevation around landlocked basins shall be two (2) feet above the Landlocked HWL.

Policy 1.13: Emergency overflows or outlets to drainage systems will be provided to any landlocked area if the available storm water storage capacity is inadequate to prevent flooding of residences and if the available downstream conveyance system capacity is adequate to accept additional flow.

Policy 1.14: The City will have standard hydrologic design criteria for all storm water systems to assure consistency.

Policy 1.15: The City will perform maintenance measures to assure proper function of the drainage system.

Policy 1.16: The City will adopt ordinances that control peak runoff consistent with standards and recommendations in the Minnesota Stormwater Manual.

Policy 1.17: New or expanded stormwater discharges to the Rum River are not allowed because it is classified as an Outstanding Resource Value Water by the DNR.

B. **Water Quality**

Goal 2: Achieve water quality standards in City lakes, streams, rivers, and wetlands consistent with intended use and classification, which include quantifiable limits on specific pollutants (i.e., phosphorus, turbidity, excess nutrients, etc.). The City's ultimate goal is to meet the standards for the designated use of each water body.

Policy 2.1: The ranking system established by the LRRWMO shall dictate intended use and water quality standards. The City will adopt best management practices for development that will result in an annual removal efficiency of 60% total phosphorus and 90% total suspended solids.

Policy 2.2: Future outlets to DNR protected waters must first pass through a sediment pond/trap prior to discharging into the protected water body.

Policy 2.3: Phosphorus loading to a drainage system or water body will be reduced to the greatest practical extent through the use of Best Management Practices (BMPs).

Policy 2.4: All construction plans developed for the maintenance and/or improvement of water quality will include a detailed access and maintenance plan and shall require approval by the City.

Policy 2.5: A community education program relating to preserving and improving water quality will be developed and implemented.

Policy 2.6: All on-site waste water systems will be the responsibility of the owner.

Policy 2.7: A water quality plan outlining education programs, water quality monitoring needs, water quality modeling requirements, phosphorus budgets for subwatersheds, and any other water

quality issues should be developed and implemented. The City-wide SWPPP and MS4 permit already addresses the education, monitoring, maintenance, good housekeeping, illicit discharges and construction erosion control.

Policy 2.8: The LRRWMO and the City should take an active role in implementing the necessary policies to allow development of regional water quality ponds.

Policy 2.9: The City will perform maintenance measures to minimize pollutant loadings to local water bodies.

Policy 2.10: The City will adopt best management practices for development that will result in TSS and TP reductions of 90% and 60%, respectively.

Policy 2.11: The City will adopt best management practices for redevelopment that will result in TSS and TP reductions consistent with the Minnesota Stormwater Manual.

Policy 2.12: The City will integrate their Stormwater Pollution Prevention Plan into their local water management plan, in accordance with MPCA requirements and schedules.

Policy 2.13: The City will revise its Stormwater Pollution Prevention Plan to include the required nondegredation information and summarize or integrate that information into its local water management plan when the nondegradation rules are finalized and become a mandatory part the Municipally Separate Storm Sewer System (MS4) permit.

Policy 2.14: The MPCA is in the process of preparing a TMDL for Trott Brook for macroinvertebrates, fish, dissolved oxygen and E.coli. The City will work with the MPCA and other agencies to implement the TMDL(s).

C. **Recreation, Fish and Wildlife**

Goal 3: Protect and enhance water recreational facilities, fish and wildlife habitat.

Policy 3.1: Natural areas, wildlife habitat and wetlands to be protected during construction should be clearly marked and/or fenced in the field.

Policy 3.2: Buffer zones of natural vegetation are encouraged in privately-owned areas around existing ponds and wetlands located within current wildlife corridors to provide habitat for wildlife in accordance with the Wetland Management Plan.

Policy 3.3: The water level fluctuation of a wetland or pond shall be maintained consistent with the management function of the water body. Wetlands used for stormwater overflow purposes shall be limited to a maximum bounce of 2-feet between the NWL and HWL.

Policy 3.4: The City has already assessed the functions and values of all wetlands over ¼-acre in size. The City will not be updating this assessment as part of this SWMP update. When a logical time in the furtherance of future development warrants, likely coinciding with a future Comprehensive Plan Update, the City will consider updating this assessment.

Policy 3.5: The City supports programs to control aquatic invasive species.

Policy 3.5: Activities related to recreation, fish and wildlife should be consistent with the Anoka County Regional Park objectives and the City's comprehensive plan.

Policy 3.6 The City supports the establishment of native vegetation around sedimentation ponds and wetlands following disturbance, and when new ponds are created whenever possible.

D. **Public Participation, Information and Education**

Goal 4: Increase public participation and knowledge in management of the water resources of the community.

Policy 4.1: The City must call an annual meeting to discuss its SWPPP as part of its MS4 permit. This opportunity will be used to discuss water resource issues affecting the City. The City will explore avenues to increase notification and publicity of this annual meeting. The City will consider holding a special meeting coinciding with major flooding events.

Policy 4.2: The City will utilize available resources and input from the public to address local water resources issues.

Policy 4.3: Citizen lake water quality monitoring is encouraged and supported by the City.

Policy 4.4: The City supports Anoka County's recreation and educational programs related to the water resources of the community.

Policy 4.5: The City will support natural environment programs in the public schools.

Policy 4.5: The City will provide information regarding water resource management and a summary of the on-going activities of the LRRWMO through the City newsletter or web site.

E. **Public Ditch System**

Goal 5: Maintain the current ditch system to convey water and maintain the current defined maximum flood levels to protect businesses and residences.

Policy 5.1: The City will continue to maintain public ditches to provide protection of private property and structures from flooding, provided that such maintenance is in accordance with the Minnesota Wetlands Conservation Act, Minnesota Statute 103E governing agricultural drainage, is acceptable to the U.S. Army

Corps of Engineers, and does not adversely affect the value of wetlands or water quality.

Policy 5.2: With the exception of County Ditch 66 and County Ditch 43 which have been turned back to the City, Anoka County is recognized as having authority over all public ditches within the watershed in accordance with Minnesota Statute 103E.

F. **Groundwater**

Goal 6: Promote groundwater recharge and prevent contamination of the aquifers.

Policy 6.1: Anoka County is recognized as the lead agency regarding groundwater controls.

Policy 6.2: Recharge areas identified by Anoka County shall be protected from adverse development and from potential contamination.

Policy 6.3: Infiltration of the first 1.0-inches of runoff from new impervious areas will be required. This is subject to proximity to wellhead protection zones as noted earlier in this report whereby infiltration shall not be allowed within the 10-year capture zone.

Policy 6.4: Whenever practical, ponds shall be designed as "wet ponds" with storage volume below the outlet to promote infiltration and/or groundwater recharge.

Policy 6.5: The use of grassed waterways shall be encouraged to maximize infiltration. Proper grades shall be maintained insure positive drainage.

Policy 6.6: Any spring area should be identified in the field, denoted on maps by the City and protected from development within the watershed.

Policy 6.7: The appropriate jurisdiction shall use both regulatory (ordinances, permits, etc.) and non-regulatory (Best Management Practices) tools to protect the land area within designated wellhead protection areas.

G. **Wetlands**

Goal 7: Maintain the amount of wetland acreage and try to increase the wetland values within the watershed.

Policy 7.1: The LRRWMO is the Local Government Unit (LGU) administering the requirements of the Wetland Conservation Act in Ramsey.

Policy 7.2: Use and function of all wetlands greater than ¼-acre in size has been determined as part of the 2008 SWMP plan preparation.

Policy 7.3: Restoration of poor quality wetlands shall be prioritized.

Policy 7.4: The City or Anoka County shall identify areas that can be used for wetland mitigation.

Policy 7.5: Wetland mitigation criteria will be established consistent with the Minnesota Wetland Conservation Act of 1991 and subsequent amendments and associated rules thereto (e.g., Minnesota Rule 8420), state and federal regulations, the LRRWMO and the needs of the City.

Policy 7.6: Alteration of wetlands is discouraged unless for restoration. Alteration may be allowed on an individual basis if the alteration can be properly mitigated in accordance with the Wetland Conservation Act (WCA). Allowable alternatives must comply with WCA sequencing requirements including, in order, avoidance, minimization and mitigation. In general, it will require a full Technical Evaluation Panel meeting and majority approval before any wetland impact is allowed.

Policy 7.7: Wetland banking opportunities will be pursued by the City and/or the LRRWMO in accordance with the Wetland Conservation Act.

Policy 7.8: The use of native vegetation for buffers in undeveloped and previously developed areas is recommended.

Policy 7.9: The LRRWMO wetland buffer requirements will be enforced when properties adjacent to wetlands are developed.

Policy 7.10: The City will implement new buffer requirements as they are adopted by the State.

H. Erosion Control

Goal 8: Prevent soil erosion.

Policy 8.1: The City will protect natural vegetation to the greatest extent possible.

Policy 8.2: Soil erosion shall be prevented through the installation of erosion control practices in accordance with MPCA's Best Management Practices Handbook.

Policy 8.3: Topsoil stockpiled for reuse shall be protected from erosion.

Policy 8.4: It shall be the responsibility of the developer/contractor to keep streets and property adjacent to construction areas free from sediment carried by construction traffic at site entrances and access points, from sediment laden site runoff and blowing dust.

Policy 8.5: The MPCA Storm Water Permit Program for Construction Activities shall be followed.

Policy 8.6: The City has adopted an erosion and sediment control ordinance including provisions that are consistent with NPDES Construction Stormwater permit and its MS4 permit requirements.

I. **Development Standards**

Goal 9: Residential Grading

Policy 9.1: Residential lots shall have a minimum surface slope of 2-percent in all directions. Lesser slopes, between 1-percent and 2-percent may be allowed with a certificate of grading.

Policy 9.2: In acknowledgement of historical consumption data, the City will require water conservation measures for new development such as, but not limited to four inches of topsoil shall be placed in the turf restoration areas of all new residential lots.

Policy 9.3: Where residential lots are newly graded and there is no immediate plan for new housing within the lot, the entire lot shall be covered with 4-inches of topsoil and seeded in accordance with the following schedule:[8]

Type of Slope	Time*
Steeper than 3:1	7 days
10:1 to 3:1	14 days
Flatter than 10:1	21 days

* The maximum time an area can remain open when the area is not actively being worked.

Policy 9.4 Bluff protection ordinances and shoreland protection ordinances shall govern steep sloped areas.

J. **Regulatory Responsibility**

Goal 10: Recognize the regulatory authority of other local, state and federal entities.

Policy 10.1: The City is responsible for establishing and implementing a local permitting program for water resources management. For smaller projects, an administrative Grading Permit shall be sufficient. For larger projects, an Interim Use Permit (IUP) shall be required

[8] Minnesota Pollution Control Agency, National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS), Application for General Storm-water Permit for Construction Activity (MN R100001)

Policy 10.2: Other governmental agencies with watershed management responsibility include:

- The Lower Rum River Watershed Management Organization (LRRWMO)
- Minnesota Department of Natural Resources (DNR)
- United States Army Corps of Engineers (USCOE)
- Minnesota Board of Water and Soil Resources (BWSR)
- Minnesota Pollution Control Agency (MPCA)

Policy 10.3: The WMO and the City will require a permit for certain activities, as described in this plan.

Policy 10.4 The LRRWMO Third Generation Plan requires development of an ownership/ responsibility plan for the Anoka Dam. The Rum River Dam is owned by the City of Anoka, and as such has primary responsibility for the maintenance plan. The City of Ramsey will work with Anoka and Andover to implement the plan adjacent to the corporate boundary.

K. **Finance**

Goal 11: Equitably finance water resources.

Policy 11.1: All developments should, to an extent determined by the City, provide land, funding, or a combination of both for management of local water resources, which includes development of regional facilities and planning studies.

Policy 11.2: The City may establish a fee structure charged to developers for analyzing the impacts of the proposed development.

Policy 11.3: The City has established a fee structure charged to developers for constructing capital improvements (i.e., trunk conveyance systems).

Policy 11.4: The WMO should establish an equitable cost allocation formula for water resource project implementation that affects more than one unit of government.

Policy 11.5: Grants may be sought by the City to fund watershed related projects.

Policy 11.6: The City should investigate the feasibility of alternative funding sources, such as Ad Valorem Taxes, bond sales, and user charges (storm water utility).

Policy 11.7: The City should encourage donations and in-kind contributions of public and private organizations and the school systems for plan implementation.

Policy 11.8: The City shall investigate and evaluate other funding mechanisms that support implementation and enforcement. This

shall include but not be limited to pursuing grants with the LRRWMO, utilizing stormwater utility funds for the local match, for water quality improvement projects.

L. **Records Management and Documentation**

Goal 12: The City shall preserve historic data, records, and files pertaining to the water resources of the LRRWMO.

Policy 12.1: The City should develop a classification to be recorded for each new detention area, including the basis for the classification.

Policy 12.2: Engineering calculations will be required in a standard format.

Policy 12.3: Past studies will be documented and filed by the City.

Policy 12.4: Immediately after extreme rainfall events, high water elevations should be noted and surveyed by the City.

Policy 12.5: The City will develop a history of flooding and water quality problems by noting past events and recording current floods.

Policy 12.6: The City will record changes in water quality, such as increased aquatic vegetation, changing thermal conditions, increased sedimentation, reduced fish numbers, and fish kills.

Policy 12.7: The City will document all items/BMPs provided in the SWPPP and MS4 permit.

VI. ASSESSMENT OF PROBLEMS AND CORRECTIVE ACTIONS

This section assesses the water-related problems in the City, prioritizes the problems and includes actions to adequately solve each identified problem.

The City held a public open house on July 11, 2007 to gather input on water resources-related problems in preparation of the original 2008 plan. A public notice was published in accordance with City policies. Four residents attended the open house. The feedback that was received was primarily associated with the desire to protect the City's natural beauty including wetlands, wildlife habitat and wildlife corridors. The primary concern was that continued and uncontrolled development would adversely impact the current environment. All attendees expressed satisfaction that the SWMP is intended to protect these features.

Throughout the course of completion of the 2008 plan and subsequent flooding events in 2011 and 2014, prior to this 2015 update, City staff compiled a list of nuisance flooding areas either noted by maintenance staff or by resident complaints.

Figure 9 highlights all known nuisance flooding areas.

A. Specific Lakes and Streams with Water Quality Problems

Table 15 in Section IV, page 17 of this report, lists the current (2014) MPCA 303d Impaired Waters in Ramsey. There are also waters downstream of the City of Ramsey, such as Lake Pepin, that are impaired. The process to remedy the impairment includes establishing a Total Maximum Daily Load (TMDL) allocation to each contributor to the problem. A TMDL is a calculation that determines the allowable pollutant load that can be discharged into the impaired water so that the limited load will ensure that the water improves to levels where it is no longer impaired. The typical process is initiated by the MPCA and includes a series of stakeholder meetings to formulate viable solutions and mutually work out a reasonable allocation of acceptable pollutant loading.

Since a TMDL study has not been completed for these waters, the City should identify the priority it places on addressing impaired waters and how the City intends to participate in the development or implementation of TMDL projects. Furthermore, the City should volunteer to participate in the stakeholder process.

Once a TMDL study is completed for the impaired water, the City must include, in this SWMP and its City-wide SWPPP, an implementation strategy including funding mechanisms that will allow the implementation of the TMDL requirements. As MPCA completes its TMDL process for each impaired water, the implementation of the measures to meet the TMDL will immediately become a priority item for the City of Ramsey.

B. Flooding and Storm Water Rate Control Issues

Figure 9 is a map of all flooding areas either noted by staff or associated with a resident complaint compiled between 1985 and 2014.

The lake levels in Lake Itasca are historically variable, and have ranged from elevation 863.24 to elevation 871.9 with an average water level of 867.7. The DNR protects the lake to its Ordinary High Water Level of 871.4. To protect the properties around the lake, an emergency overflow should be established above the DNR protected level of 871.4. The overflow may be in the form of a pipe to the south or southeast, or it may be a new outfall to the Mississippi River.

The storm water modeling performed for the area shows few opportunities for property damage associated with rainfall. Ponding areas having a potential for property damage are shown in red on Figures 10 through 23. The relatively low percentage of potential property damage is presumed to be attributed to the high permeability of the Anoka Sand Plain and proper storm sewer system design.

Because of the pervious nature of the Anoka Sand Plain, the City should be cognizant of the impact that a significant increase in impervious surfacing and mass grading can have on runoff conditions. The addition of significant amounts of impervious surfaces and the reduced permeability associated with the soil compaction in mass grading without a reasonable attempt to restore and duplicate the current infiltration pattern could create significant increases in runoff volumes and downstream flooding.

The City will review and modify its current development ordinances to encourage infiltration and require soil ripping of mass grading to compensate for lost infiltration conditions as well as requiring extended retention ponding to mitigate and compensate for increases in runoff. Innovative solutions to the storm water runoff volume increases associated with the increase in impervious surface will be investigated. Potential solutions include pervious pavements, rain gardens and infiltration basins among others.

Comprehensive storm water runoff modeling of the existing conditions throughout the entire City was completed as part of the 2008 plan. The modeling was updated in 2015 to reflect new development and incorporate the Atlas 14 runoff rates. This modeling will provide a baseline for comparison purposes as new developments change the drainage pattern. With this modeling information, City staff can readily review the cumulative impacts of large developments for effects on baseline conditions across the entire city.

SSA software was used in the comprehensive modeling. This software is based on the industry accepted EPA SWMM process and St. Vennant equations. The model can be used to input actual rainfall events from rain gauges and can model the transport of pollutants through the system. This will be very useful in evaluating the BMP measures to address future TMDLs.

The 2008 plan addressed several previous flooding complaints the City had received over a number of years, beginning in 1980. It was determined in 2008 that several of these concerns were solved by later construction of storm sewer systems as the City developed. The areas that were not solved are shown on the flooding area map.

The City experienced high water levels in 2011 and 2014 caused by high snowfall over the winter and heavy spring rains. Staff logged the complaints received in each year. The lists were presented to the Public Works Committee for review.

The 2011 complaints sorted into three (3) categories, clean existing drainage ways and structures, water ponding outside of existing easements, and water ponding in existing easements. Where water was ponding in existing easements the action was homeowner education on the purpose of drainage and utility easements. The action where existing drainage was and structures needed cleaning was to add the work to the Public Works action list. The action where water was ponding outside of existing easements was a combination of performing a detailed study of each area using Consultant Pool and Staff resources. Cost estimates were generated from the studies and presented to the City Council. Several projects were selected for construction, the remainder were deemed infeasible at that time.

The 2014 complaints were also studied. Staff determined that the majority of these complaints would require additional study, these areas could not be drained without causing high water problems on downstream properties. The City wide storm water model is being used in the review of possible solutions to these problems. The Public Works Committee of the City Council has discussed stormwater ponding concerns several times in 2014 and 2015. Staff is preparing a feasibility study on potential solutions to be brought back to City Council for review.

C. **Impacts of Water Quality and Quantity Management Practices on Recreation Opportunities**

The current City ordinances together with the LRRWMO, County, regional, state and federal rules and laws are designed to protect the existing land and water resources within the City of Ramsey. The City believes that it can allow continued development while maintaining or improving its resources including water quality and recreation opportunities. With the implementation of this plan and the recommended policy and ordinance changes, the developers will be responsible for protecting water quality, mitigating the runoff quantity and ensuring that there will continue to be recreation opportunities in Ramsey. In addition, the City's Storm Water Pollution Prevention Plan is designed to educate the public to better protect the city's water resources, to implement temporary and permanent erosion and sediment controls for new developments, to ensure good housekeeping of the City's municipal operations, and to detect and eliminate illicit discharges.

D. **Impacts of Stormwater Discharges on Water Quality and Fish and Wildlife Resources**

As stated in C above, the current and proposed ordinances and the City's SWPPP are designed to protect the existing land and water resources within the City of Ramsey. This includes measures that are designed to maintain or improve the habitat of the fish and wildlife throughout the area.

E. **Impacts of Soil Erosion on Water Quality and Quantity**

As part of the City-wide SWPPP and MS4 permit, the City established an erosion and sediment control ordinance governing construction practices. The City will also evaluate existing erosion control problem areas that may not be associated with recent construction and formulate mitigation plans to rectify those issues. Given increased regulation of the typical causes of soil erosion and sediment transport, it is anticipated impacts of soil erosion on water quality in the Ramsey area will be greatly diminished.

The SWPPP and MS4 permit also call for the annual inspection of required structural BMPs (structural BMPs are physical devices designed to trap or filter pollutants from runoff or reduce runoff velocities; an example being silt fence). Maintenance is included in the City's annual budget to ensure that structural BMPs continue to work and provide the design storage needed to ensure continued flood mitigation.

F. **General Impact of Land Use Practices**

As stated in Section VI.B, increases in impervious surfacing will require mitigation to reduce the impacts related to change in permeability from the natural Anoka Sand Plain conditions. The preferred mitigation method is to encourage infiltration to duplicate the existing condition. In addition to infiltration, the City will consider low impact

alternatives and oversized regional retention basins to mitigate potential downstream flow changes.

The City also prepared a Wetland Management Plan along with this the 2008 SWMP that includes a function and value assessment of all wetlands in excess of ¼ acre in size. Although the wetland buffer requirements were later rescinded by the City Council, the City gathered a great degree of quantitative data to help study the effects of furtherance of developed areas within the community. The City will continue to use this data as a baseline for analysis as well as to consider potential outcomes of development in close proximity to wetlands Adequacy of Existing Regulatory Controls

The City of Ramsey believes it has adequate policies in place to self-regulate the anticipated growth without sacrificing its abundant water resources. In addition to its ordinances, the existing greater area regulatory controls of the LRRWMO, BWSR, the Metropolitan Council, the DNR, the U.S. Army Corps of Engineers, Anoka County, etc. are more than adequate to properly manage or mitigate adverse impacts on public waters and wetlands.

The City must rely on the regulatory authority of Anoka County, the LRRWMO and the regional, state, and federal plans to monitor and control the runoff entering the City from outside its jurisdiction. The City understands that it will also need to address issues brought to its attention by these outside regulating authorities.

The City is also concerned that the ordinance revisions, various permit fees and charges needed to finance the proposed changes will adversely affect development in Ramsey. To ensure that Ramsey has an equal chance of attracting development, the City must rely on outside agencies and WMOs in the area to regionally enforce similar environmental requirements with comparable financing obligations.

G. **Adequacy of Programs**

The City of Ramsey believes that the BMPs promised in its City-wide SWPPP and MS4 permit are designed to adequately:

1. Limit soil erosion and water quality degradation
2. Maintain the tangible and intrinsic values of natural storage and retention systems
3. Maintain water level control structures

H. **Adequacy of Capital Improvement Programs**

The storm water improvements recommended in the City's 5-year Capital Improvement Program are designed to address and correct problems related to:

1. Runoff Quantity
2. Water Quality Management
3. Fish and Wildlife Habitat and Public Waters and Wetland Management
4. Recreational Opportunities

I. **Future Potential Problems**

The greatest potential for future problems with storm water planning is associated with the ever-growing impervious footprint that is inevitable with growth. As stated earlier, highly pervious nature of the Anoka Sand Plain means that the cumulative effect of development could result in drastically increased runoff volume and flow rates.

The recommended ordinance revisions are designed to:

1. Encourage infiltration and soil ripping of newly graded sites so that developed sites can adequately mimic unimproved site runoff and flow rates.
2. Limit post development runoff rates to the existing condition so that multiple developments do not cause cumulative increases in the downstream condition.

In addition, regional pond modifications are also recommended where plausible because of the economic and runoff management capabilities of larger scale hydrologic systems. By implementing the recommendations in the SWMP, these potential future problems are being anticipated and adequately addressed within the City of Ramsey. As stated earlier, the City must rely on the regulatory authority of Anoka County, the LRRWMO and the regional, state, and federal agencies to monitor and control the runoff entering the city from outside its jurisdiction. The City understands that it will also need to address issues brought to the attention by these outside regulating authorities.

VII. FINANCIAL CONSIDERATIONS

Typically a Capital Improvement Program (CIP) is an itemized program for at least a five-year prospective period. The items and associated costs are subject to at least biennial review. The benefits include setting forth the schedule, timing, and details of specific contemplated capital improvements by year, together with their estimated cost, the need for each improvement, financial sources, and the financial effect that the improvements will have on the local government unit or watershed management organization.

The City recognizes that the detailed modeling exercise of the storm water system for the city laid out many areas of potential full pipes, inadequate flow structures, and potential flooding issues that will need to be constantly re-evaluated as more detailed information is available for the system and as the city grows. As this re-evaluation occurs, the CIP will need to be updated to reflect new projects.

A. 5-year Capital Improvement Program

The current 5-year Capital Improvement Program includes the following:

1. Annual Sediment Pond Cleaning $125,000
2. County Ditch 43 Cleaning $180,000
3. COR Bunker Lake Boulevard (Armstrong Blvd to Ramsey Blvd) $560,000
4. West Mississippi Outlet $680,000
5.
6. Whispering Pines Estates Plat 2 Storm Sewer $330,000
7. Annual Drainage Enhancements $675,000
8. Stormwater Drainage Improvements –Treatment before discharge to River $410,000
9. Storm Sewer South of Bunker Lake Boulevard -COR $250,000
10. Garnet Street Reconstruction $198,000
11. Reconstruction of Andrie Street/ 164th Avenue $1,020,600
12. Reconstruction of Streets -Ford Brook Estates $237,600
13. Alpine Drive Reconstruction $60,700
14. Reconstruction of Streets – Stanhope Terrace and North Forty $587,000
15.

Total Current 5-year Plan Expenditures $5,389,500

The financial impact of implementation of the proposed regulatory controls and programs identified in Section VI is anticipated to include the following:

16. Adopting and Enforcing the SWMP Local Controls and Standards[9] $25,000/year
17. SWPPP Annual Cost and Implementation[10] $100,000/year
18. Current Five Year Capital Improvements $5,389,500

Total 5-year Financial Impact $6,014,500

[9] Estimated cost is based on one half-time employee at salaries (plus benefits) of $50,000 per year.
[10] Estimated cost is based on two fulltime employees at salaries (plus benefits) of $50,000 per year.

Although the cost associated with these recommendations can be financed locally, the City will pursue all opportunities for outside funding. Without outside financing the City will need to finance the adoption of, and enforcement of, the local controls and standards, implementation of the specified programs, and capital improvements recommended in this SWMP using one or more of the following:

1. Increasing the storm water development charges (storm water trunk fees)
2. Increasing the storm water utility fees
3. Increasing the general levy (within levy limits)
4. Creating a storm sewer assessment district
5. Accessing funds from other City projects and funds

The City increased the storm water trunk fees and storm water utility fees in 2015.

Outside funding is greatly desired as the impact of increasing these taxes, fees and charges will increase tax burden against homes and farmsteads, increase the utility burden for all parcels or postpone other necessary improvements currently scheduled in the City's Capital Improvement Plan.

The following are potential sources of outside funding that may be available to assist in the financing of the various storm water related issues:

1. Minnesota Clean Water Legacy funds
2. Clean Water Partnership Funds
3. Clean Water Act, Section 319 funds, administered by the MPCA
4. Minnesota Public Facilities Authority (PFA) grants and low interest loans

There is significant competition for these limited funding sources. If these sources are pursued by the City, it will likely involve innovative treatment technologies in addition to timely requests for funding.

The application deadlines for Section 319 and PFA funds are published annually by the State. The PFA prepares an annual Intended Use Plan for each program that lists the projects eligible to apply for loans. A written request must be submitted by the City to the PFA to place a project on the IUP for consideration. The City routinely monitors the deadlines for these programs.

B. **Local Financing Options**

Development Charges or Trunk Fees According to City of Ramsey Code section 117-618, anyone creating a new residential lot or a new nonresidential site plan must pay a storm water trunk fee as established by ordinance. Each year the fee is reviewed and approved as part of the City's overall fee ordinance. For residential property, the fee is a flat fee per residential unit. For nonresidential property (commercial / industrial), the trunk fee is calculated on a per acre basis. The monies collected are deposited in the Storm Water Management Fund and are only used to pay for storm drainage financing and improvements. Maintenance of the storm water system is paid for with utility revenue deposited into the Storm Water Utility Fund.

1. Increased Storm Water Utility Fees

According to City of Ramsey Code Section 58-194, the City may impose just and reasonable charges for the use and availability of storm sewer facilities. Rates and charges for the use and availability of the system shall be determined through the use of a Residential Equivalent Factor ("REF"). For the purposes of the Ramsey City Code, one REF is defined as the ratio of the average volume of surface water runoff coming from one acre of land and subjected to a particular use, to the average volume of runoff coming from one acre of land subjected to typical single-family residential use within the City during a standard five-year rainfall event. Rates and charges for the use and availability of the system shall be determined through the use of a Residential Equivalent Unit ("REU"). For the purposes of the Ramsey City Code, one REU is defined as the product of the acreage of a particular parcel multiplied by the REF. The REF shall be based on the relative runoff generated by any land use compared to the expected runoff from a typical half-acre single-family dwelling. This relationship shall be interpreted as a function of the percent of the total lot area that is impervious and shall be applied as determined in City of Ramsey Code.

The City Storm Sewer Utility fee is intended to finance infrastructure maintenance, upgrading, reconstruction and new construction serving previously developed areas. It is not typically used to finance retrofitting the existing system to accommodate new developments. Most cities require the developer to finance the entire new storm sewer system associated with the development. Then, once the new system is accepted and turned over to the City, the municipal maintenance funds (typically storm sewer utility funds) are used to maintain the new system.

2. Increasing the General Levy

   If the City has not yet reached its levy limits, financing could come from increases in the general tax levy across Ramsey. This option is generally not favored because it may duplicate costs for property owners who have either directly or indirectly already financed their own developments. Unless tax expenditures for storm water needs can be uniformly spread to all properties, political opposition should be expected from entities that have already invested in storm water facilities.

3. Creating a Storm Sewer Assessment District or Storm Water Tax District

   If a watershed is well defined and the greater majority of the property owners have a share in the benefit of the proposed storm sewer improvement, the City could form a storm water assessment district. When improvements or repairs are needed within the district, an advertisement hearing process is required similar to that used for assessments in Minnesota Statute 429. Many cities are not choosing this financing option because it can be cumbersome. Cities also find it difficult, on occasion, to legally prove the level of benefit associated with the assessment.

C. **Recommended Local Financing**

1. The cost of existing system retrofitting and maintenance projects should be borne by the Storm Sewer Utility fund as this is the primary focus of these funds.

2. The cost of new improvements in undeveloped land should be borne by the developer.

3. The cost of retrofitting the downstream system to accommodate new developments should be borne by newly established New Development Charges or Trunk Fees.
4. Increasing the general levy for storm sewer related costs is not recommended.
5. Creating a storm sewer assessment district is not recommended.

VIII. IMPLEMENTATION OF PRIORITIES AND PROGRAM

A. Special Waters

According to the MPCA's Special Waters list (January 2004), special waters in the Ramsey area include:

1. The **Mississippi River** is considered part of the Mississippi River Corridor Critical Area (MRCCA) from the western borders of the cities of Ramsey and Dayton to Hastings. The cities of Ramsey and Dayton had previously also been included in the Wild and Scenic Designation until 2012, when these cities received an exemption from the Minnesota Legislature as these areas were also included in the MRCCA.
2. The **Rum River** is considered Scenic/Recreational from Highway 27 bridge in Onamia to Madison and Rice Streets in Anoka.

The City will meet State requirements for development near these waters as identified in the Minnesota Stormwater Manual by designing storm water basins using the sizing criteria described in *Design Calculations for Wet Detention Ponds*, by William Walker Jr. The City will also encourage storm water practices that promote infiltration/filtration and decrease impervious areas (better site design and integrated stormwater management), where practical.

B. City-wide SWPPP and MS4 Permit

The City-wide SWPPP, associated with its MS4 permit, is available on the City's website. The SWPP was updated to reflect the 2013 re-issuance of the MS4 Permit. A copy of the SWPPP is attached in Appendix A.

C. Implementation Schedule

In accordance with Minnesota Rule 8410.0010, the City of Ramsey must provide for the adoption of necessary regulatory controls, storm water design standards, education programs, data collection programs, and maintenance programs. This SWMP must clearly distinguish the City's responsibilities versus the responsibilities of the LRRWMO and Anoka County with respect to implementing each program element.

According to Minnesota Rule 8410, each organization plan must include a schedule for implementation by the organization, joint powers agreement members, and affected local units of government. All plan controls and programs to be implemented by the organization must be in effect within one year of plan adoption. All local plan controls and programs must be developed and in effect within two years of adoption of the last organization plan in the local unit of government.

Since this SWMP is an update to a previously accepted plan, most of the required programs have already been developed and coordinated with Anoka County and the LRRWMO.

D. Capital Improvement Program

This SWMP must include a capital improvement program that identifies specific capital improvements necessary to implement the water resource management goals and policies of the organization. The 5-year Capital Improvement Program is discussed in Section VII of this report.

A Capital Improvement Program, or CIP, already exists and is updated on annually for a projected 5-year period. The CIP includes projects to implement the recommendations in this SWMP.

E. **Enforcement**

This SWMP must identify the procedure to be followed to enforce violations of the controls of the organization as well as those of the local unit of government.

The City uses a permitting process with a surety requirement for new developments. If the developer fails to follow the conditions of the permit, the City can call on the surety to ensure immediate rectification. The surety must be in the form of a Letter of Credit or Cash Escrow.

The City has adopted the following ordinances:

1. Erosion and Sediment Control Ordinance
2. Illicit Discharge Ordinance
3. Post Construction Storm Water Management Ordinance.

Each of these ordinances will be enforceable locally and will carry fines for failure to adhere to them. In addition, the MPCA can impose significant fines for pollution discharges associated with these ordinance controls as well as any unauthorized pollution discharge.

The City will amend its ordinance to include the enforcement of storm water ordinances as part of City Code Chapter 2, Article VII entitled Administrative Enforcement of Ordinance Violations. The City will have to adopt an ordinance to establish the rates and charges associated with administrative fines for storm water ordinance violations.

F. **Administration Process**

This SWMP must specify the administrative process and timelines for the submittal, review, and approval of local plans and variances by the organization.

Requirement 1: All communities need to include information on the types of best management practices to be used to improve storm water quality and quantity and the maintenance schedule for the best management practices (BMPs).

Solution 1: *The City's SWPPP, available on the City website, includes the mandatory list of BMPs together with an implementation timeline. All of the BMPs in the SWPPP and designed to improve storm water quality. The City's current development ordinances are designed to regulate storm water quantity in accordance with the LRRWMO requirements. Within a year after the acceptance of this plan, the City will review its ordinances controlling development to include the recommendations of this SWMP, chiefly the recommended runoff volume controls.*

Requirement 2: All communities need to include a Wetland Management Plan or a process and timeline to prepare a plan. The Wetland Management Plan should incorporate a function and value assessment for wetlands.

Pretreatment of storm water prior to discharge is required for discharge into all wetland types.

Solution 2: *The City has completed a MNRAM evaluation of all of wetlands within city limits and greater than ¼ acre in size. The report is available at the Municipal Center. The implementation of the plan was postponed by the*

Requirement 3: The City needs to include funding sources for the various required activities.

Solution 3: *The required funding sources are described in detail in Section VII of this SWMP.*

Requirement 4: The City needs to include activities to be undertaken along with numerical goals, strategies and timelines.

Solution 4: *The City's SWPPP, available on the City website and attached in Appendix B, includes BMPs describing the necessary activities, numerical goals, strategies and timelines.*

Table 18 is an implementation process list of the recommended actions, timing, responsible party, and the cost or funding sources which are presented for the City Council's consideration based upon the data compiled in this report. Actions are listed in order of priority, from highest to lowest.

Table 18

Implementation Process List

Action	Timing	Responsible Party	Cost/Funding Source
Maintain and implement Capital Improvement Program.	On-going, updated on a 5-year period.	City of Ramsey	Storm water area charge and monthly storm water utility fee
A storm water maintenance program enforced to ensure the successful operation of the drainage system.	On-going.	City of Ramsey	Storm water area charge and monthly storm water utility fee
Corrective actions for storm water problem areas.	On-going, as problems come up.	City of Ramsey	Storm water area charge and monthly storm water utility fee
The erosion and sedimentation control criteria for new developments enforced.	On-going, as developments are submitted to the City for approval.	City of Ramsey	Funding by developer's fees and building permits
Low impact development/better site design for new developments encouraged.	On-going, as developments are submitted to the City for approval.	Developer's Engineers, City of Ramsey	City staff funding by developer's fees and building permits. Developers pay for design and construction of developments.
Conceptual regional Ponding areas established as described herein and made a part of the storm water management system.	On-going, as Developments are submitted to the City for approval. Right of first refusal purchasing at time of sale of property.	City of Ramsey	Cost sharing with Anoka County
Standard review procedures established to ensure all development within the City is in compliance with proper erosion control practices.	Currently in place. Update as necessary.	City of Ramsey	Funding by developer's fees and building permits
Detailed hydrologic analysis required during final design of all ponding areas.	Currently in place. Update as necessary.	Developer's Engineers, City of Ramsey	Developers pay for design and construction of developments. City staff funding by developer's fees and building permits.

Final high water levels governing building floor elevations adjacent to ponding areas and floodplains established as development occurs or when drainage facilities are constructed.	On-going.	Developer's Engineers, City of Ramsey	Developers pay for design and construction of developments. City staff funding by developer's fees and building permits.
Overflow routes established and maintained to provide relief during extreme storm conditions, which exceed design conditions.	On-going, as developments are submitted to the City for approval.	City of Ramsey	Developers pay for design and construction of overflow routes. City-conducted maintenance funded by developer's fees and building permits.
An education program for City residents, staff, and development community implemented.	On-going.	City of Ramsey	City of Ramsey, with help from LRRWMO, DNR, University of Minnesota Extension Service, SWCD, NRCS
Amendments to the SWMP adopted and implemented and the SWMP updated.	As warranted by future standards or regulations – by 2015 or earlier if needed.	City of Ramsey	Storm water area charge and monthly storm water utility fee
Regulate construction and land uses along the bluff, to prevent erosion.	On-going, as developments are submitted to the City for approval.	City of Ramsey	Funding by developer's fees and building permits
Encourage landowners to retain any areas of native vegetation, and to plant species native to the area, to protect and improve wildlife habitat and maintain the historic ecological role and appearance of the steeper riverbanks. The existing housing developments along steeper riverbanks have addressed retention of native vegetation in one of two ways: platting of the property in an outlot and deeding that to the City or	On-going, as developments are submitted to the City for approval.	Land Owners, Developers, City of Ramsey	Landowner, City of Ramsey, Future grant opportunities if they arise

through a conservation easement.			
Develop an implementation strategy for TMDLs.	Once TMDLs are formulated.	City of Ramsey, working with LRRWMO	LRRWMO, BWSR, DNR, etc.

IX. AMENDMENT PROCEDURES

This Updated SWMP extends to 2022. Amendments to the plan may be adopted and implemented as warranted by future standards or regulations. The City is aware that the Lower Rum River Watershed Management Organization will be updating its watershed management plan during the effective period of this plan which will trigger the mandatory re-evaluation and potential need for an update of this SWMP within two years from the date the watershed plan is approved by BWSR. The City will initiate any amendments by resolution of the City Council. The citizens of Ramsey, City Staff, the City Council, or any of the review authorities having jurisdiction may submit amendment requests.

The amendment request will be evaluated by City staff and a recommendation will be made to the City Council. If the Council deems the amendment necessary, it will order City staff and/or the City attorney to draft an amendment.

The draft amendment will be brought to the Council for review. If approved, the Council will pass a resolution calling for a hearing on the amendment. The amendment must be forwarded to each organization affected by the amendment. The proposed amendment will be published in the official city newspaper not less than 10 days before the hearing.

The hearing will be held in a public place, typically in the Council chambers at City hall. At the hearing, all interested citizens will be given the opportunity to submit a written statement or voice their opinion on the acceptability of the proposed amendment.

When all have been heard, the City Council will close the hearing and vote their decision on whether to pass a resolution accepting the amendment as written.

According to State Statute 103B.235, Subd. 5, Amendments, to the extent and in the manner required by the LRRWMO, all major amendments to the SWMP shall be submitted to the LRRWMO for review and approval in accordance with the provisions of State Statute 103B.235, subdivisions 3 and 3a for the review of plans. All major plan updates and amendments will be submitted to the Lower Rum River Watershed Management Organization and the Metropolitan Council simultaneously. All minor amendments will have a Public Hearing before the Planning Commission which will then recommend approval by the City Council. The City Council will review the amendments and approve or deny the changes.

X. SUMMARY AND RECOMMENDATIONS

A. Summary

The 2008 plan was prepared by Bolton & Menk, Inc. The technical analysis found within this 2015 update was prepared by Bolton & Menk, Inc. in 2008 and refreshed by City Staff in 2015.

The Ramsey SWMP has a dual purpose: it will serve as a guide for the construction of storm drainage facilities and provide a basis for a consistent approach to the preservation of lakes, wetlands, streams, and the Mississippi and Rum Rivers. The following issues have been incorporated into this plan:

1. Division of the City into major watersheds based on contour maps, grading plans and natural topography
2. Determination of storm water runoff under ultimate land use conditions
3. General layout and sizing of trunk storm sewers and open channels
4. Tributary areas, storage volumes, and high water levels of all existing ponding areas
5. Recommendations for the revision of the current development ordinances
6. Recommendations for standard Operations and Maintenance procedures
7. Recommendations for specific construction site erosion control practices
8. Estimated construction and implementation costs of the SWMP
9. Recommendations for education of City residents, staff, and development community.

The primary function of an urban storm drainage system is to minimize economic loss and inconvenience due to periodic flooding of streets and other low-lying areas. Adequately designed storm drainage facilities provide flood control, minimize hazards and inconvenience associated with flooding, and protect or enhance water quality. The SWMP takes the entire drainage basin with future saturation development into consideration.

Wet water quality ponds upstream or dry regional infiltration basins (where possible) will help control the rate and the volume of storm water runoff. To provide flood protection for adjacent property, the design storm interval for ponding areas with a known outfall is a 100-year storm as compared to a 10-year storm for design of storm sewer piping. For land locked ponds or wetlands, the design storm interval is a back-to-back 100-year storm or the 100-year, 10-day snow melt event, whichever is larger. Any new residential, commercial, industrial and other habitable structures shall be constructed with the following low floor elevation: Elevation of the lowest floor of a structure shall be a minimum of 1 foot above the Emergency Overflow, or 2 feet above the HWL of the nearby pond or waterbody, whichever is higher.

In areas adjacent to designated flood plains as mapped on a Flood Insurance Rate Map, the Regulatory Flood Protection Elevation (RFE) applies. The RFE is defined as the mapped 100-year flood elevation plus 1 foot. However, the LRRWMO requires that the lowest floor elevation be 2 feet above the calculated flood elevation. Therefore, all structures, including accessory structures, must be elevated on fill so that the lowest floor

including basement floor is at or above the Regulatory Flood Protection Elevation or 2 foot above the mapped 100-year flood elevation. The finished fill elevation for structures shall be no lower than the Regulatory Flood Protection Elevation and the fill shall extend at such elevation at least fifteen (15) feet beyond the outside limits of the structure erected thereon.

The area of a pond's HWL plus 1 foot of freeboard shall be contained entirely within an outlot that is owned and maintained by the City.

The numerous natural depressions found throughout Ramsey have been incorporated into the SWMP as ponding areas. Wetlands may be, and are currently being used for stormwater storage for larger rainfall events. They may continue to be used for this purpose – even after upstream development, provided that:

1. There is acceptable Best Management Practice pretreatment of the runoff in accordance with the MPCA NPDES/SDS Construction Permit, Section III.D., Permanent Stormwater Management System.
2. The bounce from the normal water level to the high water level does not exceed two feet.

The effective use of ponding areas enables the installation of outflow sewers with reduced capacities since the design storm duration is effectively increased over the total time required to fill and empty the ponding reservoirs. Storm sewers represent a sizable investment for the community and this investment can be more efficiently utilized by ponding storm water in designated ponding areas and allowing smaller diameter pipes to be used as outfall lines.

Equally as important as flood control and cost considerations, is the use of ponding areas to:

1. Improve water quality;
2. Return storm water to the groundwater table;

For water quality ponds, the storage below the outlet is the most important consideration. The area and depth of the ponds may differ from the values presented here, storage below the outlet must be provided so that the prescribed pollutant loading of the system is not exceeded.

The City will allow Developers to construct storm water ponds to serve a secondary purpose as a development amenity. However, the Developer shall be required to enter into a Development Agreement or Maintenance Agreement that outlines that the City will not take on maintenance obligations beyond basic storm water functions. If constructed as a water feature, the City will not guarantee water levels or water quality above basic storm water requirements.

The wildlife aspects of the ponding areas shall be maximized in design and the proper location of the trail system will allow good access to these areas for wildlife observation.

B. **Model Results**

Even numbered figures from Figure 10 through Figure 22 are maps of critical SSA pond data superimposed on the most recent aerial photo of Ramsey. They are color coded to highlight the 100-year storm conditions as follows:

Green – The pond functions properly and the peak elevation is fully contained within the pond

Yellow – The peak pond elevation is above the emergency overflow spillway

Red – The peak pond elevation may threaten structures

All red and yellow areas will be "ground truthed" to verify the condition depicted. These maps can be used to evaluate regional pond opportunities. In reviewing these maps, one can easily see where the current ponds or depressions are overtaxed for the 100-year event.

Odd numbered figures from Figure 11 through Figure 23 are maps of critical SSA pipe data superimposed on the most recent aerial photo of Ramsey. They are color coded to highlight the 10-year storm conditions as follows:

Orange – The pipe is flowing normally

Red – The pipe is flowing full

The following is a brief discussion of the opportunities and recommendations associated with each watershed:

Figures 10 & 11 – D43 Watershed

This is the Ditch 43 watershed. From Figure 10, it can be seen that this area is fully developed around a significant amount of existing wetlands. This leaves little opportunity to construct regional ponds.

The red areas on Figure 10 indicate ponds that are subject to flooding during the 100-year event. The yellow areas indicate that the emergency overflow is reached during a 100-year event. These ponds should be reviewed relative to the following:

- Should the outfall pipe be replaced with a larger one?
- Can the pond be enlarged?
- Can the overflow spillway be lowered?
- Can rain gardens be incorporated into the upstream watershed?
- Is the upstream watershed larger than allowed by the original design?
- Can some of the upstream watershed be diverted?

The two ponds in the southwestern part of the watershed that are highlighted in red, P26308 and P26310, appear to be infiltration ponds with no outlet pipe. Because our model conservatively assumes no infiltration, the threat of flooding from these ponds may be exaggerated. In comparing this area with the historic flooding map of Figure 8, there have been no reports of flooding in this area.

Pond P25454 appears to need a raised emergency overflow to the west in order to relieve potential flooding. Our model suggests that a 12-inch outfall culvert under Sunwood Drive with an inlet elevation of 866 will eliminate this threat from a 100-yr rainfall event.

Since the D43 watershed is comprised of a significant amount of wetland which acts as satisfactory runoff storage, no other significant designs are necessary with the exception

of the localized flooding associated with the red highlighted ponds. Otherwise, upstream watershed review for infiltration/rain garden opportunities is recommended.

Figures 12 & 13 – D66 Watershed

This is the Ditch 66 watershed. It is nearly identical in nature to the D43 Watershed in build out and wetland storage. Hence, the recommendation is the same: review the highlighted ponds and determine if they need upgrading through either upstream infiltration practices, pond enlargement or increasing the outfall.

From Figure 12, only one pond, P22110 is a potential threat to structures. In reviewing Figure 8, no residential complaints have been made for this area and City Staff has not highlighted this area as a nuisance flooding area. It currently exists as a small natural depression that may have infiltration capacity. Our modeling conservatively assumes that no infiltration occurs and that relief is only provided by storage and the capacity of the outfall pipe. Hence, the potential threat to structures may be exaggerated. If this pond proves to be a problem, the pond storage could be increased or the existing 15" outfall could be increased to a 21" pipe with a lower pipe inlet elevation of 883 to adequately relieve the potential flooding.

The yellow coded ponds in Figure 12 highlight ponds that are immediately adjacent to large wetlands. With the exception of pond P09308, in the northwest part of the watershed, these ponds have emergency overflows directly to these wetlands and there is no concern for public welfare or property damage associated with these ponds. Pond P09308 is another infiltration basin with no historic complaints in the vicinity. Because our model conservatively assumes no infiltration, any threat of flooding from this pond may be exaggerated.

Figures 14 & 15 – EMISS Watershed

This is the Eastern Mississippi watershed. The majority of the northern part of this watershed is adequate in storage and functioning properly. Where there is undeveloped land, the SSA model can be used to recommend appropriate pipe sizing and ponding to ensure that it remains free of flooding.

The southern part is more commercialized and also more prone to flooding. However, there are no historic complaints of flooding in the area (see Figure 9).

If additional flood protection is needed in the southern EMISS watershed, there are some opportunities to correct the ponds that are modeled to be surcharged. From the aerial photograph, it appears that there are a few opportunities for expanding troubled ponds and the creation of additional ponding that may be constructed as backflow basins to relieve the flood prone ponds in the area. Those best opportunities are immediately adjacent to the railroad. These would be best incorporated into future development of this area. Otherwise, retrofitting rain gardens, infiltration basins, and as a last resort, increasing outfall pipes may be considered for nuisance ponds.

Figures 16 & 17 – GOLF Watershed

This watershed is currently functioning well. There is only one pond, P11320, in the watershed that is a potential threat to structures. It appears to be a roadside ditch infiltration basin pond. Again, conservatively ignoring infiltration may exaggerate the flooding potential of this pond. There is no history of complaints of flooding in this area. If flooding becomes a problem, it may only need minor grading to correct its emergency

overflow spillway. Also, upstream watershed review for infiltration/rain garden opportunities may also suffice in correcting the problem.

The remaining yellow ponds appear to be in undeveloped areas and are probably natural depressions that fill and overflow.

For the few upstream areas that are not developed, careful retention, infiltration and outfall design review using the SSA model is the best way to accommodate continued development.

Figures 18 & 19 – MMISS Watershed

This watershed is only partially developed. The existing development is on the downstream end. The ponding areas within the developed part of the watershed are working well. As recommended earlier, infiltration and rain gardens should be incorporated into the upstream development where possible. The recommended ordinance changes should help ensure that this occurs.

Figures 20 & 21 – TROTT Watershed

This watershed is unique in that the majority of the area is currently designed as low impact development. The general nature of the Trott Brook watershed is that it is a linear wetland. The majority of the ponds are functioning well. City staff has noted that one area, near 179th Avenue and Azurite Street is a problem area (Figure 9). This area is also highlighted as a potential threat to structures in Figure 21. Regrading the roadside ditches or constructing a new outfall to relieve this area is recommended to alleviate the problem flooding in this area.

The remaining red highlighted pond and the only yellow highlighted pond in TROTT Watershed are infiltration areas with no historic complaints of flooding in the vicinity. Because our model conservatively assumes no infiltration, any threat of flooding from this pond may be exaggerated. If infiltration is not resolving the problem, the emergency overflow from this area should be regraded to protect the structures in the area.

Figures 22 & 23 – WMISS Watershed

This watershed includes the COR (former Ramsey Town Center) area. However, some ponds are indicated as being a threat. To ensure that this does not become a problem, we recommend using the SSA model to correct these potential problems as future expansion of the COR area occurs. The residential area to the northwest has several ponds that should be reviewed with the same considerations as the Trott and Ditch 43 watersheds.

Pond number P17306, located immediately west of 156th and Nutria, shows as a potential threat to structures and is in an area of property owner complaints. This appears to be a land locked infiltration pond that has very little infiltration capacity. The best solution to this pond is to provide an outfall to the west.

Pond P21210-E, immediately south of 151st Avenue and east of Rhinestone Street, is also shown as flooded. This is also an isolated infiltration with no outlet. The property owners in the vicinity of this pond have filed complaints of nuisance flooding in this area. Solutions for this pond include:

- Expanding the storage and working the pond invert to encourage infiltration
- Regrading to lower the existing emergency overflow channel
- Constructing a new piped outfall to serve the area.

There are two infiltration basins in the mid-eastern part of the watershed (Section 21 near 162nd Avenue and Zirconium Street that have been modeled to be either using the emergency spillway or a potential threat to structures. Although the peak elevation of these ponds may be exaggerated by neglecting infiltration in our model, nuisance flooding has been reported in the vicinity by area residents as shown in Figure 8. To alleviate this problem in Pond P21208, we recommend constructing an outlet culvert outlet under 161st Avenue may adequately address the problem flooding experienced there. The problem in Pond P21210, which is upstream from the residential nuisance flooding area, may be corrected by either expanding the infiltration basin storage or by re-grading the emergency overflow spillway at a lower elevation to alleviate the potential flooding threat.

We recommend that the undeveloped part of the WMISS watershed, lying immediately west of the COR, treated in a similar fashion as the COR. If a separate outfall can be created for this area, it could work in an almost identical fashion. If a separate outfall cannot be obtained, a large regional pond network is recommended. If the ponding alternative is taken, the regional pond network would need to store 100 percent of the runoff at a safe level prior to out letting into the COR system. This would ensure that the COR is not threatened by continued development upstream.

Finally, the Highway 10 corridor is appears to have some pond overflow problems that are only associated with using the ditches as storage. We believe that the best financial and hydrological solution to alleviate these problem areas is to coordinate with MNDOT on any future TH 10 improvements. Any improvements to TH 10 are likely to involve new corridor stormwater management and funding.

General

Figures 28 through 30 are typical SSA output files for a single pipe/pond corridor. These are intended to illustrate the output potential of the model and software. If similar output files were created for every aspect of the entire system, this report would be too cumbersome. The 2008 Plan provided Geographic Information System (GIS) data that allows the City to model virtually any pipe, pond or ditch within Ramsey.

It is extremely important that each area be re-evaluated at the time of final design to confirm the criteria used in this study and to make any changes that a proposed development may dictate. Special consideration must be given to areas that develop differently than shown in the Comprehensive SWMP, especially when a higher runoff coefficient is likely to result from development.

All storm sewer facilities, especially those conveying large quantities of water at high velocities, should be designed with efficient hydraulic characteristics. Special attention should be given during final design to those lines that have extreme slopes and create high hydraulic heads.

The Best Management Practices (BMPs) recommended by the MPCA and adopted by the City shall be followed as development or redevelopment occurs.

C. Recommendations

The following recommendations are presented for the City Council's consideration based upon the data compiled in this report:

1. The SWMP as presented herein will be adopted by the City of Ramsey.

2. The recommended corrections for flood prone areas will be made as described herein and made a part of the storm water management system, where feasible.
3. Standard review procedures will be established, where feasible, to ensure all development within the City is in compliance with proper erosion control practices.
4. Detailed hydrologic analysis will be required, where feasible, during final design of all new developments and ponding areas.
5. Final high water levels governing building elevations adjacent to ponding areas and floodplains will be established as development occurs or when drainage facilities are constructed.
6. Overflow routes will be established and maintained, where feasible, to provide relief during extreme storm conditions, which exceed design conditions.
7. An emergency overflow should be constructed for Lake Itasca to relieve the extreme fluctuation in lake levels of this isolated lake.
8. A storm water maintenance program will be enforced, where feasible, to ensure the successful operation of the drainage system.
9. The erosion and sedimentation control criteria for new developments will be enforced, where feasible.
10. An education program for City residents, staff, and development community will be implemented, where feasible.
11. Amendments to the plan will be adopted and implemented as warranted by future standards or regulations, where feasible.
12. That the plan should be updated in the year 2022 or earlier if needed and feasible.

The existing storm sewer system of the City of Ramsey is not adequate to handle the continued development around the presently developed area. If development continues, the existing system will need major improvement and enlargements to effectively serve the community without excessive flooding. The proposed infiltration and oversized ponding development scenario together with strategically located regional ponds presents one method of accommodating the present growth of Ramsey. However, this report and the proposed scenario is not necessarily the only method of accomplishing the goal of comprehensive storm water management.

Given this, it is imperative that this plan and the SSA model of the City is continually updated on a regular basis and compared to the baseline runoff of the existing conditions model to ensure that any adjustments in area developments continue to be coordinated. In addition, the proposed storm water development charges should be updated annually to ensure that the associated City costs are fully financed. In this manner, the plan can maintain its usefulness as a current document.

Finally, the EPA has initiated the NPDES Phase II requirements whereby cities with populations in excess of 10,000 people are required to apply for a Phase II permit. Some additional cities that are actually under 10,000 in population are also included. The City of Ramsey is a mandatory small MS4 community. One of the requirements of the NPDES permitting process is the existence of a storm water management plan.

As stated earlier, this report is predominantly based on information obtained from available topographic data, field verification of the watershed areas, "ground truthing" of modeled flood prone areas, and discussions with City staff relative to the historical flooding areas. Since the modeled existing system closely matches that described by observation, we feel that this plan has significant benefit as a planning and design tool. However, the quality and accuracy of this report could be further validated with more detailed survey data in the growth areas around the City.

XI. ACRONYMS AND GLOSSARY

A. Acronyms

BMP - Best Management Practices
BWSR - Minnesota Board of Water and Soil Resources
DNR - Minnesota Department of Natural Resources
EOF - Emergency Overflow
EPA - United States Environmental Protection Agency
EPB - Environmental Policy Board
EQB - Minnesota Environmental Quality Board
FEMA - Federal Emergency Management Agency
FIRM - Flood Insurance Rate Map
GIS - Geographic Information System
GPS - Geographic Positioning System
HWL - High Water Level, typically associated with the 100 year rainfall event
IDF - **I**ntensity-Duration-Frequency (for precipitation)
LID - Low Impact Development
LRRWMO - Lower Rum River Watershed Management Organization
LUST - Leaking Underground Storage Tank
MNDOT - Minnesota Department of Transportation
MNRAM - Minnesota Routine Assessment Method
MPCA - Minnesota Pollution Control Agency
MS4 - Municipal Separate Storm Sewer System
MSWMP - Metropolitan Surface Water Management Program
MUSA - Metropolitan Urban Services Area
NOI - Notice of Intent (for coverage under the NPDES Permit Program)
NPDES - National Pollutant Discharge Elimination System
NPDES/SDS - The General Permit Authorization to Discharge Storm Water Associated with Construction Activity under the National Pollutant Discharge Elimination System/State Disposal System Permit Program. Administered by the MPCA
NURP - Nationwide Urban Runoff Program
NWL - Normal Water Level or Low Outlet Elevation
SWCD - Soil and Water Conservation District
SWMP - Surface Water Management Plan
SWPPP - Storm Water Pollution Prevention Program
TP - Total Phosphorus
TEP - Technical Evaluation Panel, typically needed for WCA approval of wetland impacts
TSS - Total Suspended Solids
USEPA - United States Environmental Protection Agency
UST - Underground Storage Tank
WCA - The Minnesota Wetland Conservation Act and its subsequent Minnesota Rules 6115 and 8420.
WD - Watershed District
WMO - Watershed Management Organization

B. **Glossary**

100-Year Flood: The flood reaching water levels or flow rates with a one-percent (1%) chance of occurring in any given year. On the average, a 100-year flood is statistically probable to occur only once in a 100-year period. A 100-year flood is synonymous with Base Flood, Regional or 1% Chance Flood.

100-Year Storm Event: The rainfall event having a total precipitation over a 24-hour period with a one-percent (1%) chance of occurring in any given year. On the average, a 100-year storm event is statistically probable to occur only once in a 100-year period. NOAA Atlas 14: Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffrey Bonnin (2013). NOAA Atlas 14, Volume 8, Version 2, *Precipitation-Frequency Atlas of the United States, Midwestern States.* NOAA, National Weather Service, Silver Spring, MD.**100-Year, 10-Day Snowmelt Event:** The storm event having a total precipitation over a 10-day period with a one-percent (1%) chance of occurring in any given year. On the average, a 100-year snowmelt event is statistically probable to occur only once in a 100-year period. The value for the Ramsey area is taken from the SCS National Engineering Handbook, which shows the 100-year, 10-day snowmelt event is 7.3 inches over 10 days.

Agricultural Land: Any land designated specifically for agricultural production. This may include row crops, pasture, hay land, orchards, or land used for horticultural purposes.

Anaerobic: Conditions either in water or soil where there is a lack of oxygen.

Army Corps of Engineers (COE or USCOE): The United States Army Corps of Engineers is a regulatory agency involved in design, permitting and construction projects related to or impacting navigable waters of the United States including lakes, waterways and wetlands.

Aquatic Bench: A 10- to 15-foot bench around the inside perimeter of a permanent pool that ranges from zero depth at the shore to 1-foot depth no less than 10-feet from the shore. Normally vegetated with emergent plants, the bench augments pollutant removal, provides habitat, conceals trash and water level drops, and enhances safety.

Best Management Practice (BMP): An action, procedure, or structural improvement designed to improve water quality. BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the State. BMPs also include treatment practices such as ponds, rain gardens, vegetated buffers and vegetated swales, treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, or drainage from raw material storage.

Buffer: A vegetated area immediately adjacent to a wetland that is not mowed and/or managed. Buffers are ideally dominated by native vegetation and add to the ecological health of the wetland by adding habitat and assisting and filtering pollutants from surface water runoff.

Buffer Strip: An area of vegetated ground cover abutting a water body that is intended to remove sediment and other pollutants from runoff.

BWSR: Board of Water and Soil Resources. This is the lead regulatory agency that oversees Minnesota Statue 103B.205 to 103B.255, Minnesota Rule 8410 and the Minnesota Wetland Conservation Act.

Circular 39: A wetland classification system developed by United States Fish and Wildlife Service in 1956 that categorizes wetlands into eight types. This is the same classification system generally accepted by the State of Minnesota for wetland classification.

Comprehensive Plan: As defined in Minnesota Statutes 394.21, a Comprehensive Plan defines a City's the policies, statements, goals and interrelated plans for private and public land and water use, transportation and community facilities to assist in guiding future development and growth.

Cowardin Classification: A wetland classification system developed by the United States Fish and Wildlife Service in 1979. This system defines wetlands by a tiered system and is more detailed than the Circular 39 method. The Cowardin System is the classification System used in the National Wetlands Inventory.

Design Storm: A rainfall event of specified size and return frequency that is used to calculate the runoff volume and peak discharge rate to a BMP. In Ramsey, a 10-year design storm is 4.1-inches in 24-hours and a 100-year storm is 5.9-inches in 24-hours. If designing piped storm sewer, a 10-year design storm may also refer to an IDF curve used in the Rational Method of storm sewer design.

Detention: The temporary storage of runoff from rainfall and snowmelt events to control peak discharge rates and provide an opportunity for treatment to occur. Detention storage is typically designed in basins.

Development: The construction, installation or alteration of any structure, the extraction, clearing or other alteration of terrestrial or aquatic vegetation, land or the course, current or cross section of any water body or water course or division of land into two (2) or more parcels. See also re-development, new development and existing development.

Drawdown: The gradual reduction in water level typically due to the combined effect of infiltration and evaporation, but may be the result of human interference.

Draining: The removal of surface water or ground water.

Drop Structure: Placement of logs with a weir notch across a stream channel. Water flowing through the weir creates a plunge pool downstream of the structure and creates fish habitat.

Easement: A grant of one or more property rights by a property owner for use by the public, a corporation, or another person or entity.

Emergency Overflow (EOF): A hydraulic channel, swale, weir, etc. that provides an outlet from a pond or flooded area at an elevation below the point where property damage can occur.

End of Pipe Control: Water quality control technologies suited for the control of existing urban storm water at the point of storm sewer discharge to a receiving water. Due to typical space constraints, these technologies are usually designed to provide water **quality control rather than quantity control.**

Erosion: The wearing away of land surface and soil by the action of natural elements (wind and/or water).

Eutrophication: Process by which overabundance of nutrients in a waterbody lead to accelerated productivity and general decrease in water clarity and quality.

Exfiltration: The downward movement of runoff through the surface and into the subsoil.

Existing Development: A property or parcel of land that has previously been subject to development and no major changes are anticipated to the property in the near future.

Exotic Species or Invasive Species: Non-native plants or wild animals that can naturalize, have high propagation potential, are highly competitive for limiting factors, and cause displacement of, or otherwise threaten, native plants or native animals in their natural communities.

Extended Detention: A storm water design feature that provides for the gradual release of a volume of water (typically 0.25 to 1.0 inches per impervious acre) over a 12 to 48 hour time period. With proper design, the extended detention period allows for an increased settling of pollutants, and can protect channels from frequent flooding or scour.

Extended Detention (ED) Ponds: A conventional ED pond temporarily detains a portion of storm water runoff for a period of 12 to 48 hours after a storm using a fixed orifice. Such extended detention allows urban pollutants to settle out. ED ponds can be designed to be "dry" between storm events and thus do not have any permanent standing water or "wet" with a permanent pool of water. An enhanced ED pond is designed to prevent clogging and resuspension and provides greater flexibility in achieving target detention times. It may be equipped with plunge pools near the inlet, a micropool at the outlet, and utilize an adjustable reverse-sloped pipe at the ED control device. See also "wet pond" definition for diagram.

Extended Detention Wetland: A storm water wetland design alternative in which the total treatment volume is equally split between a shallow marsh and temporary detention of runoff above the marsh. After a storm, the normal pool of the shallow marsh may rise by up to two feet. The extra runoff is stored for up to 24 hours to allow pollutants to settle before being released downstream.

Finished Floor Elevation: The lowest elevation of the first floor or basement in a residential building or other structure that will or may be inhabited by a person or persons.

Filtration Basin: A treatment area designed to treat storm water by a process that physically removes particles from the water.

Flood: A temporary rise in stream flow or stage that results in inundation of the areas adjacent to the channel or water body.

Flood Frequency: The statistically determined average time period between events where a specific flood stage or discharge may be equaled or exceeded.

Flood Fringe: That portion of the 100-year floodplain outside of the floodway.

Flood Obstruction: Any dam, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel rectification, culvert, building, wire, fence, stockpile, refuse, fill, structure or matter in, along, across or projecting into any channel, watercourse or regulatory flood hazard area that may impede, retard or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water that may cause the flood level to rise and damage property or threaten life.

Floodplain: Floodplains are lowland areas adjoining lakes, wetlands, and rivers that are susceptible to inundation of water during a flood. For regulatory purposes, the floodplain is the area covered by the 100-year flood and it is usually divided into districts called the floodway and flood fringe. Areas where floodway and flood fringe have not been determined are called approximate study areas or general floodplain.

Floodplain (General) Area: The general floodplain area is determined using the best available data, in lieu of performing a detailed engineering study. These data may be from soils mapping, experienced high water profiles, aerial photographs of previous floods, or other appropriate sources. There are no associated published 100-year flood elevations with general floodplain delineations, unlike detailed study areas. General floodplain area is synonymous with approximate study area and unnumbered A-Zone.

Flood Proofing: A combination of structural provisions, changes or adjustments to properties and structures subject to flooding primarily for the reduction or elimination of flood damages to properties, water and sanitary facilities, structures and contents of buildings in a flood hazard area in accordance with the Minnesota State Building Code.

Floodway: The floodway is the channel of a river or other watercourse and the adjacent land areas which must remain open in order to discharge the 100-year flood.

Forebay: An extra storage area provided near an inlet of a pond or BMP to trap incoming sediments, reducing the amount that accumulates in a pond or BMP.

Freeboard: A factor of safety usually expressed in feet above a certain flood level. Freeboard compensates for the many unknown factors (e.g., waves, ice, debris, etc.) that may increase flood levels beyond the calculated level.

Forbs: Vegetation that does not consist of trees, grass or shrubs. Forbs are typically associated with flowering plants

Geographic Information System (GIS): Computer databases of georeferenced information on the cities various resources.

Global Positioning System (GPS): Network of satellites used to map and identify locations on the earth.

Hydric Soil: Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soil is one of the three criteria that define wetlands

Hydrophytic Vegetation: Macrophytic plant life growing in water, soil, or a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

Hypereutropic: A very nutrient-rich lake characterized by frequent and severe nuisance algae blooms and low transparency.

Intensity-Duration-Frequency (IDF) Curve: A graphical representation of the rainfall intensity versus time of concentration for an area. The IDF curve is typically used in the Rational Method of storm sewer design to determine design rainfall intensity in inches per hour. The following IDF curve is taken from the Minnesota Department of Transportation Drainage Manual and applies is used in the rational method of storm sewer design for the Ramsey Area.

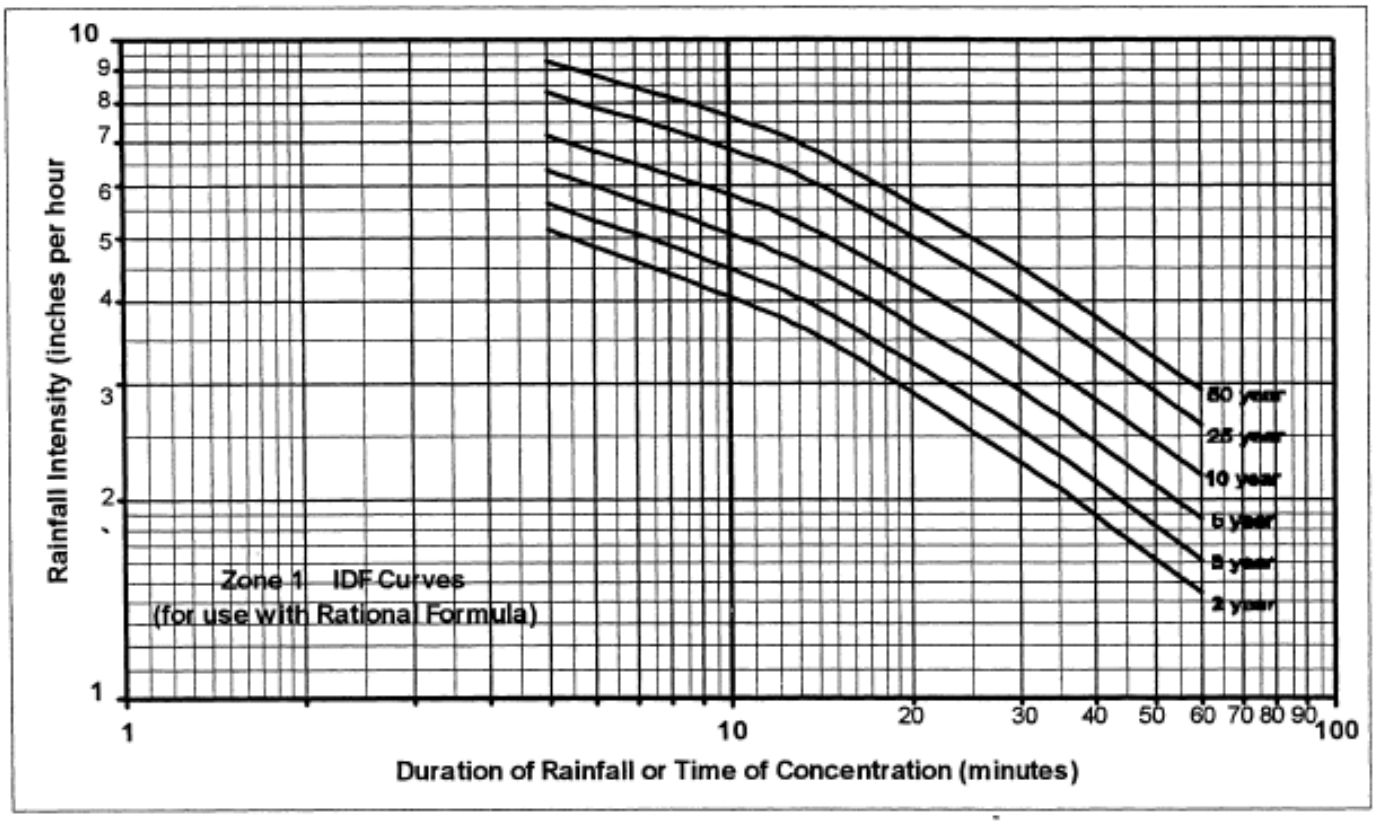


Figure 3.4 Zone 1 Southern Minnesota Rainfall Intensity - Duration - Frequency (IDF) Curves

Impervious Surface: The portion of the buildable parcel which has a covering which does not permit water to percolate into the natural soil. Impervious surface shall include, but not be limited to, buildings, all driveways and parking areas (whether paved or not), sidewalks, patios, swimming pools, tennis and basketball courts, covered decks, porches, and other structures. Open, uncovered decks are not considered impervious for the purposes of this ordinance. The use of patio blocks, paver bricks or class 5 gravel material are considered impervious surfaces as a majority of water runs-off the surface rather than being absorbed into natural soils underneath. Some exceptions to these conditions may include paver blocks or pavement systems engineered to be permeable with the underlying soils suitable for infiltration.

Infiltration Basin: An impoundment where incoming storm water runoff is stored until it gradually infiltrates into and through the soil of the basin floor.

Infiltration Trench: A conventional infiltration trench is a shallow, excavated trench that has been backfilled with stone to create an underground reservoir. Storm water runoff diverted into the trench gradually exfiltrates from the bottom of the trench into the subsoil and eventually into the water table. An enhanced infiltration trench has an extensive pretreatment system to remove sediment and oil. It requires an on-site geotechnical investigation to determine appropriate design and location.

Infrastructure: Public facilities and services, including transportation, storm water pipes, structures and ponds, water and sewer pipes and structures, telecommunications, recycling and solid waste disposal, parks and other public spaces, schools, police and fire protection, and health and welfare services.

Integrated Management Practice (IMP): A range of small-scale storm water controls or practices distributed throughout a site and intended to maintain flow patterns, filter pollutants and/or re-create or maintain existing site hydrology.

Invasive Species or Exotic Species: Non-native plants or wild animals that can naturalize, have high propagation potential, are highly competitive for limiting factors, and cause displacement of, or otherwise threaten, native plants or native animals in their natural communities.

Landlocked High Water Level or Landlocked HWL: The peak water level or high water level in a land locked basin. The HWL is the highest peak ponding elevation generated by the back-to-back 100-year SCS 24-hour rainfall events, the 10-inch SCS 24-hour rainfall event or the 100-year, 10-day snowmelt snow melt event.

Local Government Unit (LGU): Agency that has the primary responsibility of administering the Wetland Conservation Act. The City of Ramsey acts as LGU for all wetlands within the City limits and shares responsibility for basins that border adjacent municipalities.

Lowest Floor: The lowest floor of a structure, including basement.

Low Impact Development (LID): An approach to storm water management intended to protect water resources, reduce storm sewer infrastructure costs and provide a more attractive storm water management system. LID practices include infiltration systems, bioretention areas, rain barrels, green roofs, porous pavements and a long list of additional innovative storm water treatment practices.

Mesotrophic: Describes a lake of moderate photosynthetic productivity.

MNRAM: The Minnesota Routine Assessment Methodology as referenced by Minnesota Rules 8420. MNRAM is the primary tool used to assess wetland functions and values on a qualitative basis. MNRAM evaluates wetlands based on vegetation, wildlife habitat, water quality, flood and storm water attenuation, recreational opportunities, aesthetics, fishery habitat, groundwater interactions, and commercial use. The result of a MNRAM evaluation is a ranking of the wetland quality that can be used to monitor the wetland

changes over time and to set appropriate protection needs and techniques. The version referenced in this plan is Version 3.0.

Monotypic: Used to describe vegetation communities in which only one dominant species is present. Most often used to describe areas that are entirely dominated by reed canary grass or cattails.

Navigable Waters: Waters defined by the United States, 33 Code of Federal Regulations Section 329.4 as those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The U.S. Army Corps of Engineers has Federal Jurisdiction over Navigable Waters.

New Development: Development of a property or portion thereof that is currently undeveloped property.

NURP: Nationwide Urban Runoff Program, a study by the U.S. Environmental Protection Agency. A key component of this program was to assess the effectiveness of urban runoff detention/retention basins (e.g., ponds) in removing pollutants from storm water runoff.

Off-Line BMP: A water quality facility designed to treat a portion of storm water (usually 0.5 to 1.0 inches per impervious acre) which has been diverted from a stream or storm drain.

Off-Line Treatment: A BMP system that is located outside of the stream channel or drainage path. A flow diverter is used to divert runoff from the channel and into the BMP for subsequent treatment.

Ordinary High Water Level (OHWL or OHW): The Minnesota DNR jurisdictional boundary of public waters and wetlands that is depicted by an elevation delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. For watercourses, the ordinary high water level is the elevation of the top of the bank of the channel. For reservoirs and flowage, the ordinary high water level is the operating elevation of the normal summer pool. In Ramsey all of the lakes have an OHW established. For streams and waterways, the OHW is considered the top of bank. Areas below the OHW are under the jurisdiction of the Minnesota Department of Natural Resources and are not regulated by the Wetland Conservation Act.

Permanent Pool: A 3- to 10-foot deep pool in a storm water pond system that provides removal of urban pollutants through settling and biological uptake (also referred to as a wet pond).

Porous Pavement: An alternative to conventional pavement whereby runoff is diverted through a porous asphalt or concrete layer and into an underground stone reservoir. The stored runoff then gradually infiltrates into the subsoil.

Protected Water: Any water or wetland designated by the Minnesota Department of Natural Resources and identified by statute on the Protected Waters Inventory.

Public Waters: Those waters of the state identified as public waters or wetlands under Minnesota Statutes, Section 103G.005.

Rational Method: A method of estimating the peak runoff from a watershed that is based on the formula Q = CIA. Where:

Q = peak flow rate in cubic feet per second
C = a runoff coefficient based on the percentage of impervious surface, type of vegetative cover, and soil type
I = rainfall intensity in inches per hour as determined from an area IDF curve
A = watershed area in acres

Reach: A hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by the natural or man-made obstruction. In an urban area, the segment of a stream or river between two consecutive bridge crossings or between two reservoirs would most typically constitute a reach.

Redevelopment: Any development including but not limited to rebuilding, renovation, revision, remodeling, reconstruction or redesign of or at an existing development.

Regional Flood: A flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristics of what can be expected to occur on an average frequency in the magnitude of the 100-year recurrence interval. A regional flood is synonymous with the term "base flood" used in the Flood Insurance Study.

Regulatory Flood Protection Elevation: A point not less than one-foot above the water surface profile associated with the 100-year flood as determined by the use of the 100-year flood profile and surrounding technical data in the Flood Insurance Study plus any increase in flood heights attributable to encroachments on the floodplain. It is the minimum elevation the DNR requires Cities to regulate by ordinance.

Retention: The permanent storage of runoff from rainfall and snowmelt events with volume reduction coming from infiltration, evaporation or emergency release.

Riprap: A combination of large stone, cobbles and boulders used as an erosion control BMP. Riprap is typically used to line channels, stabilize banks, reduce runoff velocities, or filter out sediment.

Runoff (Storm Water): The overland and near surface flow from rainfall and snowmelt.

Runoff Coefficient: A measure of the rate of runoff that is statistically generated from a parcel of land that is based on the land use, percent of impervious surfacing, soil type and vegetative cover. The higher the coefficient, the higher the amount of runoff anticipated from the parcel. Rational method runoff coefficients range from 0.2 for meadow lands to 0.95 for paved surfaces.

Runoff Conveyance: Methods for safely conveying runoff to a BMP to minimize disruption of the stream network, and promote infiltration or filtering of the runoff.

Runoff Pretreatment: Techniques to capture or trap coarse sediments before they enter a BMP to preserve storage volumes or prevent clogging within the BMP. Examples include forebays and micropools for pond BMPs, and plunge pools, grass filter strips and filter fabric for infiltration BMPs.

Sand Filter: A technique for treating storm water, whereby the first flush of runoff is diverted into a self-contained bed of sand. The runoff is then strained through the sand, collected in underground pipes and returned back to the stream or channel.

Sediment Forebay: A storm water design feature that employs the use of a small settling basin to settle out incoming sediments before they are delivered to a storm water BMP. Often used full in tandem with infiltration devices, wet ponds or marshes.

Sequencing: The process used by the Local Government Unit to evaluate the necessity of an activity relative to its impact on a wetland. The party proposing the impact must demonstrate that the activity proposed complies with the following principles in descending order of priority.

1. Avoids direct or indirect impacts to the wetlands that may diminish or destroy them;
2. Minimizes the impact to the wetland by limiting the degree or magnitude of the wetland activity and its implementation;
3. Rectifies the impacts by repairing, rehabilitating, or restoring the affected wetland;
4. Reduces or eliminates the impact to the wetland over time by preservation and maintenance operations; and,
5. Replaces unavoidable wetland impacts to the wetland by restoring or, if wetland restoration opportunities are not reasonably available, creating substitute wetland areas having equal or greater public value as provided for under the Wetland Conservation Act.

Shoreland: Land located within the following distances from public waters:

1. One thousand feet from the ordinary high water level of a lake, pond, or flowage
2. Three hundred feet from a river or stream, or the landward extent of a floodplain designated by ordinance on a river or stream, whichever is greater.

The limits of shoreland may be reduced whenever the waters involved are bounded by topographic divides which extend landward from the waters for lesser distances and when approved by the Commissioner of the DNR.

Short Circuiting: The passage of runoff through a BMP in less than the theoretical or design treatment time. For example, a properly designed treatment pond will have the inlet and outlet pipes located as far apart (along the water flow path) as possible. A short circuiting pond would have the inlet very close to the outlet and the water coming into the pond would leave the pond much sooner than if it were able to travel through the entire pond.

Storm Water Treatment: The use of accepted BMPs to treat runoff including **d**etention, retention, filtering or infiltration of a given volume of storm water to remove pollutants.

Stream Buffer: A variable width strip of vegetated land adjacent to a stream that is preserved from a disturbance and/or mowing to protect water quality and aquatic and terrestrial habitats. See also buffer strip.

Structure: Anything manufactured, built, constructed, erected, or a portion thereof which is normally attached to or positioned on land, whether temporary or permanent in character, including but not limited to buildings, fences, sheds, advertising signs, dog kennels, hard surface parking areas, boardwalks, playground equipment, concrete slabs.

Shoreland Wetland Protection Zone: The land located within 1,000 feet from the Ordinary High Water Elevation of a Protected Water, 500 feet from the Mississippi or Rum Rivers or the landward extent of the designated floodplain, and 300 feet from any stream designated in the shoreline management ordinance.

Storm Water: (See Runoff)

Storm Water Treatment Pond: Any waterbody that has been specifically created to remove sediment and nutrients and "treat" surface water runoff. Storm water ponds that were created from existing wetland are still regulated as jurisdictional wetlands. Storm water ponds created from upland areas are not wetland and are exempt from regulatory jurisdiction.

Subwatershed: A subdivision based on hydrology corresponding to a smaller drainage area within a larger watershed.

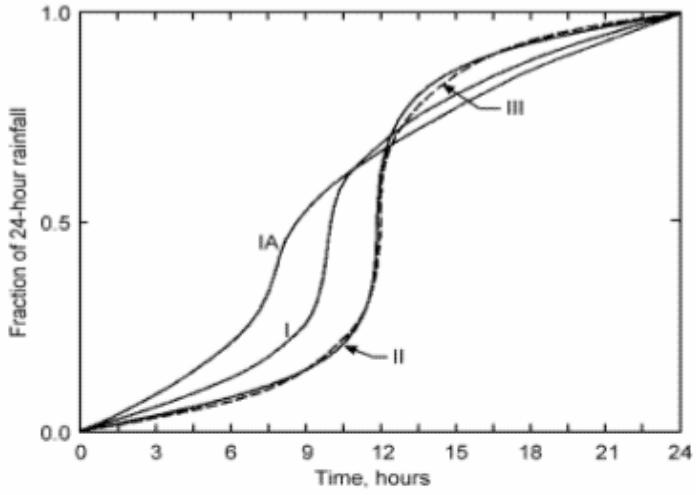
Technical Evaluation Panel (TEP): A panel of technical professionals from the Board of Water and Soil resources, the Anoka County SWCD, the LRRWMO and the LGU (City of Ramsey) at a minimum. This panel may also be expanded to include a Minnesota Department of Natural Resources representative, the U.S. Army Corps of Engineers and interested citizens requesting to participate in the wetland decision making process. Invitations to a TEP meeting are typically sent to all parties listed. The DNR, COE and interested citizens (if any) may elect not to attend. The TEP provides decision making support for the LGU for many wetland and regulatory issues.

Ten-Day Snow Melt Runoff with Type "C" Distribution (100-Year/10-day snow melt runoff): A modeled runoff event that represents snowmelt conditions over a 10-day period for a return period snow depth of 100 years. The runoff event is simulated for a curve number (CN) of 100 which represents frozen soil conditions or where all surfaces are considered impervious. For some Ramsey the ten-day runoff event is critical event for identifying the high water level of the basin or water body because the Anoka Sand Plain typically reduces runoff under unfrozen conditions. The Type C distribution is similar in concept to the Type I and II distributions, and for this event, establishes the time distribution of runoff volume over the ten-day period.

Treatment Volume (Vt): The volume of storm water runoff that is treated within a BMP or IMP storm water treatment facility. Typically the volume is expressed in terms of inches of runoff per impervious acre.

Type I, IA, II and III Storm Distributions - NRCS: These storm types represent the time distribution of a 24-hour rainfall event for areas throughout the United States. The total storm depth is distributed according to the diagram in subpart A. Type II storms are more "flashy" (i.e., convective/thunderstorms) than a Type I or IA storm. Subpart B illustrates that all of Minnesota is within the Type II rainfall distribution area.

A. SCS 24-hour rainfall distributions (SCS, 1986):



B. Approximate geographic boundaries for SCS rainfall distributions (SCS, 1986):



Underdrain: Typically perforated plastic pipes installed on the bottom of a filtration of infiltration BMP, or sand filter. The under drain is used to collect and remove treated storm water that exceeds the water holding and/or infiltration capacity of the soil.

Upland: General term to describe any area that is not a wetland.

Vegetated Filter Strip: A vegetated section of land designed to accept runoff as overland sheet flow from upstream development. It may adopt any natural vegetated form, from grassy meadow to small forest. The dense vegetative cover facilitates pollutant removal. Vegetated filter strips cannot treat high velocity flows; therefore, they have generally been recommended for use in agriculture and low-density development. A filter strip can also be an enhanced natural buffer, whereby the removal capability of the natural buffer is improved through engineering and maintenance activities such as land grading or the installation of a level spreader. A filter strip differs from a grassed

swale in that a swale is a concave vegetated conveyance system, whereas a filter strip has a fairly level surface.

Watershed: A topographically defined area within which all runoff water drains to a point.

Water Quality Volume: A design volume of water as defined by the MPCA that is required to be treated from a new development site. The MPCA defines the water quality volume as 0.5-inches of runoff from all new impervious surfaces associated with the development in the watershed.

Watershed-to-Lake Ratio: The relative surface area of the contributing watershed to the surface area of the lake or water body. In terms of water quality, generally the smaller the watershed-to-lake ratio, the better the quality of the lake. For example a lake with a ratio of 4 to 1 means that the watershed is four times the size of the lake (i.e., 200 acres contributing to a 50 acre lake).

Wetland: Transitional land between terrestrial and aquatic systems where the water table is at or near the surface or the land is covered by shallow water. The jurisdictionally accepted definition of a wetland includes the following three characteristics:

1. Have a predominance of hydric soil
2. Be inundated or saturated within 1-foot of the surface for at least 5 percent of the growing season. The inundation refers to a single continuous episode.
3. Support a prevalence of hydrophytic vegetation typically adapted for life in saturated soils.

Wetland Conservation Act (WCA): In 1991 Minnesota adopted the initial Wetland Conservation Act (Minnesota Laws Chapter 354) to protect the states wetland resources. This act has been amended and updated periodically, typically under Minnesota Rule 8420, and is used by reference to the current program, as well as any future amendments.

Wetland Delineation: The process and procedure by which an area is determined a wetland or non-wetland including a determination of the wetland boundary based on the point where the non-wetland areas shift to wetlands or aquatic habitats.

Wetland Mitigation: Wetlands created to replace wetland areas destroyed or impacted by land disturbances.

Wet Pond: A conventional wet pond has a permanent pool of water for treating incoming storm water runoff and a live storage component for flood storage and additional water quality treatment detention.

Tables

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P23202	880.0	L23240	873.2	CIRCULAR	18	881.9	11
P23218	882.0		0.0		0	876.8	1
P23310	874.0	L23308	870.0	CIRCULAR	15	871.8	9
P23320	866.5	OC23318	863.5	RECT_OPEN		863.9	55
P23400	866.0	L23320	864.0	CIRCULAR	24	866.4	16
P23402	872.5	L23400	864.5	CIRCULAR	42	868.0	49
P23404	874.0	L23402	866.0	CIRCULAR	24	869.3	13
P23406	874.0	L23404	868.0	CIRCULAR	18	869.8	8
P24212	861.0	L24TH47-1	858.9	ARCH	18.25	860.8	8
P24310	880.0	L24308	872.0	CIRCULAR	15	879.1	8
P24322	861.0	L24213	858.5	CIRCULAR	12	862.1	6
P24324	865.0	L24321	860.0	CIRCULAR	12	863.5	5
P24324A	867.0	ZC24324A	865.5	RECT_OPEN		866.3	5
P24324B	866.0	ZC24324B	865.5	RECT_OPEN		866.2	4
P24326	864.0	L24324	862.0	CIRCULAR	15	866.3	12
P24330	864.0	OC24213	863.5	RECT_OPEN		863.8	18
P24350	870.0	L24348	864.0	CIRCULAR	12	868.8	8
P24354	866.0	OC24327	865.0	RECT_OPEN		866.3	51
P24355	868.0		0.0		0	866.3	25
P24366	863.0	L24TH47	860.1	CIRCULAR	15	861.3	38
P24368	864.0	L24366	860.2	CIRCULAR	18	862.1	10
P24374	864.0	L24TH47-4	858.2	ARCH	18.25	863.7	30
P24389	867.4		0.0		0	861.0	0
P24391	860.5		0.0		0	862.1	4
P24392	868.0	L24387	864.0	CIRCULAR	12	866.2	5
P25204	858.0	L25202	854.0	CIRCULAR	24	855.6	12
P25216	850.0	L25214	847.8	CIRCULAR	48	850.8	107
P25304	856.0	L25302	852.0	CIRCULAR	15	856.9	18
P25315	862.3	L26215	859.4	CIRCULAR	12	861.8	17
P25317	867.0	L25319	861.9	CIRCULAR	12	866.2	6
P25319	872.5	L25321	866.0	CIRCULAR	15	866.9	3
P25321	879.5	L25329	875.6	CIRCULAR	15	877.8	3
P25328	858.0	C25326	852.8	RECT_OPEN		857.4	27
P25400	868.0	L25400	866.0	CIRCULAR	15	869.4	5
P25402	876.0	L25402	870.0	CIRCULAR	18	877.3	15
P25424	866.0	L25420	862.0	CIRCULAR	12	866.2	6
P25426	863.0	L25425	863.0	CIRCULAR	15	859.2	6
P25442	880.0	L25439	878.0	CIRCULAR	12	880.1	5
P25454	868.0	D43-P559	866.0	CIRCULAR	12	868.5	19
P25456	868.0	L25447	863.0	CIRCULAR	12	866.9	5
P25458	860.0	C25456	860.0	RECT_OPEN		860.0	33
P25484	872.0	L25482	870.0	CIRCULAR	12	872.0	5

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P25488	880.2	L25488	873.0	CIRCULAR	18	881.9	2
P25490	880.0		0.0		0	881.9	0
P25492	879.3		0.0		0	885.4	0
P26112	870.0	L26110	866.0	CIRCULAR	12	869.3	5
P26118	866.0	L26117	860.0	CIRCULAR	24	862.7	16
P26136	874.0	L26135	871.0	CIRCULAR	15	871.6	6
P26144	868.0	L26442	863.0	CIRCULAR	15	864.3	3
P26158	864.0	L26154	860.0	CIRCULAR	18	862.9	8
P26168	864.0		0.0		0	863.4	0
P26176	866.0	L25418	862.4	CIRCULAR	15	867.9	7
P26190	872.0	L26187	868.0	CIRCULAR	12	870.4	4
P26200	860.0	C25329	856.0	RECT_OPEN		857.5	24
P26204	862.0	L26200	858.2	CIRCULAR	15	861.6	9
P26206	864.0	L26209	858.4	CIRCULAR	30	863.8	30
P26226	866.0	L26415	865.2	CIRCULAR	15	864.1	0
P26302	862.0		0.0		0	856.0	23
P26304	874.0	L26323	868.0	CIRCULAR	18	874.2	10
P26306	876.0	L26326	871.0	CIRCULAR	15	873.5	5
P26308	872.0	C26313	871.5	RECT_OPEN		876.5	8
P26310	874.0		0.0		0	876.5	6
P26312	860.0	L28313	852.5	CIRCULAR	18	855.4	4
P26400	865.0		0.0		0	860.9	0
P26402							
864	864.0		0.0	0	0	864.1	0
P26420	865.0	L26418	861.0	CIRCULAR	15	863.5	7
P26424	866.0	L26423	860.0	CIRCULAR	24	861.5	11
P26428	865.0		0.0		0	864.1	7
P26458	872.0	L26456	868.9	CIRCULAR	15	869.9	5
P28313	858.0	L28315	850.0	CIRCULAR	18	854.3	4
P36400	855.0	L25236	850.8	CIRCULAR	36	853.3	34

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P09308	878.0	C16406	875.0	RECT_OPEN		875.3	12
P11338	874.0	ZC14436	872.0	RECT_OPEN		872.8	39
P11340	878.0	ZC11338	874.0	RECT_OPEN		874.4	29
P13314	872.0	ZC13312	871.0	RECT_OPEN		871.2	23
P13408	864.0	L13406	850.8	CIRCULAR	36	862.6	139
P14104	866.0	L14102	861.5	CIRCULAR	12	867.6	8
P14118	866.0	L14116	862.0	CIRCULAR	18	863.9	11
P14122	866.0	L14120	858.0	CIRCULAR	12	868.4	11
P14124	878.0	L14132	870.0	RECT_CLOSE	48	870.3	8
P14126	870.0	L14127	866.0	CIRCULAR	12	868.0	3
P14140	874.0	L14137	868.9	CIRCULAR	12	872.5	5
P14148	872.0	ZC14455	871.0	RECT_OPEN		870.3	0
P14156	874.0	ZC14156	865.5	RECT_OPEN		867.6	20
P14166	874.0		0.0			873.2	0
P14202	888.0	C23157	868.0	RECT_OPEN		869.3	98
P14218	864.0	ZC14215	861.0	RECT_OPEN		863.3	56
P14220	870.0	L14218	853.6	CIRCULAR	48	864.4	107
P14228	866.5	ZC14223	864.5	RECT_OPEN		865.1	49
P14230	872.0	ZC14228	871.7	RECT_OPEN		870.7	0
P14240	888.0	L14238	882.0	CIRCULAR	21	884.3	7
P14246	888.0	L14237	884.0	CIRCULAR	12	884.8	6
P14260	865.0	L14258	861.0	CIRCULAR	12	865.3	12
P14268	868.0	L14263	865.0	CIRCULAR	12	867.7	5
P14270	881.0	Link-12	878.0	CIRCULAR	15	879.5	5
P14334	870.0		0.0		0	869.3	0
P14432	870.0	L14430	861.4	CIRCULAR	36	867.0	112
P14436	874.0	L14434	870.0	CIRCULAR	15	872.3	10
P14438	874.0	L14438	871.0	CIRCULAR	15	873.1	14
P14440	872.0	ZC14422	871.0	RECT_OPEN		871.1	1
P14442	872.0	ZC14423	871.0	RECT_OPEN		871.5	21
P14446	872.0	ZC14456	870.5	RECT_OPEN		872.3	10
P14449	875.0	L14440	871.9	CIRCULAR	18	873.1	10
P14450	870.0	ZC14453	869.0	RECT_OPEN		869.2	6
P15102	876.0	C15334	875.2	RECT_OPEN		875.6	35
P15236	878.0	L15234	863.6	CIRCULAR	36	867.3	32
P15240	871.5	L15238	865.0	CIRCULAR	36	868.4	30
P15244	872.0	C15243	870.0	RECT_OPEN		870.5	88
P15246	872.0	C22145	872.0	RECT_OPEN		872.0	1
P15248	878.0	C15250	877.0	RECT_OPEN		873.5	0
P15250	874.0	C15246	873.2	RECT_OPEN		873.3	1
P15252	877.0	C15248	877.0	RECT_OPEN		875.8	0
P15350	874.0	L15348	867.5	CIRCULAR	36	871.0	80

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P15352	872.0	L15347	867.7	CIRCULAR	18	871.7	17
P15402	876.0		0.0		0	873.6	0
P16104	872.0	L16102	868.0	CIRCULAR	12	873.1	6
P16114	878.0	L16138	868.1	CIRCULAR	12	878.3	7
P16128	872.0	C16201	871.0	RECT_OPEN		870.5	0
P16140	873.0	L16254a	869.0	CIRCULAR	18	872.0	24
P16252	872.0	C15350	870.5	IRREGULAR		871.1	176
P16402	874.0	C16200	871.0	RECT_OPEN		872.0	44
P16404	874.0	L16402	872.0	CIRCULAR	15	873.3	5
P16406	874.0	L16404	871.0	CIRCULAR	15	873.5	9
P19E304	848.0	L19302	845.0	CIRCULAR	21	854.5	14
P22110	886.0	L22208	885.0	CIRCULAR	15	886.7	5
P22150	876.0	ZC23447	875.8	RECT_OPEN		875.9	4
P22208	886.0	L22206	881.4	CIRCULAR	15	884.6	6
P22216	874.0		0.0		0	873.1	0
P22220	876.0	L22218	872.0	CIRCULAR	15	876.5	8
P22402	872.0		0.0		0	871.1	7
P22404	872.0	L22402	868.5	CIRCULAR	15	871.0	12
P22406	874.0	L22404	868.4	CIRCULAR	15	871.0	4
P22408	872.0	ZC22408	867.7	TRAPEZOIDA		871.3	16
P22410	874.0	L22408	871.0	CIRCULAR	18	874.5	37
P22454	872.0	ZC22408A	866.5	TRAPEZOIDA		871.3	43
P23102	870.0	L23101	865.8	CIRCULAR	12	877.2	18
P23118	870.0	L24412	866.0	CIRCULAR	15	869.4	11
P23158	868.0	P23158	864.0	CIRCULAR	18	865.7	1
P23160	868.0	L23159	862.5	CIRCULAR	15	866.2	5
P23186	867.2	L23185	864.3	CIRCULAR	15	866.2	10
P23302	872.0		0.0		0	867.8	4
P23312	869.0		0.0		0	867.3	0
P23416	872.0	L23408	866.2	CIRCULAR	18	871.1	12
P23438	868.0	C23158	866.0	RECT_OPEN		867.1	37
P23444	872.0	C15241	868.9	RECT_OPEN		869.2	5
P23446	872.0	L23444	871.0	CIRCULAR	18	872.4	39
P24114	870.0	L24112	858.7	CIRCULAR	21	867.4	11
P24118	868.3	L24116	864.2	CIRCULAR	15	868.5	8
P24126	880.0	L24124	878.0	CIRCULAR	21	879.0	13
P24148	874.0	L24146	864.5	CIRCULAR	15	871.9	20
P24222	890.0	L24150	883.1	CIRCULAR	15	887.2	7
P24230	888.0	L24228	884.0	CIRCULAR	12	887.8	8
P24244	890.0	L24242	886.0	CIRCULAR	15	889.4	5
P24402	868.0	L24451	861.0	CIRCULAR	15	865.7	4
P24406	868.0	L24404	862.3	CIRCULAR	15	866.1	6

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P24426	868.0	L24425	864.2	CIRCULAR	15	866.3	7
P24440	868.0	L24138	857.4	CIRCULAR	15	865.9	6
P24450	866.0	L24448	862.0	CIRCULAR	18	865.4	12
P24452	872.0	L24449	870.0	CIRCULAR	18	872.2	14
P24454	872.0	C24450	871.2	RECT_OPEN		871.3	4

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P22302	870.0	L27116	864.5	CIRCULAR	12	866.4	2
P22304	870.0	L22302	866.0	CIRCULAR	15	866.7	4
P22306	888.0	C22304	887.6	RECT_OPEN		886.5	0
P27102	868.0	L27119	864.5	CIRCULAR	18	862.5	0
P27104	870.0	C27104	870.5	RECT_OPEN		869.5	0
P27106	872.0	C27108	871.2	RECT_OPEN		868.6	0
P27108	872.0		0.0			864.9	0
P27110	872.0	C27109	870.4	RECT_OPEN		867.0	0
P27112	872.0	C27107	870.0	RECT_OPEN		869.2	0
P27114	872.0	C27106	870.6	RECT_OPEN		869.8	0
P27116	870.0	C27411	870.3	RECT_OPEN		866.4	2
P27118	866.0		0.0		0	862.5	0
P27202	866.0	L27232	857.6	CIRCULAR	36	865.5	43
P27234	866.0	L27229	861.6	CIRCULAR	15	863.7	38
P27268	868.0	C27269	864.5	RECT_OPEN		864.8	7
P27270	866.0		0.0		0	862.6	0
P27276	880.0	C27270				873.8	0
P27302	867.0	L27344	858.2	CIRCULAR	15	866.0	12
P27316	866.0	L27301	865.0	CIRCULAR	24	865.5	2
P27330	866.0	L27328	858.0	CIRCULAR	18	865.4	8
P27338	862.0	C34176	862.0	RECT_OPEN		862.3	8
P27346	865.0	L27404	862.0	CIRCULAR	18	863.9	10
P27402	868.0	L27118	862.5	CIRCULAR	24	861.8	0
P27404	868.0	C27402	868.2	RECT_OPEN		867.4	0
P27406	868.0	C27403	868.2	RECT_OPEN		868.4	3
P27408	870.0		0.0		0	865.4	0
P27416	872.0	L27414	868.0	CIRCULAR	15	871.0	7
P27434	880.0	L27432	876.0	CIRCULAR	12	878.0	5
P27446	870.0	L27401	863.8	CIRCULAR	12	869.1	6
P27456	872.0		0.0		0	870.6	0
P34106	859.0	L34104	857.4	CIRCULAR	24	859.0	22
P34137	864.0	L34137	854.0	CIRCULAR	15	859.1	10
P34148	860.0	L34149	853.8	CIRCULAR	24	857.9	11
P34150	862.0	L34152	854.5	CIRCULAR	30	861.2	29
P34164	866.0		0.0		0	864.7	0
P34166	868.0		0.0		0	868.1	0
P34168	860.0		0.0		0	861.9	0
P34170	862.0	L34139	858.5	CIRCULAR	15	862.2	14
P34172	868.0		0.0		0	869.0	0
P34174	863.5	L27274	860.8	CIRCULAR	15	863.4	14
P34402	861.0	L34405	855.7	ARCH	36	860.7	8
P34408	860.0	C34106	858.5	RECT_OPEN		859.0	13

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P34410	862.0	C34408	862.0	RECT_OPEN		862.1	15
P34412	864.0	C34410	864.0	RECT_OPEN		864.1	8
P34414	862.0		0.0			860.5	0
P34416	862.0	C34414	862.0	RECT_OPEN		860.6	0
P35402	856.0	L35317	848.5	CIRCULAR	18	852.5	11
P35407	860.0	L35407	851.0	CIRCULAR	36	858.2	10
P35420	862.0	L35420	858.0	CIRCULAR	42	860.2	39
P35422	862.0	P35418	856.2	CIRCULAR	42	860.3	9
P35424	860.0		0.0		0	861.3	59
P35438	862.0	L35436	858.0	CIRCULAR	12	861.9	6
P35446	866.0		0.0		0	866.7	3
P35464	868.0	L35462	861.5	CIRCULAR	12	866.7	6
P35474	868.0	L35432	866.8	CIRCULAR	15	867.1	28
P35476	882.0		0.0		0	881.4	0
P35478	866.0		0.0		0	864.4	0
P35480	866.0		0.0		0	865.9	0

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P10242	884.0	C11340	883.0	RECT_OPEN		883.0	1
P10244	884.0	C10242	883.5	RECT_OPEN		883.6	0
P10246	878.0		0.0			875.1	0
P10248	878.0	C10246	876.3	RECT_OPEN		876.3	1
P10254	884.0	C10243	886.9	RECT_OPEN		882.4	0
P11104	884.0		0.0			885.7	0
P11106	882.0	C11105	880.6	RECT_OPEN		880.8	14
P11108	888.0	C11106	886.3	RECT_OPEN		878.4	0
P11110	884.0	C11107	882.9	RECT_OPEN		876.0	0
P11112	880.0	C11210	880.7	PARABOLIC		881.1	16
P11114	878.0	C11113	878.0	RECT_OPEN		878.1	10
P11116	882.0	L11118	877.7	CIRCULAR	18	879.4	2
P11118	878.0	L11120	873.0	CIRCULAR	18	874.1	9
P11202	874.0	L11211	868.0	CIRCULAR	12	870.6	3
P11206	876.0	L11204	871.5	CIRCULAR	24	872.9	11
P11208	878.0	C11205	875.9	PARABOLIC		873.9	0
P11210	878.0	C11208	877.4	PARABOLIC		877.6	1
P11212	878.0	C11215	875.5	TRAPEZOIDA		876.8	11
P11213	872.5	C11202	870.0	TRAPEZOIDA		870.7	8
P11306	886.0	C11104	885.1	RECT_OPEN		885.7	24
P11308	880.0	C11406	878.8	RECT_OPEN		875.6	0
P11310	881.0	C11308	880.1	RECT_OPEN		880.3	7
P11312	881.0	C11310	880.5	RECT_OPEN		880.7	12
P11314	881.0		0.0			880.7	1
P11316	876.0	C11407	872.1	CIRCULAR	18	872.9	8
P11318	878.0	C11316	877.5	RECT_OPEN		877.6	5
P11320	878.0	C11206	876.1	RECT_OPEN		876.5	40
P11338	874.0	C14436	872.0	RECT_OPEN		872.5	43
P11340	878.0	L11338	874.0	CIRCULAR	18	875.0	13
P11402	874.0		0.0		0	872.8	0
P11404	874.0	C11402	872.7	RECT_OPEN		873.0	44
P11406	878.0	C11404	877.5	RECT_OPEN		873.0	0
P11408	874.0	C11403	872.4	RECT_OPEN		873.5	73
P11410	882.0	C11408	880.5	RECT_OPEN		880.6	45
P12302	860.0	C12300	856.0	RECT_OPEN		856.7	45
P12304	862.0	C12302	860.0	RECT_OPEN		860.6	28
P12306	878.0	C12301	877.1	PARABOLIC		877.1	1
P12312	876.0	C12303	874.0	RECT_OPEN		874.2	30
P12313	860.0	L12306	857.8	CIRCULAR	15	858.1	9
P12314	858.0	C12307	856.0	TRAPEZOIDA		856.8	2
P13402	880.0		0.0			879.0	0
P13404	879.0	C13410	878.6	RECT_OPEN		878.4	0

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P13408	865.0	L13406	863.4	CIRCULAR	12	864.1	7
P13410	868.0	C13408	866.8	RECT_OPEN		866.9	2
P14106	876.0	L14104	874.5	CIRCULAR	12	876.7	6
P14108	881.0	C14106	880.2	RECT_OPEN		880.3	16
P14401	877.5	L14435	871.5	CIRCULAR	15.72	876.8	9
P14402	896.0		0.0		0	894.1	0
P14436	874.0	L14434	870.0	CIRCULAR	15	872.5	7
P15150	888.0	C10248	887.3	RECT_OPEN		884.3	0
P15152	888.0	C15150	888.7	RECT_OPEN		882.1	0

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P34304	848.0	P34304	842.0	CIRCULAR	24	848.9	36
P34311	854.0	P34311	850.0	CIRCULAR	15	853.5	5
P34316	856.0	P34316	852.0	CIRCULAR	15	855.7	7
P34418	856.0	P34418	850.1	CIRCULAR	24	859.8	29
P34434	856.0	P34434	853.0	CIRCULAR	15	859.3	7
P34451	854.0	P34451	849.1	CIRCULAR	18	853.6	10
P34452	854.0	P34452	849.3	CIRCULAR	18	853.6	5
P34460	858.0	P34460	853.2	CIRCULAR	27	856.3	11

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P01108	864.0	C01200	863.7	RECT_OPEN		863.4	0
P01304	858.0	C01301	856.5	RECT_OPEN		858.2	95
P01306	870.0	C01304	867.3	RECT_OPEN		867.5	19
P01307	864.0	C01303	862.7	RECT_OPEN		862.7	1
P01308	874.0	L01306	870.0	FILLED_CIR	18	871.8	7
P01314	870.0	C01305	869.0	RECT_OPEN		869.2	33
P01410	872.0	C01108	870.5	RECT_OPEN		870.8	40
P02110	890.0	C02208	888.9	RECT_OPEN		889.1	26
P02112	890.0	C02211	889.6	RECT_OPEN		889.9	9
P02114	900.0	C02112	899.5	RECT_OPEN		893.9	0
P02116	902.0	C02114	900.0	RECT_OPEN		900.0	0
P02206	868.0	C02204	858.0	IRREGULAR		861.9	475
P02208	864.0	C02205	863.8	RECT_OPEN		864.1	40
P02212	886.0	C01311	885.1	RECT_OPEN		885.1	2
P02310	872.0	C02209	871.0	RECT_OPEN		871.3	34
P02412	892.0	C02410	888.3	RECT_OPEN		888.6	39
P03212	874.0	C02310	873.5	RECT_OPEN		873.8	36
P03314	886.0	L03312	882.0	CIRCULAR	18	884.8	15
P03316	888.0	C03314	886.9	RECT_OPEN		888.7	38
P03330	886.0	C03315	884.9	RECT_OPEN		885.0	3
P03418	890.0	C03316	889.0	RECT_OPEN		889.5	37
P03432	892.0	L03419	889.0	CIRCULAR	18	889.5	3
P04220	896.0	C03418	892.0	RECT_OPEN		893.3	41
P05338	892.0	L05336	886.0	CIRCULAR	42	888.2	96
P05340	894.0	L05338	890.0	CIRCULAR	42	892.4	93
P05344	906.0	C08135	904.5	RECT_OPEN		906.0	112
P05346	908.0	C05344	905.6	RECT_OPEN		906.7	107
P05444	894.0	C05443	892.0	RECT_OPEN		892.0	1
P06148	900.0	C06146	899.5	RECT_OPEN		900.2	25
P06302	896.0		0.0		0	896.4	0
P06404	891.0	L04402	887.0	CIRCULAR	18	889.7	13
P06410	898.0	L06408	890.0	CIRCULAR	18	892.5	12
P06414	906.0	L06412	902.0	CIRCULAR	18	903.0	13
P06418	904.0	L06416	901.0	CIRCULAR	18	902.0	14
P06424	912.0	L06422	910.0	CIRCULAR	18	910.8	7
P07102	892.0	L07414	889.0	CIRCULAR	15	893.3	18
P07104	892.0	C07102	892.8	RECT_OPEN		893.3	16
P07106	892.0	L07107	889.2	CIRCULAR	24	894.1	20
P07107	892.0	L07102	889.0	CIRCULAR	24	893.6	13
P07112	892.0	L08410	890.0	ARCH	27.6	891.6	17
P07114	890.0	C08411	889.9	RECT_OPEN		890.4	24
P07116	894.0		0.0		0	892.0	0

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P07204	890.0	L07202	885.0	CIRCULAR	18	888.3	13
P07206	902.0	L07204	898.0	CIRCULAR	18	903.9	23
P07210	878.0	C07203	877.0	RECT_OPEN		877.1	4
P07340	880.0	C07338	879.0	IRREGULAR		880.0	8
P07414	892.0	C07112	893.0	RECT_OPEN		893.2	17
P08130	878.0	C08228	873.0	RECT_OPEN		875.5	468
P08134	884.0	C08132	880.0	RECT_OPEN		881.2	335
P08304	888.0	L08302	886.0	CIRCULAR	18	887.5	15
P08330	878.0	L08328	868.0	ARCH	60	871.4	197
P08406	888.0	C08304	887.0	RECT_OPEN		887.5	24
P08408	886.0		0.0			889.4	11
P08410	890.0	C08408	889.8	RECT_OPEN		890.0	29
P08412	890.0	C08409	889.5	RECT_OPEN		889.8	23
P08414	896.0	C08412	895.2	RECT_OPEN		895.5	36
P08416	886.0	L08408	882.2	CIRCULAR	15	887.8	11
P08418	896.0	L08407	891.7	CIRCULAR	18	892.6	14
P08420	900.0	L08418	893.5	CIRCULAR	15	897.7	11
P08430	880.0	C08229	879.0	RECT_OPEN		879.5	26
P08434	903.0	C08133	903.0	RECT_OPEN		901.7	0
P08436	904.0	C08434	904.0	RECT_OPEN		904.2	18
P09118	890.0	C09215	889.0	RECT_OPEN		889.0	3
P09120	902.0	C09118	899.0	RECT_OPEN		899.1	12
P09122	892.0	C09221	890.5	RECT_OPEN		890.6	12
P09124	900.0	C09122	898.2	RECT_OPEN		898.3	9
P09222	874.0	C09220	872.3	RECT_OPEN		872.4	2
P09320	872.0	L09218	864.0	ARCH	60	868.6	225
P09330	876.0	C09323	873.5	RECT_OPEN		873.7	10
P09422	890.0	C04220	899.3	RECT_OPEN		890.7	0
P09424	898.0	C09422	896.6	RECT_OPEN		893.3	0
P09426	896.0	L09324	893.0	CIRCULAR	15	893.6	3
P09428	894.0	L09326	892.0	CIRCULAR	15	893.0	2
P09432	892.0	L09330	886.5	CIRCULAR	15	889.7	7
P09434	890.0	L09123	889.0	CIRCULAR	15	886.8	1
P10114	890.0	L10112	886.0	HORIZ_ELLI	18	887.3	14
P10116	890.0	C10114	888.8	RECT_OPEN		889.0	5
P10118	890.0	C10116	889.1	RECT_OPEN		889.5	17
P10120	890.0	C10118	888.5	RECT_OPEN		889.5	4
P10122	890.0	L10122	888.0	CIRCULAR	15	889.0	5
P10214	890.0	C10413	889.8	RECT_OPEN		890.3	11
P10216	888.0	C10415	887.6	RECT_OPEN		886.0	0
P10412	867.0	L10110	863.0	ARCH	84	866.6	239
P10416	884.0	C10417	883.1	RECT_OPEN		883.3	42

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P10418	888.0	C10419	886.0	RECT_OPEN		886.4	30
P15424	876.0	C09222	875.3	RECT_OPEN		875.0	0
P15426	876.0	C15424	874.6	RECT_OPEN		875.0	12
P16424	892.0	C09325	890.4	RECT_OPEN		889.2	0
P17106	878.0	C17404	876.2	RECT_OPEN		875.6	0
P17108	898.0	C17106	897.2	RECT_OPEN		894.9	0
P17110	892.0	C17107	889.5	RECT_OPEN		889.8	52
P17124	886.0	C09321	885.0	RECT_OPEN		885.1	7
P17126	894.0	C08223	892.5	RECT_OPEN		892.6	12
P17402	880.0	C08329	878.2	RECT_OPEN		874.5	0
P17404	876.0	C17402	875.3	RECT_OPEN		875.4	1
P17407	880.0	L17405	878.0	CIRCULAR	15	874.9	0
P17409	874.0	C07233	873.0	RECT_OPEN		873.2	7
P17410	880.0	C17408	879.3	RECT_OPEN		878.9	0

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
1P	867.0	Link-40	858.5	CIRCULAR	18	869.6	128
2P	870.0	2 Pipe	864.0	CIRCULAR	21	869.7	107
3P	872.0	3 pipe	869.0	CIRCULAR	18	871.4	36
9P	869.0	9 outlet	867.2	CIRCULAR	15	869.0	3
P16300	900.0		0.0		0	900.6	0
P16302	900.0		0.0		0	900.9	0
P17200	888.0	C17307	888.0	RECT_OPEN		887.4	0
P17202	884.0		0.0			880.0	0
P17204	884.0	C17302	883.5	RECT_OPEN		883.6	4
P17300	872.0	C19105	872.0	RECT_OPEN		872.1	54
P17302	874.0	C17301	872.0	RECT_OPEN		872.2	69
P17304	874.0	C17300	872.0	RECT_OPEN		871.8	1
P17306	874.0		0.0		0	875.5	0
P17400	874.0	L17400	870.5	CIRCULAR	15	873.5	10
P17406	876.0	L174111	873.1	CIRCULAR	15	874.0	3
P17408	876.0	C17305	872.0	RECT_OPEN		872.5	26
P18100	876.0	C18102	883.6	RECT_OPEN		875.6	0
P18102	876.0		0.0			875.5	0
P18104	874.0	C18100	873.7	RECT_OPEN		875.6	25
P18106	874.0		0.0			873.0	0
P18108	874.0	C18106	874.0	RECT_OPEN		874.1	4
P18110	874.0	C18108	874.0	RECT_OPEN		873.8	1
P18112	874.0	C18107	874.0	RECT_OPEN		873.2	0
P18200	884.0		0.0			874.1	0
P18202	872.0	C19107	870.0	RECT_OPEN		871.9	74
P18300	886.0		0.0			868.9	185
P18334	885.0	C18332	881.0	RECT_OPEN		883.0	13
P18336	882.0		0.0			884.0	0
P18338	884.0		0.0			883.4	0
P18400	886.0	C18406	883.5	RECT_OPEN		884.0	60
P18402	894.0	C18400	886.0	RECT_OPEN		886.4	41
P18404	886.0	C18407	885.3	RECT_OPEN		885.8	61
P18406	884.0		0.0			880.3	0
P18408	882.0		0.0			881.6	0
P18410	878.0		0.0			875.1	0
P19100	874.0		0.0			871.9	0
P19102	888.0	C19109	886.0	RECT_OPEN		886.2	9
P19200	870.0	C20308	870.0	RECT_OPEN		869.4	0
P19202	872.0	C19101	875.0	RECT_OPEN		872.1	0
P19206	868.0	C19300	868.0	RECT_OPEN		868.2	71
P19304	858.0	C19302	856.0	RECT_OPEN		856.1	25
P19306	858.0	C19304	858.0	RECT_OPEN		858.2	12

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P19400	888.0	L19400	885.0	RECT_OPEN		886.7	59
P19402	884.0		0.0			886.0	0
P19404	882.0		0.0			879.8	0
P19406	882.0	C19404	880.6	RECT_OPEN		881.0	20
P19408	881.0		0.0			881.0	0
P19410	888.0	L19410	885.0	RECT_OPEN		886.5	42
P20100	880.0		0.0			875.1	0
P20102	880.0	C20100	880.0	RECT_OPEN		877.3	0
P20104	880.0		0.0			880.0	0
P20106	882.0	C20104	882.0	RECT_OPEN		882.1	8
P20200	874.0	C29107	874.0	RECT_OPEN		874.1	7
P20300	870.0		0.0			871.5	0
P20302	880.0	C29105	878.0	RECT_OPEN		878.5	31
P20304	868.0	C29104	868.0	RECT_OPEN		868.2	15
P20306	870.0	C20304	871.5	RECT_OPEN		871.0	0
P20308	868.0	C20305	868.0	RECT_OPEN		868.2	6
P20400	872.0	L20306	870.0	CIRCULAR	24	871.0	2
P20402	884.0	C20400	884.0	RECT_OPEN		884.1	5
P20404	878.0	C19103	878.0	RECT_OPEN		871.9	0
P21202-E	870.0	L28136-E	867.0	CIRCULAR	18	869.9	7
P21204-E	870.0	L21202-E	866.5	CIRCULAR	15	870.0	4
P21206-E	870.0	L21204-E	867.0	CIRCULAR	15	870.3	6
P21208-E	870.0	ZC21206-E	869.0	RECT_OPEN		870.3	25
P21210-E	872.0	ZC21208-E	871.4	RECT_OPEN		872.3	28
P21300	876.0	C21405	876.0	RECT_OPEN		876.0	0
P21400	876.0		0.0			868.8	0
P21402	882.0	L21400	876.0	CIRCULAR	24	877.9	24
P21404	881.9	C21401	881.1	RECT_OPEN		881.6	78
P21406	886.0	C21403	885.2	RECT_OPEN		885.6	44
P27306	862.0	L27301	862.0	CIRCULAR	18	863.5	3
P28102	867.0	L28100	860.0	ARCH	44.64	866.2	102
P28104	867.0	L28118	859.0	CIRCULAR	15	866.2	63
P28104-E	870.0	L28102-E	862.5	CIRCULAR	24	865.8	14
P28106-E	868.0	L28104-E	864.0	CIRCULAR	18	867.5	17
P28124	871.5	L28122	865.3	CIRCULAR	18	869.4	12
P28136-E	870.0	L28134-E	867.0	CIRCULAR	15	869.7	6
P28143-E	870.0	L28154-E	861.5	CIRCULAR	18	868.4	13
P28200	870.0		0.0		0	868.0	0
P28220	868.1	L28218	856.0	RECT_CLOSE	36	863.6	227
P28228	864.0	L28219	855.8	ARCH	72	863.4	110
P28242	864.6	L28240	858.5	CIRCULAR	42	865.3	29
P28244	864.9	L28237	859.5	ARCH	31.32	865.2	43

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P28248	864.0	L28246	858.8	CIRCULAR	33	865.7	22
P28258	862.0		0.0		0	862.2	0
P28304	864.0	L28302	850.8	CIRCULAR	42	861.3	80
P28310	865.0	L28201	853.0	CIRCULAR	48	863.0	139
P28320	866.1	L28318	859.2	CIRCULAR	48	865.6	62
P28326	865.4	L28244	860.4	ARCH	31.32	865.9	35
P28332	872.0		0.0		0	874.2	0
P28334	870.0	L28301	847.0	CIRCULAR	30	860.3	62
P28336	867.0	PipeÂ 16	858.5	CIRCULAR	15	864.6	9
P28342	865.0	PipeÂ 40	860.0	CIRCULAR	18	862.7	6
P28353	872.0		0.0		0	871.8	5
P28401	881.0		0.0		0	881.3	7
P28402	879.0		0.0		0	877.4	11
P28403	872.0	L28422	866.0	CIRCULAR	27	867.4	6
P28404	872.2	L28424	869.2	CIRCULAR	21	871.7	8
P28405	871.5	L28425	868.2	CIRCULAR	24	870.9	11
P28406	870.9	L28427	867.3	CIRCULAR	24	870.2	14
P28407	870.0	L28428	866.5	CIRCULAR	24	869.1	17
P28408	871.0	L28406	854.0	RECT_CLOSE	24	865.4	130
P28409	871.7	L28440	869.2	CIRCULAR	18	870.4	4
P28410	870.0	L28439	868.1	CIRCULAR	18	870.0	7
P28411	869.8	L28441	867.2	CIRCULAR	18	869.8	6
P28412	868.0	L28410	862.0	CIRCULAR	48	865.4	33
P28413	869.5	L28442	866.4	CIRCULAR	18	869.1	4
P28414	868.0	C28412	862.0	TRAPEZOIDA		865.4	32
P28415	868.9	Link-30	865.2	CIRCULAR	21	868.6	8
P28416	867.0	L28414	862.7	CIRCULAR	30	868.2	86
P28417	868.5	Link-31	864.4	CIRCULAR	24	868.3	4
P28418	868.0	C28416	862.7	IRREGULAR		868.2	17
P28420	868.0	L28449	865.0	CIRCULAR	15	863.9	2
P28440	865.5		0.0		0	865.1	14
P28441	868.0	LROut	865.7	TRAPEZOIDA		861.3	0
P28472	866.1	L28470	860.6	CIRCULAR	33	866.4	27
P28474	866.9	L28472	860.8	CIRCULAR	33	867.2	30
P28486	869.2	L28484	863.1	CIRCULAR	27	869.3	19
P28492	870.0	L28490	857.7	CIRCULAR	36	868.9	42
P29100	872.0	C29207	871.5	RECT_OPEN		870.9	10
P29102	874.0	L29100	868.5	CIRCULAR	18	870.1	5
P29104	869.0	L28416	864.0	CIRCULAR	24	867.9	23
P29202	856.0	C29200	854.0	RECT_OPEN		854.7	82
P29204	864.0	C29205	863.5	RECT_OPEN		863.8	12
P29304	858.0	C29203	857.5	RECT_OPEN		860.1	18

Pond ID	Ground Elev	DS Link	Outlet Invert Elevation (ft)	Outlet Shape	Outlet Size	100 Year Peak Elev (ft)	Peak Outflow (cfs)
P29400	870.0	C29304	869.5	RECT_OPEN		870.3	58
P29402	878.0	C29400	877.0	RECT_OPEN		877.4	41
P29404	878.0		0.0			880.6	0
P33402	862.0	C33400	861.5	RECT_OPEN		856.6	0
P34400	862.0	L27308	862.0	ARCH	18	864.2	16
P34402	862.0	C34400	862.0	RECT_OPEN		864.6	15
P34404	862.0	C34402	862.0	RECT_OPEN		864.6	19
P34406	862.0	C34404	862.0	RECT_OPEN		864.6	5
P-6	876.0	Link-35	866.0	CIRCULAR	36	874.5	244

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
D43-P559	P25454	P24366	100.00	4.00	CIRCULAR	12	12	7	867.5	860.6	7	No
L23138	CB23240	CB23238	19.83	0.35	CIRCULAR	18	18	6	880.2	879.9	9	Yes
L23200	CB23200	P23320	304.00	3.49	CIRCULAR	15	15	12	876.3	863.7	7	No
L23202	CB23204	P23202	50.00	0.60	CIRCULAR	24	24	18	880.6	880.6	14	Yes
L23203	CB23244	P23202	48.00	0.96	CIRCULAR	18	18	10	880.8	880.6	10	Yes
L23204	CB23206	CB23204	155.04	2.68	CIRCULAR	18	18	17	885.3	880.6	15	Yes
L23206	CB23208	CB23206	204.40	1.78	CIRCULAR	12	12	5	887.1	885.3	2	Yes
L23207	CB23212	CB23206	200.86	2.09	CIRCULAR	12	12	5	887.2	885.3	4	Yes
L23208	CB23110	CB23208	164.70	0.84	CIRCULAR	12	12	3	885.3	887.1	2	No
L23213	CB23214	CB23206	209.07	0.82	CIRCULAR	12	12	3	887.6	885.3	5	Yes
L23214	CB23216	CB23214	290.15	0.70	CIRCULAR	12	12	3	887.3	887.6	3	Yes
L23218	CB23220	P23218	161.77	3.14	CIRCULAR	12	12	6	881.0	874.3	8	Yes
L23219	CB23228	CB23220	230.80	0.36	CIRCULAR	12	12	2	876.7	881.0	5	No
L23220	CB23222	CB23220	334.25	0.54	CIRCULAR	12	12	3	887.0	881.0	6	Yes
L23221	CB23226	CB23220	110.70	0.53	CIRCULAR	12	12	3	882.5	881.0	4	Yes
L23222	CB23224	CB23222	164.49	2.53	CIRCULAR	12	12	6	889.2	887.0	4	Yes
L23232	CB23234	CB23232	221.08	0.27	CIRCULAR	18	18	5	878.2	873.9	8	No
L23234	CB23236	CB23234	42.31	0.21	CIRCULAR	18	18	5	878.6	878.2	8	Yes
L23236	CB23238	CB23236	213.89	0.25	CIRCULAR	18	18	5	879.9	878.6	8	Yes
L23240	P23202	CB23240	30.00	0.33	CIRCULAR	18	18	6	880.6	880.2	14	Yes
L23244	CB23246	CB23244	207.72	0.71	CIRCULAR	18	18	9	885.9	880.8	10	Yes
L23246	CB23248	CB23246	231.66	2.58	CIRCULAR	15	15	10	884.0	885.9	5	No
L23301	CB23302	J23316	116.00	2.10	CIRCULAR	27	27	45	868.0	862.4	26	No
L23302	CB23304	CB23302	55.85	1.00	CIRCULAR	21	21	16	869.9	868.0	23	Yes
L23304	CB23306	CB23304	139.87	0.99	CIRCULAR	18	18	10	872.2	869.9	12	Yes
L23306	CB23308	CB23306	203.63	0.78	CIRCULAR	15	15	6	877.0	872.2	10	Yes
L23308	P23310	CB23308	232.32	0.87	CIRCULAR	15	15	6	870.5	877.0	3	No
L23311	CB23312	J23316	114.00	4.52	CIRCULAR	15	15	14	868.0	862.4	3	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L23313	CB23314	P23320	180.00	0.71	CIRCULAR	15	15	5	869.0	863.7	3	No
L23320	P23400	P23320	140.00	0.14	CIRCULAR	24	24	9	865.4	863.7	7	No
L23321	CB23230	P23320	160.00	1.88	CIRCULAR	18	18	14	870.1	863.7	14	No
L23400	P23402	P23400	310.00	0.16	CIRCULAR	42	42	35	866.7	865.4	24	No
L23402	P23404	P23402	630.00	0.24	CIRCULAR	24	24	11	867.5	866.7	9	No
L23404	P23406	P23404	190.00	1.05	CIRCULAR	18	18	11	868.8	867.5	6	No
L24112	CB24314	CB24312	168.09	0.32	CIRCULAR	12	12	2	877.0	875.7	0	No
L24212	CB24214	P24212	196.00	0.09	CIRCULAR	18	18	3	862.2	859.6	13	Yes
L24213	P24322	P24212	48.00	0.54	CIRCULAR	12	12	3	860.3	859.6	4	Yes
L24214	CB24216	CB24214	227.10	0.11	CIRCULAR	18	18	4	862.2	862.2	3	Yes
L24216	CB24218	CB24216	138.13	0.10	CIRCULAR	18	18	3	862.1	862.2	3	Yes
L24218	CB24218	CB25104	177.74	1.16	CIRCULAR	18	18	11	862.1	859.5	13	Yes
L24219	CB24220	CB24218	162.72	0.92	CIRCULAR	12	12	3	868.1	862.1	6	No
L24266	CB24302	P24366	570.00	1.40	CIRCULAR	27	27	32	870.6	860.6	4	No
L24302	CB24304	CB24302	365.76	0.23	CIRCULAR	15	15	3	873.1	870.6	4	No
L24304	CB24306	CB24304	248.53	0.17	CIRCULAR	15	15	3	874.3	873.1	4	Yes
L24306	CB24308	CB24306	218.54	0.17	CIRCULAR	15	15	3	875.4	874.3	4	Yes
L24308	P24310	CB24308	77.00	0.48	CIRCULAR	15	15	4	875.7	875.4	4	Yes
L24310	CB24312	P24310	40.00	0.50	CIRCULAR	24	24	16	875.7	875.7	19	Yes
L24312	CB24314	CB24312	168.04	0.30	CIRCULAR	24	24	12	877.0	875.7	19	Yes
L24314	CB24316	CB24314	461.23	0.61	CIRCULAR	18	18	8	880.8	877.0	10	Yes
L24316	CB24318	CB24316	345.34	0.82	CIRCULAR	15	15	6	881.8	880.8	5	Yes
L24321	P24324	P24322	48.00	0.35	CIRCULAR	12	12	2	861.4	860.3	4	No
L24323	CB24330	P24322	20.00	0.35	CIRCULAR	15	15	4	860.3	860.3	8	Yes
L24324	P24326	P24324	610.00	0.49	CIRCULAR	15	15	5	863.0	861.4	4	No
L24326	CB25128	P24326	154.00	1.30	CIRCULAR	15	15	7	865.4	863.0	5	No
L24331	CB24332	P24330	133.00	0.45	CIRCULAR	24	24	15	863.6	863.6	15	Yes
L24332	CB24334	CB24332	125.88	0.47	CIRCULAR	24	24	15	863.6	863.6	12	Yes

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L24333	CB24342	CB24332	76.09	1.25	CIRCULAR	24	24	25	863.6	863.6	12	No
L24334	CB24336	CB24334	65.55	0.24	CIRCULAR	18	18	5	863.9	863.6	9	Yes
L24336	CB24338	CB24336	113.46	1.60	CIRCULAR	15	15	8	864.5	863.9	5	No
L24338	CB24340	CB24338	68.00	7.51	CIRCULAR	15	15	15	869.1	864.5	3	No
L24344	CB24346	CB24344	261.34	0.23	CIRCULAR	24	24	11	864.9	863.6	7	No
L24346	CB24348	CB24346	196.90	0.23	CIRCULAR	24	24	11	865.1	864.9	6	No
L24348	P24350	CB24348	36.00	0.19	CIRCULAR	12	12	2	866.7	865.1	6	Yes
L24350	CB24352	P24350	171.00	7.60	CIRCULAR	12	12	10	878.5	866.7	4	No
L24354	CB24356	P24354	36.00	1.39	CIRCULAR	24	24	27	867.1	865.1	28	No
L24356	CB24358	CB24356	194.91	1.80	CIRCULAR	24	24	30	870.6	867.1	28	Yes
L24357	CB24364	CB24358	163.15	0.61	CIRCULAR	12	12	3	872.7	870.6	4	Yes
L24358	CB24360	CB24358	428.23	3.74	CIRCULAR	24	24	38	885.0	870.6	18	No
L24359	CB24362	CB24358	36.32	3.30	CIRCULAR	12	12	6	881.0	870.6	7	Yes
L24366	P24368	P24366	100.00	0.20	CIRCULAR	18	18	4	861.2	860.6	3	No
L24368	CB24370	P24368	65.00	0.31	CIRCULAR	15	15	4	866.3	861.2	12	Yes
L24369	CB24374	P24368	52.00	0.96	CIRCULAR	15	15	6	862.4	861.2	5	No
L24370	CB24372	CB24370	247.55	1.94	CIRCULAR	15	15	9	871.1	866.3	9	Yes
L24374	CB24392	P24374	67.00	0.60	CIRCULAR	15	15	5	864.3	862.1	8	No
L24375	CB24376	P24374	135.00	0.19	CIRCULAR	21	21	7	864.9	862.1	14	No
L24376	CB25478	CB24376	427.93	0.68	CIRCULAR	21	21	13	868.3	864.9	14	Yes
L24387	P24392	CB24388	27.82	3.63	CIRCULAR	12	12	7	865.0	864.9	4	No
L24388	CB24388	CB24376	209.48	0.35	CIRCULAR	15	15	4	864.9	864.9	2	Yes
L24389	CB24390	CB24388	213.97	0.24	CIRCULAR	15	15	3	860.4	864.9	3	No
L24390	J24390	P24391	73.71	4.07	CIRCULAR	18	18	18	861.2	861.2	1	No
L24391	J24391	P24389	16.00	4.63	CIRCULAR	18	18	20	869.9	860.8	12	No
L24392	J24392	J24391	148.00	0.50	CIRCULAR	18	18	6	873.3	869.9	12	Yes
L24393	J24393	J24392	337.00	0.50	CIRCULAR	18	18	6	875.4	873.3	7	Yes
L24394	J24394	J24393	289.00	0.61	CIRCULAR	18	18	7	875.7	875.4	7	Yes

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L24395	J24395	J24394	96.01	1.84	CIRCULAR	15	15	8	871.8	875.7	10	Yes
L24396	CB23228	J24395	248.00	3.40	CIRCULAR	15	15	10	876.7	871.8	6	No
L24TH47	P24366	P24212	129.00	0.50	CIRCULAR	15	15	5	860.6	859.6	1	No
L24TH47-1	P24212	J24tH47-1	40.00	0.12	Arch	11	18	2	859.6	860.1	4	No
L24TH47-2	J24tH47-1	J24TH47-2	197.00	0.14	Arch	11	18	2	860.1	861.5	4	Yes
L24TH47-3	J24TH47-2	P24374	72.00	0.18	Arch	11	18	2	861.5	862.1	4	Yes
L24TH47-4	P24374	J24TH47-3	153.86	0.08	Arch	11	18	1	862.1	861.3	3	Yes
L24TH47-5	J24TH47-3	J24TH47-4	192.00	0.15	Arch	11	18	2	861.3	860.5	3	Yes
L24TH47-6	J24TH47-4	D43-CB444	270.00	0.15	Arch	11	18	2	860.5	860.4	3	Yes
L24TH47-7	D43-CB444	CB24390	30.00	0.27	Arch	11	18	3	860.4	860.4	3	Yes
L25100	CB25102	O-25-1-02	292.23	3.10	CIRCULAR	30	30	72	854.3	845.0	53	No
L25102	CB25104	CB25102	420.00	0.54	CIRCULAR	30	30	30	859.5	854.3	37	No
L25104	CB25106	CB25104	360.02	0.47	CIRCULAR	27	27	21	860.3	859.5	14	Yes
L25105	CB25108	CB25104	219.32	0.23	CIRCULAR	18	18	4	867.6	859.5	13	No
L25106	CB25110	CB25106	186.34	9.03	CIRCULAR	15	15	19	876.5	860.3	7	No
L25108	CB24390	CB25106	375.86	0.13	CIRCULAR	27	27	11	860.4	860.3	6	Yes
L25114	CB25116	CB25114	349.60	0.21	CIRCULAR	18	18	5	864.0	861.5	9	Yes
L25116	CB25118	CB25116	105.68	0.47	CIRCULAR	12	12	2	862.9	864.0	6	Yes
L25118	CB25420	CB25118	218.94	2.28	CIRCULAR	12	12	5	863.6	862.9	3	Yes
L25120	CB25122	O-25-1-01	215.00	7.44	CIRCULAR	18	18	29	866.7	851.9	13	No
L25200	CB25202	O-25-2-05	163.41	0.31	CIRCULAR	24	24	13	854.6	853.9	7	No
L25202	P25204	CB25202	115.84	0.43	CIRCULAR	24	24	15	854.9	854.6	6	No
L25204	CB25114	P25204	220.00	0.34	CIRCULAR	18	18	6	861.5	854.9	9	No
L25206	CB25208	O-25-2-04	214.21	0.23	CIRCULAR	18	18	5	853.5	850.7	10	No
L25210	CB25212	O-25-2-03	220.00	2.93	CIRCULAR	18	18	18	852.1	849.0	10	Yes
L25214	P25216	O-25-2-01a	140.00	0.21	CIRCULAR	48	48	66	850.1	849.3	38	No
L25216	CB25218	P25216	130.00	0.37	CIRCULAR	48	48	87	850.3	850.1	47	No
L25218	CB25220	CB25218	274.00	0.19	CIRCULAR	42	42	44	851.5	850.3	42	No

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L25220	CB25222	CB25220	133.11	0.44	CIRCULAR	30	30	27	852.5	851.5	27	No
L25221	CB25232	CB25220	555.34	0.61	CIRCULAR	15	15	5	857.9	851.5	7	Yes
L25222	CB25224	CB25222	575.08	0.39	CIRCULAR	30	30	26	854.2	852.5	21	No
L25224	CB25226	CB25224	59.08	0.41	CIRCULAR	27	27	20	854.7	854.2	18	No
L25225	CB25236	CB25220	349.00	0.10	CIRCULAR	36	36	21	851.6	851.5	20	No
L25226	CB25228	CB25226	296.51	0.42	CIRCULAR	24	24	15	855.2	854.7	10	No
L25228	CB25230	CB25228	133.48	0.78	CIRCULAR	12	12	3	858.4	855.2	5	Yes
L25232	CB36136	CB25232	208.57	0.48	CIRCULAR	12	12	2	859.2	857.9	5	Yes
L25233	CB25234	CB25232	76.26	3.93	CIRCULAR	12	12	7	858.7	857.9	4	Yes
L25236	P36400	CB25236A	236.00	0.33	CIRCULAR	36	36	39	852.4	851.6	20	No
L25236A	CB25236A	CB25236	90.00	0.71	CIRCULAR	36	36	56	851.6	851.6	20	No
L25301	CB25302	P36400	40.00	0.18	CIRCULAR	15	15	3	855.3	852.4	13	Yes
L25302	P25304	CB25302	89.63	0.30	CIRCULAR	15	15	4	855.1	855.3	8	Yes
L25303	FES25301	CB25340	217.12	1.65	CIRCULAR	15	15	8	867.8	864.4	8	Yes
L25306	CB25306	P25304	140.00	0.17	CIRCULAR	24	24	9	855.2	855.1	17	Yes
L25307	CB25308	P36400	172.00	0.10	CIRCULAR	36	36	21	853.6	852.4	41	No
L25308	CB25310	CB25308	280.08	0.10	CIRCULAR	36	36	21	854.2	853.6	29	Yes
L25310	CB25312	CB25310	314.81	0.10	CIRCULAR	36	36	21	855.5	854.2	23	Yes
L25312	CB25314	CB25312	289.61	0.09	CIRCULAR	24	24	7	854.7	855.5	7	Yes
L25313	CB25316	CB25312	170.00	0.29	CIRCULAR	30	30	22	854.9	855.5	16	Yes
L25316	CB25318	CB25316	154.03	0.14	CIRCULAR	27	27	12	855.1	854.9	15	Yes
L25317	CB36418	CB25312	129.05	0.42	CIRCULAR	12	12	2	856.5	855.5	3	Yes
L25318	CB25320	CB25318	145.08	0.05	CIRCULAR	27	27	7	855.1	855.1	15	Yes
L25319	P25317	P26200	164.00	1.15	CIRCULAR	12	12	4	864.0	856.7	4	No
L25320	CB25322	CB25320	112.54	0.08	CIRCULAR	27	27	9	855.1	855.1	14	Yes
L25321	P25319	CB25331	10.00	2.00	CIRCULAR	15	15	9	866.9	862.5	3	No
L25322	CB25324	CB25322	184.35	0.20	CIRCULAR	27	27	14	855.0	855.1	14	Yes
L25323	CB25323	CB25325	421.45	0.88	CIRCULAR	18	18	10	870.4	867.5	1	No

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L25324	CB25326	CB25324	93.53	0.10	CIRCULAR	27	27	10	855.3	855.0	14	Yes
L25325	CB25325	CB25328	493.16	0.50	CIRCULAR	24	24	16	867.5	865.5	9	No
L25327	CB25327	CB25325	203.11	1.88	CIRCULAR	15	15	9	872.2	867.5	9	No
L25328	CB25330	P25328	112.00	0.18	CIRCULAR	18	18	4	860.0	855.3	21	Yes
L25329	P25321	CB25329	283.09	-0.16	CIRCULAR	15	15	3	876.6	876.3	1	No
L25330	CB25332	CB25330	228.73	0.44	CIRCULAR	18	18	7	860.1	860.0	10	Yes
L25331	CB25329	CB25360	53.35	1.48	CIRCULAR	18	18	13	876.3	875.8	1	No
L25332	CB25335	CB25332	466.28	0.21	CIRCULAR	18	18	5	861.0	860.1	8	Yes
L25334	CB25336	CB25335	400.04	0.20	CIRCULAR	15	15	3	861.2	861.0	5	Yes
L25336	CB25338	CB25336	99.80	0.20	CIRCULAR	15	15	3	861.2	861.2	5	Yes
L25339	CB25331	P25328	72.05	0.28	CIRCULAR	15	15	3	862.5	855.3	12	Yes
L25340	CB25340	CB25341	99.97	0.17	CIRCULAR	18	18	4	864.4	863.5	8	No
L25341	CB25341	CB25342	170.25	0.64	CIRCULAR	18	18	8	863.5	861.0	8	No
L25342	CB25342	CB25344	186.28	0.27	CIRCULAR	30	30	21	861.0	865.8	13	Yes
L25344	CB25344	P25315	179.99	0.22	CIRCULAR	30	30	19	865.8	861.0	17	Yes
L25346	CB25346	CB25348	57.18	0.38	CIRCULAR	15	15	4	886.2	885.3	6	Yes
L25348	CB25348	CB25350	140.92	0.30	CIRCULAR	15	15	4	885.3	878.8	6	No
L25350	CB25350	P25321	198.40	0.25	CIRCULAR	15	15	3	878.8	876.6	6	No
L25352	CB25352	CB25354	65.35	0.58	CIRCULAR	12	12	3	876.6	876.6	0	No
L25354	CB25354	P25321	177.99	0.29	CIRCULAR	18	18	6	876.6	876.6	0	No
L25356	CB25356	CB25358	38.14	1.18	CIRCULAR	12	12	4	875.8	875.8	0	No
L25358	CB25358	CB25360	158.78	1.37	CIRCULAR	18	18	12	875.8	875.8	0	No
L25360	CB25360	CB25323	209.09	-0.21	CIRCULAR	18	18	5	875.8	870.4	1	No
L25362	FES25362	CB25364	150.25	3.37	CIRCULAR	15	15	12	872.1	867.0	0	No
L25364	CB25364	CB25342	160.13	3.73	CIRCULAR	15	15	12	867.0	861.0	0	No
L25366	CB25366	CB25368	145.00	1.12	CIRCULAR	12	12	4	878.8	876.8	3	No
L25368	CB25368	CB25370	101.00	3.18	CIRCULAR	12	12	6	876.8	867.2	3	No
L25370	CB25370	P25319	295.12	0.78	CIRCULAR	18	18	9	867.2	866.9	3	No

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L25372	CB25372	CB25370	53.00	0.32	CIRCULAR	12	12	2	867.2	867.2	0	No
L25374	CB25374	P25319	53.00	0.81	CIRCULAR	12	12	3	866.9	866.9	0	No
L25376	CB25376	P25319	49.00	0.59	CIRCULAR	18	18	8	866.9	866.9	0	No
L25400	P25400	P24366	1295.66	0.39	CIRCULAR	15	15	4	866.8	860.6	2	No
L25402	P25402	CB25442	193.44	1.66	CIRCULAR	18	18	14	873.2	870.8	12	Yes
L25404	CB25404	P24366	143.00	0.35	CIRCULAR	15	15	4	863.4	860.6	6	No
L25405	CB25406	P24366	142.00	0.14	CIRCULAR	21	21	6	865.1	860.6	19	No
L25406	CB25408	CB25406	191.02	0.19	CIRCULAR	21	21	7	866.8	865.1	16	Yes
L25408	CB25410	CB25408	131.76	0.45	CIRCULAR	21	21	11	867.2	866.8	12	Yes
L25410	CB25412	CB25410	444.78	2.21	CIRCULAR	15	15	10	876.1	867.2	9	Yes
L25413	CB25414	P24366	120.00	0.42	CIRCULAR	18	18	7	864.0	860.6	8	No
L25414	CB25416	CB25414	256.00	0.23	CIRCULAR	18	18	5	864.5	864.0	6	Yes
L25416	CB25418	CB25416	179.01	0.61	CIRCULAR	15	15	5	863.9	864.5	5	Yes
L25418	P26176	CB25418	120.00	0.18	CIRCULAR	15	15	3	864.7	863.9	5	Yes
L25420	P25424	CB25420	27.10	3.69	CIRCULAR	12	12	7	863.6	863.6	2	Yes
L25424	CB25422	P25424	63.00	3.97	CIRCULAR	15	15	13	866.9	863.6	2	No
L25425	P25426	P25424	237.73	0.21	CIRCULAR	15	15	3	857.3	863.6	1	No
L25432	CB25434	CB25432	95.62	0.52	CIRCULAR	18	18	8	881.2	880.6	0	No
L25436	CB25438	CB25436	414.27	1.45	CIRCULAR	15	15	8	880.1	879.9	6	Yes
L25438	CB25440	CB25438	42.73	0.47	CIRCULAR	15	15	4	880.2	880.1	5	Yes
L25439	P25442	CB25438	157.24	1.27	CIRCULAR	12	12	4	879.1	880.1	4	Yes
L25444	P25454	CB25444	180.08	0.28	CIRCULAR	18	18	6	867.5	865.8	7	No
L25445	CB25447	CB25444	223.34	1.00	CIRCULAR	15	15	6	871.2	865.8	7	No
L254454	CB25442	P25454	146.97	1.22	CIRCULAR	18	18	12	870.8	867.5	13	Yes
L25446	CB25444	CB25446	72.39	5.37	CIRCULAR	21	21	37	865.8	864.5	14	No
L25447	P25456	CB25446	58.38	3.24	CIRCULAR	12	12	6	865.1	864.5	5	Yes
L25448	CB25446	CB25448	66.72	0.91	CIRCULAR	24	24	22	864.5	863.9	17	Yes
L25450	CB25448	CB25450	215.21	0.23	CIRCULAR	24	24	11	863.9	862.4	18	Yes

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L25452	CB25450	CB25452	222.88	0.36	CIRCULAR	24	24	14	862.4	860.8	18	No
L25454	CB25452	P25458	115.80	0.43	CIRCULAR	24	24	15	860.8	860.0	20	Yes
L25468	CB25466	CB25468	47.11	1.13	CIRCULAR	12	12	4	875.7	875.7	2	Yes
L25469	CB25466	CB25468	47.30	1.12	CIRCULAR	12	12	4	875.7	875.7	2	Yes
L25478	CB25486	CB25478	57.35	0.51	CIRCULAR	15	15	5	868.8	868.3	7	Yes
L25479	CB25480	CB25478	137.75	2.06	CIRCULAR	15	15	9	870.9	868.3	9	Yes
L25480	CB25482	CB25480	336.30	0.15	CIRCULAR	15	15	2	871.4	870.9	4	Yes
L25482	P25484	CB25482	98.15	1.53	CIRCULAR	12	12	4	871.0	871.4	3	No
L25488	P25488	P25490	210.00	0.00	CIRCULAR	18	18	0	876.3	876.3	1	Yes
L26102	CB26104	CB26102	71.73	0.78	CIRCULAR	15	15	6	867.6	867.3	5	Yes
L26104	CB26106	CB26104	108.03	0.78	CIRCULAR	12	12	3	867.6	867.6	3	Yes
L26106	CB26110	CB26106	173.29	0.78	CIRCULAR	12	12	3	867.7	867.6	3	Yes
L26110	P26112	CB26110	25.76	0.70	CIRCULAR	12	12	3	867.7	867.7	2	Yes
L26113	CB26114	J26186	85.00	2.35	CIRCULAR	12	12	5	863.6	860.9	5	No
L26115	CB26116	J26184	75.00	0.37	CIRCULAR	15	15	4	863.3	860.8	8	No
L26117	P26118	J26186	125.00	0.16	CIRCULAR	24	24	9	861.5	860.9	9	No
L26118	CB26122	P26118	52.00	0.38	CIRCULAR	24	24	14	862.7	861.5	13	No
L26119	CB26120	P26118	45.00	1.11	CIRCULAR	15	15	7	865.0	861.5	7	No
L26123	CB26124	CB26122	81.07	0.74	CIRCULAR	15	15	6	865.4	862.7	2	No
L26124	CB26126	CB26122	397.31	0.80	CIRCULAR	18	18	9	865.8	862.7	9	Yes
L26126	CB26456	CB26126	646.00	0.63	CIRCULAR	18	18	8	869.2	865.8	6	No
L26127	CB26128	J26180	130.00	1.21	CIRCULAR	27	27	34	862.0	860.0	15	No
L26128	CB26134	CB26128	97.50	1.38	CIRCULAR	18	18	12	862.8	862.0	5	No
L26129	CB26130	CB26128	317.70	1.98	CIRCULAR	15	15	9	867.7	862.0	5	No
L26130	CB26132	CB26130	204.02	1.87	CIRCULAR	12	12	5	871.5	867.7	3	No
L26134	CB26138	CB26134	176.50	1.04	CIRCULAR	18	18	11	864.6	862.8	4	No
L26135	P26136	CB26134	235.90	3.76	CIRCULAR	15	15	13	871.3	862.8	2	No
L26138	CB26142	CB26138	199.09	0.86	CIRCULAR	15	15	6	865.7	864.6	0	No

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L26139	CB26140	CB26138	62.22	1.19	CIRCULAR	12	12	4	872.3	864.6	4	No
L26145	CB26146	J26180	138.00	1.30	CIRCULAR	24	24	26	864.2	860.0	17	No
L26146	CB26148	CB26146	307.50	0.47	CIRCULAR	21	21	11	866.4	864.2	13	No
L26148	CB26186	CB26148	664.02	0.47	CIRCULAR	21	21	11	868.6	866.4	9	No
L26149	CB26150	J26182	73.00	5.89	CIRCULAR	12	12	9	864.3	860.4	4	No
L26151	CB26152	J26182	92.00	3.59	CIRCULAR	15	15	12	863.5	860.4	6	No
L26153	CB26156	CB26154	83.15	0.36	CIRCULAR	18	18	6	860.9	860.6	5	No
L26154	P26158	CB26156	118.00	0.42	CIRCULAR	18	18	7	861.2	860.9	5	No
L26156	CB26162	CB26160	167.01	0.34	CIRCULAR	15	15	4	866.1	864.3	8	Yes
L26158	CB26160	P26158	51.00	0.33	CIRCULAR	15	15	4	864.3	861.2	11	Yes
L26159	CB26166	P26158	156.00	5.45	CIRCULAR	15	15	15	875.7	861.2	16	Yes
L26162	CB26164	CB26162	76.83	0.35	CIRCULAR	12	12	2	866.1	866.1	4	Yes
L26166	CB25468	CB26166	235.65	0.70	CIRCULAR	15	15	5	875.7	875.7	8	Yes
L26167	CB25472	CB26166	196.25	1.83	CIRCULAR	12	12	5	873.4	875.7	3	No
L26168	CB26170	P26168	141.00	0.71	CIRCULAR	15	15	5	865.6	861.5	11	No
L26169	CB25430	P26168	114.00	0.88	CIRCULAR	18	18	10	869.3	861.5	1	No
L26170	CB26172	CB26170	221.03	1.81	CIRCULAR	15	15	9	869.0	865.6	8	Yes
L26171	CB26174	CB26170	68.67	1.46	CIRCULAR	12	12	4	866.1	865.6	5	Yes
L26172	CB25436	CB26172	414.30	1.21	CIRCULAR	15	15	7	879.9	869.0	10	Yes
L26176	CB26178	P26176	343.00	0.76	CIRCULAR	15	15	6	867.9	864.7	4	No
L26178	CB23280	CB26178	237.00	0.16	CIRCULAR	15	15	3	869.1	867.9	4	No
L26187	P26190	CB26186	109.70	0.59	CIRCULAR	12	12	3	869.0	868.6	3	Yes
L26200	P26204	P26200	170.00	0.41	CIRCULAR	15	15	4	860.0	856.7	6	No
L26201	CB26102	J26188	320.00	0.18	CIRCULAR	15	15	3	867.3	861.1	7	No
L26203	CB26154	P26204	180.00	0.11	CIRCULAR	18	18	4	860.6	860.0	5	No
L26206	CB26206	P26204	150.00	2.47	CIRCULAR	15	15	10	865.8	860.0	13	Yes
L26207	CB26208	P26204	100.00	0.27	CIRCULAR	30	30	21	860.0	860.0	28	Yes
L26208	CB26210	CB26208	68.80	0.29	CIRCULAR	15	15	3	862.6	860.0	9	No

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L26209	P26206	CB26208	635.00	0.26	CIRCULAR	30	30	21	861.2	860.0	23	No
L26211	CB26212	P26204	115.00	2.17	CIRCULAR	30	30	60	861.8	860.0	22	No
L26212	CB26214	CB26212	71.93	1.39	CIRCULAR	27	27	37	863.1	861.8	18	No
L26214	CB26216	CB26214	90.91	0.77	CIRCULAR	24	24	20	863.7	863.1	12	No
L26215	P25315	P26204	52.00	0.54	CIRCULAR	12	12	3	861.0	860.0	4	No
L26216	CB26218	CB26216	73.09	0.82	CIRCULAR	21	21	14	864.2	863.7	10	No
L26218	CB26220	CB26218	85.90	1.98	CIRCULAR	15	15	9	866.1	864.2	8	Yes
L26220	CB26222	CB26220	193.09	0.26	CIRCULAR	12	12	2	869.0	866.1	5	Yes
L26302	CB26304	CB26302	66.94	0.25	CIRCULAR	18	18	5	863.8	863.7	11	Yes
L26303	CB26316	CB26302	672.41	0.52	CIRCULAR	24	24	16	868.2	863.7	15	Yes
L26304	CB26308	CB26304	334.10	2.28	CIRCULAR	18	18	16	871.4	863.8	15	Yes
L26307	CB26302	P26206	210.00	0.09	CIRCULAR	30	30	12	863.7	861.2	41	No
L26309	CB26314	CB26308	292.78	1.19	CIRCULAR	15	15	7	876.8	871.4	8	Yes
L26310	CB26312	CB26310	698.89	0.86	CIRCULAR	15	15	6	881.9	876.1	6	Yes
L26311	CB26328	P26308	120.00	0.40	CIRCULAR	24	24	14	874.9	874.1	26	Yes
L26315	CB26336	P26310	120.50	2.00	CIRCULAR	15	15	9	874.1	874.1	8	Yes
L26316	CB26318	CB26316	208.59	0.36	CIRCULAR	24	24	14	869.5	868.2	16	Yes
L26317	CB26338	P26310	188.00	4.52	CIRCULAR	30	30	87	877.6	874.1	35	No
L26318	CB26320	CB26318	190.70	1.30	CIRCULAR	21	21	18	870.1	869.5	16	Yes
L26320	CB26322	CB26320	138.21	0.12	CIRCULAR	18	18	4	871.1	870.1	12	Yes
L26321	CB26326	CB26320	346.62	0.78	CIRCULAR	15	15	6	870.2	870.1	4	No
L26322	CB26324	CB26322	301.46	1.86	CIRCULAR	15	15	9	876.2	871.1	8	Yes
L26323	P26304	CB26322	132.89	1.14	CIRCULAR	18	18	11	871.4	871.1	10	Yes
L26325	CB26348	P26312	22.00	0.23	CIRCULAR	18	18	5	856.2	854.8	13	No
L26326	P26306	MH28328	300.00	0.10	CIRCULAR	15	15	2	872.7	871.6	4	No
L26327	CB26344	P26312	30.00	0.67	CIRCULAR	21	21	13	858.0	854.8	17	No
L26328	CB28329	P26306	224.00	0.21	CIRCULAR	15	15	3	873.8	872.7	6	Yes
L26329	CB26330	CB26328	250.00	0.35	CIRCULAR	18	18	6	875.5	874.9	7	Yes

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L26330	CB26332	CB26330	297.42	0.31	CIRCULAR	18	18	6	876.5	875.5	7	Yes
L26331	CB26224	P26312	80.00	0.25	CIRCULAR	12	12	2	860.5	854.8	7	Yes
L26332	CB26334	CB26332	400.00	0.41	CIRCULAR	15	15	4	879.1	876.5	5	Yes
L26333	CB26354	P26312	165.00	0.91	CIRCULAR	15	15	6	868.0	854.8	9	No
L26338	CB26340	CB26338	459.35	0.11	CIRCULAR	24	24	7	881.8	877.6	18	No
L26341	CB28330	CB26328	30.00	1.20	CIRCULAR	15	15	7	874.2	874.9	6	Yes
L26344	CB26346	CB26344	142.48	4.74	CIRCULAR	15	15	14	865.8	858.0	16	Yes
L26345	CB26344	P26302	17.00	-1.18	CIRCULAR	24	24	2	858.0	856.0	23	Yes
L26348	CB26350	CB26348	87.98	6.50	CIRCULAR	15	15	16	865.6	856.2	13	No
L26350	CB26352	CB26350	54.36	2.72	CIRCULAR	15	15	11	866.7	865.6	6	Yes
L26402	CB26404	P26402	186.00	0.39	CIRCULAR	18	18	7	867.2	864.8	9	No
L26403	CB26412	P26402	28.00	2.14	CIRCULAR	15	15	8	865.9	864.8	6	No
L26404	CB26406	CB26404	127.71	0.98	CIRCULAR	18	18	10	867.3	867.2	4	No
L26406	CB26408	CB26406	221.12	0.92	CIRCULAR	15	15	6	868.9	867.3	4	No
L26408	CB26310	CB26308	265.14	1.44	CIRCULAR	15	15	8	876.1	871.4	8	Yes
L26409	CB26410	CB26408	156.28	0.47	CIRCULAR	15	15	4	870.0	868.9	4	No
L26413	CB26414	P26400	48.00	0.75	CIRCULAR	18	18	9	862.9	860.0	15	No
L26414	CB26416	CB26414	270.63	0.15	CIRCULAR	18	18	4	863.7	862.9	6	Yes
L26415	P26226	CB26414	120.00	4.20	CIRCULAR	15	15	13	862.0	862.9	0	No
L26416	CB26418	CB26416	88.01	0.27	CIRCULAR	18	18	5	864.0	863.7	6	Yes
L26418	P26420	CB26418	202.07	0.08	CIRCULAR	15	15	2	862.1	864.0	3	No
L26422	CB26422	CB26414	214.72	0.24	CIRCULAR	15	15	3	864.7	862.9	7	Yes
L26423	P26424	P26400	150.00	0.33	CIRCULAR	24	24	13	860.7	860.0	3	No
L26426	P26226	P26428	33.00	1.21	CIRCULAR	12	12	4	862.0	862.0	4	Yes
L26428	CB26430	P26428	80.00	0.21	CIRCULAR	36	36	31	862.0	862.0	12	No
L26430	CB26432	CB26430	68.14	0.76	CIRCULAR	15	15	6	869.4	862.0	1	No
L26431	CB26434	CB26430	138.90	0.22	CIRCULAR	36	36	31	862.0	862.0	9	No
L26434	CB26436	CB26434	294.96	0.19	CIRCULAR	33	33	23	862.2	862.0	7	No

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L26436	CB26438	CB26436	113.74	0.21	CIRCULAR	27	27	14	862.4	862.2	6	No
L26438	CB26440	CB26438	227.48	0.20	CIRCULAR	21	21	7	862.6	862.4	2	No
L26440	CB26442	CB26440	232.65	0.35	CIRCULAR	15	15	4	863.0	862.6	1	No
L26442	P26144	CB26442	306.76	0.15	CIRCULAR	15	15	2	863.6	863.0	1	No
L26445	CB26446	P26428	81.00	1.00	CIRCULAR	15	15	6	862.0	862.0	6	No
L26446	CB26448	CB26446	90.70	3.12	CIRCULAR	15	15	11	864.3	862.0	6	No
L26448	CB26450	CB26448	149.29	0.35	CIRCULAR	15	15	4	865.4	864.3	4	No
L26450	CB26452	CB26450	135.32	0.35	CIRCULAR	15	15	4	865.6	865.4	2	No
L26452	CB26454	CB26452	224.07	0.33	CIRCULAR	15	15	4	865.8	865.6	1	No
L26456	P26458	CB26456	69.80	0.90	CIRCULAR	15	15	6	869.2	869.2	1	No
L26458	CB26460	P26458	125.00	0.58	CIRCULAR	15	15	5	869.2	869.2	8	Yes
L26460	CB26462	CB26460	68.88	0.38	CIRCULAR	15	15	3	869.2	869.2	8	Yes
L26462	CB26464	CB26462	114.15	0.25	CIRCULAR	15	15	3	870.1	869.2	7	Yes
L26463	CB26263	CB26462	94.18	7.78	CIRCULAR	12	12	10	872.0	869.2	2	No
L26464	CB26466	CB26464	163.76	0.52	CIRCULAR	15	15	5	871.1	870.1	5	Yes
L26466	CB26468	CB26466	50.57	0.85	CIRCULAR	15	15	6	871.2	871.1	3	Yes
L26467	CB26476	CB26466	62.62	0.70	CIRCULAR	18	18	9	871.2	871.1	4	Yes
L26468	CB26470	CB26468	143.74	0.49	CIRCULAR	15	15	5	871.2	871.2	2	Yes
L26470	CB26472	CB26470	236.36	0.50	CIRCULAR	15	15	5	871.4	871.2	3	Yes
L26472	CB26474	CB26472	103.95	5.37	CIRCULAR	15	15	15	873.8	871.4	3	No
L26476	CB26478	CB26476	101.05	0.76	CIRCULAR	15	15	6	871.2	871.2	3	Yes
L26478	CB26480	CB26478	146.10	0.17	CIRCULAR	15	15	3	871.2	871.2	3	Yes
L26480	CB26482	CB26480	110.88	4.88	CIRCULAR	12	12	8	872.9	871.2	4	No
L26482	CB26484	CB26482	107.55	0.60	CIRCULAR	12	12	3	873.8	872.9	2	No
L26486	CB26188	CB26186	70.92	0.47	CIRCULAR	15	15	4	868.8	868.6	4	No
L28312	CB28330	CB28329	10.00	0.40	CIRCULAR	15	15	4	874.2	873.8	6	Yes
L28313	P26312	P28313	140.00	-1.09	CIRCULAR	18	18	9	854.8	853.9	2	No
L28315	P28313	J28317	35.00	0.00	CIRCULAR	18	18	1	853.9	853.9	4	Yes

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L28317	J28317	O28301	40.00	1.33	CIRCULAR	24	24	26	853.9	853.0	1	No
L28328	MH28328	MH28329	23.00	0.74	CIRCULAR	15	15	6	871.6	871.4	4	No
L28329	MH28329	CB26326	137.00	0.51	CIRCULAR	15	15	5	871.4	870.2	4	No
L36400	CB36406	P36400	240.00	0.42	CIRCULAR	24	24	15	855.2	852.4	21	No
L36401	CB36402	P36400	184.00	0.27	CIRCULAR	18	18	5	853.3	852.4	7	No
L36402	CB36404	CB36402	132.52	0.38	CIRCULAR	12	12	2	854.4	853.3	3	Yes
L36406	CB36408	CB36406	333.90	0.46	CIRCULAR	15	15	4	855.9	855.2	5	Yes
L36407	CB36414	CB36406	116.23	0.50	CIRCULAR	18	18	7	856.2	855.2	11	Yes
L36408	CB36410	CB36408	98.14	0.46	CIRCULAR	15	15	4	857.1	855.9	1	Yes
L36409	CB36412	CB36408	111.18	0.40	CIRCULAR	15	15	4	857.5	855.9	4	Yes
L36414	CB36416	CB36414	174.66	0.50	CIRCULAR	15	15	5	856.5	856.2	3	Yes
Link-28	CB25328	P25317	198.62	0.20	CIRCULAR	24	24	10	865.5	864.0	9	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L13202	CB13204	J144278	177.65	3.34	CIRCULAR	18	18	19	864.0	856.9	19	YES
L13203	J144278	O-13-2-01	144.46	3.39	CIRCULAR	18	18	19	856.9	857.6	18	YES
L13204	CB13206	CB13204 A	107.3	0.4	CIRCULAR	21	21	10	865.4	864.5	13	YES
L13204 A	CB13204 A	CB13204	55.47	0.7	CIRCULAR	21	21	13	864.5	864.0	13	YES
L13206	CB13208	CB13206	394.22	0.36	CIRCULAR	21	21	9	865.6	865.4	11	YES
L13208	CB13210	CB13208	138	0.11	CIRCULAR	21	21	5	864.5	865.6	19	YES
L13209	CB13312	CB13208	158.18	5.37	CIRCULAR	12	12	8	872.7	865.6	9	YES
L13210	CB24112	CB13210	259	0.15	CIRCULAR	21	21	6	864.6	864.5	8	YES
L13402	J13404	J13402	67.47	0.13	CIRCULAR	48	48	31	857.8	856.1	110	YES
L13406	P13408	J13406	64.21	0.16	CIRCULAR	36	36	31	859.4	857.9	104	YES
L14102	P14104	CB14102	32	-6.25	CIRCULAR	12	12	9	866.3	866.0	3	YES
L14104	CB14106	P14104	99	0.32	CIRCULAR	21	21	9	866.4	866.3	11	YES
L14106	CB14108	CB14106	154.29	0.4	CIRCULAR	18	18	7	868.0	866.4	9	YES
L14108	CB14110	CB14108	181.64	0.3	CIRCULAR	18	18	6	868.0	868.0	8	YES
L14110	CB14112	CB14110	131.54	6.13	CIRCULAR	15	15	16	873.5	868.0	4	NO
L14111	CB14114	CB14110	216.58	0.48	CIRCULAR	12	12	2	869.0	868.0	2	YES
L14112	CB14214	CB14212	464.48	0.11	CIRCULAR	18	18	3	887.0	885.6	7	YES
L14116	P14118	CB14116	91.84	0.54	CIRCULAR	18	18	8	863.1	862.2	7	NO
L14118	CB14120	P14118	24	2.08	CIRCULAR	12	12	5	864.5	863.1	6	NO
L14120	P14122	CB14120	25	-20	CIRCULAR	12	12	16	865.6	864.5	6	YES
L14121	CB14134	P14122	149	0.68	CIRCULAR	21	21	13	865.6	865.6	11	NO
L14122	CB14124	P14122	149	0.3	CIRCULAR	24	24	12	865.6	865.6	15	YES
L14123	CB14132	CB14124	186.87	0.49	CIRCULAR	15	15	5	865.9	865.6	3	YES
L14124	CB14126	CB14124	136.24	0.34	CIRCULAR	21	21	9	866.6	865.6	10	YES
L14126	CB14128	CB14126	143.75	0.24	CIRCULAR	18	18	5	867.3	866.6	7	YES
L14127	P14126	P14118	503.35	0.16	CIRCULAR	12	12	1	866.9	863.1	1	NO
L14128	CB14130	CB14128	411.79	0.45	CIRCULAR	15	15	4	869.1	867.3	5	YES
L14132	P14124	J14132	389.16	1.54	Rectangular	48	48	227	870.2	861.1	3	NO

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L14134	CB14136	CB14134	288.03	1.39	CIRCULAR	18	18	12	868.9	865.6	8	NO
L14135	CB14142	CB14134	127.76	3.24	CIRCULAR	15	15	12	868.6	865.6	3	NO
L14136	CB14138	CB14136	25.16	1.79	CIRCULAR	15	15	9	869.0	868.9	2	NO
L14137	P14140	CB14136	212.98	0.42	CIRCULAR	12	12	2	869.4	868.9	1	NO
L14202	CB14204	P14202	180	1.67	CIRCULAR	36	36	86	873.2	868.7	63	NO
L14204	CB14206	CB14204	216.41	1.39	CIRCULAR	36	36	79	876.0	873.2	52	NO
L14205	CB14242	CB14204	41.31	1.21	CIRCULAR	15	15	7	874.2	873.2	8	YES
L14206	CB14208	CB14206	184.31	0.43	CIRCULAR	36	36	44	877.4	876.0	46	NO
L14207	CB14230	CB14206	198.09	3.03	CIRCULAR	12	12	6	883.0	876.0	6	YES
L14208	CB14210	CB14208	64.52	1.86	CIRCULAR	24	24	31	878.4	877.4	22	YES
L14209	CB14216	CB14208	62.32	1.93	CIRCULAR	30	30	57	877.6	877.4	23	NO
L14210	CB14212	CB14210	709.04	0.78	CIRCULAR	21	21	14	885.6	878.4	16	YES
L14216	CB14258	J14216	20	51.3	CIRCULAR	12	12	26	863.4	859.7	4	NO
L14217	CB14232	CB14216	558.68	0.21	CIRCULAR	30	30	19	879.2	877.6	17	NO
L14218	P14220	J14218	79.04	0.14	CIRCULAR	48	48	46	860.1	859.7	63	YES
L14219	CB14102	P14218	368	0.27	CIRCULAR	12	12	2	866.0	861.4	3	NO
L14224	J14226	J14224	75.71	0.15	CIRCULAR	36	36	22	861.0	860.2	49	YES
L14232	CB14234	CB14232	182.64	0.33	CIRCULAR	21	21	9	879.8	879.2	9	YES
L14233	CB14238	CB14232	442.17	0.97	CIRCULAR	21	21	16	882.3	879.2	7	NO
L14234	CB14236	CB14234	44.1	0.45	CIRCULAR	15	15	4	880.3	879.8	6	YES
L14236	CB14248	CB14236	117.98	0.42	CIRCULAR	12	12	2	882.1	880.3	4	YES
L14237	P14246	CB14236	147.51	4.07	CIRCULAR	12	12	7	884.4	880.3	2	NO
L14238	P14240	CB14238	147.06	0.34	CIRCULAR	21	21	9	882.8	882.3	4	NO
L14242	CB14244	CB14242	143.49	2.44	CIRCULAR	12	12	6	878.4	874.2	6	YES
L14254	CB14256	CB14254	78.82	0.38	CIRCULAR	15	15	4	879.9	877.9	8	NO
L14258	P14260	CB14258	20	-10	CIRCULAR	12	12	11	864.1	863.4	4	NO
L14260	CB14262	P14260	334.13	0.38	CIRCULAR	18	18	6	869.1	864.1	8	NO
L14262	CB14264	CB14262	366.88	0.54	CIRCULAR	15	15	5	867.2	869.1	4	NO

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L14263	P14268	CB14262	184	0.42	CIRCULAR	12	12	2	866.4	869.1	3	YES
L14264	CB14266	CB14264	192.35	0.32	CIRCULAR	15	15	4	868.0	867.2	4	NO
L14430	P14432	J14430	83.02	0.13	CIRCULAR	36	36	21	863.7	862.5	45	NO
L14434	P14436	J14434	623.82	0.03	CIRCULAR	15	15	1	871.4	869.9	1	NO
L14438	P14438	P14436	30	3.33	CIRCULAR	15	15	12	872.0	871.4	9	NO
L14440	P14449	J14442	715	0.97	CIRCULAR	18	18	10	872.4	861.6	2	NO
L15234	P15236	J15234	157.83	0.19	CIRCULAR	36	36	29	866.9	866.7	18	YES
L15238	P15240	J15238	108.17	0.65	CIRCULAR	36	36	47	867.8	867.7	20	NO
L15347	P15352	J15352A	113.73	0.69	CIRCULAR	18	18	8	870.0	869.2	11	YES
L15348	P15350	J15348	178.72	0.04	CIRCULAR	36	36	14	869.8	869.3	26	NO
L15402	J15404	P15402	1090	0.37	CIRCULAR	18	18	6	884.6	872.0	2	NO
L16102	P16104	CB16102	28	0.36	CIRCULAR	12	12	2	871.9	871.7	5	YES
L16104	CB16106	P16104	172	0.23	CIRCULAR	18	18	5	874.9	871.9	9	YES
L16106	CB16108	CB16106	358.52	0.66	CIRCULAR	15	15	5	875.7	874.9	6	YES
L16107	CB16110	CB16106	157.42	0.26	CIRCULAR	15	15	3	873.6	874.9	3	YES
L16114	CB16117	P16114	195.62	0.42	CIRCULAR	33	33	34	876.2	874.7	16	NO
L16115	CB16134	P16114	57.69	0.38	CIRCULAR	12	12	2	874.7	874.7	5	YES
L16116	CB16118	CB16116	103.2	0.69	CIRCULAR	24	24	19	880.6	880.4	8	YES
L16117	CB16117	CB16116	175.89	1.18	CIRCULAR	15	15	7	876.2	880.4	10	YES
L16118	CB16120	CB16118	151.27	0.62	CIRCULAR	27	27	24	880.7	880.6	7	YES
L16119	CB16132	CB16118	251.79	0.26	CIRCULAR	15	15	3	881.0	880.6	2	YES
L16120	CB16122	CB16120	123.14	0.25	CIRCULAR	18	18	5	880.9	880.7	5	YES
L16122	CB16124	CB16122	407.52	0.64	CIRCULAR	15	15	5	882.5	880.9	4	YES
L16123	CB16126	CB16122	55.11	0.45	CIRCULAR	12	12	2	881.0	880.9	2	YES
L16127	CB16102	P16128	255	0.78	CIRCULAR	12	12	3	871.7	869.8	2	NO
L16128	CB16130	CB16117	332.14	1.83	CIRCULAR	12	12	5	886.0	876.2	4	NO
L16129	CB16138	P16128	255	0.24	CIRCULAR	12	12	2	873.7	869.8	4	NO
L16134	CB16136	CB16134	118.4	5.07	CIRCULAR	15	15	15	883.5	874.7	5	NO

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L16138	P16114	CB16138	64	0.16	CIRCULAR	12	12	1	874.7	873.7	4	YES
L16254a	P16140	J16254	72	-2.08	CIRCULAR	18	18	15	871.4	870.9	3	NO
L16255	P16140	J16254	72	-0.14	CIRCULAR	18	18	8	871.4	870.9	5	NO
L16402	P16404	P16402	110	0.45	CIRCULAR	15	15	4	872.6	871.5	2	NO
L16404	P16406	P16404	115	-0.87	CIRCULAR	15	15	5	872.7	872.6	2	NO
L19300	CB19302	O-19E-3-01	101.19	0.99	CIRCULAR	12	12	4	854.5	854.5	9	YES
L19302	P19E304	CB19302	50	2	CIRCULAR	21	21	22	854.5	854.5	21	YES
L19304	CB19306	P19E304	619.81	6.7	CIRCULAR	18	18	27	888.3	854.5	16	NO
L19306	CB19308	CB19306	123.51	0.4	CIRCULAR	18	18	7	889.4	888.3	9	NO
L22146	J22148	J22146	111.28	0.45	CIRCULAR	24	24	15	884.6	882.7	17	NO
L22204	CB22206	CB22204	468.08	0.75	CIRCULAR	15	15	6	882.0	877.9	6	NO
L22206	P22208	CB22206	145.84	0.53	CIRCULAR	15	15	5	883.0	882.0	5	YES
L22208	P22110	P22208	484	0.72	CIRCULAR	15	15	5	886.0	883.0	5	NO
L22216	CB22218	P22216	240	0.63	CIRCULAR	15	15	5	876.0	870.3	9	NO
L22218	P22220	CB22218	430	0.12	CIRCULAR	15	15	2	874.7	876.0	5	YES
L22220	J22222	P22220	145	0.32	CIRCULAR	15	15	4	875.0	874.7	5	NO
L22402	P22404	J22404A	108.91	0.33	CIRCULAR	15	15	4	869.8	869.8	4	YES
L22404	P22406	J122406A	124.72	0.26	CIRCULAR	15	15	3	869.8	869.8	3	YES
L22406	J22408A	P22408	96.96	0.55	CIRCULAR	15	15	5	869.8	869.8	4	YES
L22408	P22410	P22402	160	1.25	CIRCULAR	18	18	12	873.6	869.8	14	NO
L23101	P23102	P23158	55	0.55	CIRCULAR	12	12	3	872.6	865.3	10	YES
L23102	CB23104	P23102	104.77	1.34	CIRCULAR	30	30	47	872.8	872.6	37	YES
L23103	CB23106	CB23104	47.85	1.5	CIRCULAR	12	12	4	872.8	872.8	7	YES
L23104	CB23108	CB23104	245.93	1.5	CIRCULAR	27	27	38	874.4	872.8	32	YES
L23108	CB23112	CB23108	314.43	1.5	CIRCULAR	24	24	28	879.4	874.4	27	YES
L23109	CB23136	CB23108	207.37	2.47	CIRCULAR	15	15	10	876.9	874.4	7	NO
L23110	CB24412	CB23110	123.08	0.45	CIRCULAR	15	15	4	868.0	868.0	5	YES
L23112	CB23114	CB23112	115.59	1.5	CIRCULAR	21	21	19	881.4	879.4	20	YES

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L23114	CB23116	CB23114	147.64	1.49	CIRCULAR	18	18	13	883.5	881.4	17	YES
L23116	CB23118	CB23116	225.26	1.5	CIRCULAR	18	18	13	887.2	883.5	13	YES
L23117	CB24420	P23118	94	0.2	CIRCULAR	21	21	7	869.2	867.5	18	NO
L23118	CB23128	CB23118	207.78	1.49	CIRCULAR	15	15	8	888.2	887.2	7	YES
L23119	CB23120	CB23118	47.96	1.5	CIRCULAR	15	15	8	888.4	887.2	9	YES
L23120	CB23122	CB24420	154.67	0.2	CIRCULAR	21	21	7	871.6	869.2	18	YES
L23122	CB23124	CB23122	250.45	0.2	CIRCULAR	18	18	5	871.9	871.6	8	YES
L23129	CB23130	P23158	140	1.25	CIRCULAR	18	18	12	869.8	865.3	9	NO
L23130	CB23132	CB23130	48.84	0.31	CIRCULAR	18	18	6	870.2	869.8	8	NO
L23132	CB23134	CB23132	203.67	0.54	CIRCULAR	15	15	5	870.8	870.2	4	NO
L23138	CB23140	CB23138	171.5	0.99	CIRCULAR	15	15	6	872.5	868.5	7	YES
L23142	CB23144	CB23142	75.51	1.8	CIRCULAR	12	12	5	870.4	866.4	7	NO
L23144	CB23146	CB23144	345.73	1.82	CIRCULAR	15	15	9	873.9	870.4	5	NO
L23159	P23160	P23158	90	-1.11	CIRCULAR	15	15	6	865.3	865.3	3	YES
L23160	CB23162	P23160	130.62	0.38	CIRCULAR	18	18	7	867.1	865.3	13	NO
L23161	CB23168	CB23162	57.62	3.47	CIRCULAR	12	12	7	868.2	867.1	5	YES
L23162	CB23164	CB23162	103.54	0.97	CIRCULAR	15	15	6	869.3	867.1	9	YES
L23164	CB23166	CB23164	174.29	0.57	CIRCULAR	15	15	5	870.1	869.3	6	YES
L23169	CB23170	P23158	77	0.3	CIRCULAR	24	24	12	867.9	865.3	14	NO
L23170	CB23172	CB23170	113.96	0.3	CIRCULAR	24	24	12	868.5	867.9	14	NO
L23172	CB23174	CB23172	121.13	0.3	CIRCULAR	24	24	12	868.8	868.5	10	NO
L23173	CB23184	CB23172	96.08	0.3	CIRCULAR	12	12	2	869.4	868.5	3	YES
L23174	CB23176	CB23174	53.2	0.3	CIRCULAR	21	21	9	868.8	868.8	5	YES
L23176	CB23178	CB23176	80.98	0.3	CIRCULAR	21	21	9	868.9	868.8	4	NO
L23178	CB23180	CB23178	132.97	0.3	CIRCULAR	15	15	4	869.5	868.9	4	YES
L23180	CB23182	CB23180	64.98	0.31	CIRCULAR	12	12	2	869.9	869.5	3	YES
L23185	P23186	P23158	10	0.8	CIRCULAR	15	15	6	865.3	865.3	5	NO
L23186	CB23188	P23186	181	3.87	CIRCULAR	18	18	21	871.8	865.3	11	NO

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L23302	CB22204	P23302	165	4.3	CIRCULAR	15	15	13	877.9	865.9	10	NO
L23312	CB23314	P23312	130	0.22	CIRCULAR	18	18	5	865.9	865.9	5	NO
L23314	CB23314	P23302	60	1.58	CIRCULAR	15	15	8	865.9	865.9	7	YES
L23402	CB23404	CB23402	215.66	2.56	CIRCULAR	15	15	10	876.2	868.8	4	NO
L23403	CB23402	P23444	52	0.79	CIRCULAR	15	15	6	868.8	867.1	10	NO
L23404	CB23406	CB23404	63.3	1.42	CIRCULAR	15	15	8	877.0	876.2	2	NO
L23407	CB23408	P23444	197	0.15	CIRCULAR	18	18	4	868.8	867.1	8	NO
L23408	P23416	CB23408	48.31	-0.06	CIRCULAR	18	18	3	869.3	868.8	11	YES
L23410	CB23412	CB23410	111.09	1.04	CIRCULAR	18	18	11	874.3	872.9	6	NO
L23412	CB23414	CB23412	83.34	1.32	CIRCULAR	15	15	7	875.0	874.3	3	NO
L23416	CB23410	P23416	55.82	7.67	CIRCULAR	18	18	29	872.9	869.3	7	NO
L23417	CB23418	P23416	107	3.52	CIRCULAR	18	18	20	872.4	869.3	7	NO
L23418	CB23420	CB23418	213.98	0.34	CIRCULAR	15	15	4	873.7	872.4	4	NO
L23444	P23446	P23444	110	1.82	CIRCULAR	18	18	14	872.1	867.1	11	NO
L24111	J24113	CB24112	70	0.2	CIRCULAR	21	21	7	864.6	864.6	11	YES
L24112	P24114	J24113	80.47	-1.34	CIRCULAR	21	21	18	864.6	864.6	11	YES
L24113	CB24115	P24114	135	0.37	CIRCULAR	12	12	2	881.6	864.6	9	YES
L24114	CB24116	P24114	247	0.12	CIRCULAR	18	18	4	872.3	864.6	5	YES
L24116	P24118	CB24116	778	0.29	CIRCULAR	15	15	3	865.4	872.3	3	NO
L24118	CB24120	P24118	192	1.29	CIRCULAR	24	24	26	868.6	865.4	23	NO
L24119	CB24164	P24118	230	3.19	CIRCULAR	36	36	119	866.3	865.4	25	NO
L24120	CB24122	CB24120	220.75	2.42	CIRCULAR	21	21	25	873.3	868.6	12	NO
L24121	CB24128	CB24120	170	0.71	CIRCULAR	21	21	13	869.7	868.6	8	NO
L24122	CB24124	CB24122	145.6	0.37	CIRCULAR	21	21	10	874.1	873.3	8	NO
L24124	P24126	CB24124	223.44	2.27	CIRCULAR	21	21	24	878.6	874.1	5	NO
L24128	CB24130	CB24128	178	0.38	CIRCULAR	21	21	10	869.9	869.7	4	NO
L24130	CB24252	CB24130	331.49	2.91	CIRCULAR	15	15	11	879.6	869.9	4	NO
L24135	CB24136	CB24116	311	0.12	CIRCULAR	15	15	2	864.3	872.3	3	YES

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L24136	CB24138	CB24136	541	0.07	CIRCULAR	15	15	2	863.8	864.3	3	YES
L24137	CB24152	CB24136	220	2.32	CIRCULAR	15	15	10	873.0	864.3	3	NO
L24138	P24440	CB24138	50	-3.68	CIRCULAR	15	15	12	863.8	863.8	3	YES
L24140	CB24142	P24440	392.47	1.03	CIRCULAR	21	21	16	865.7	863.8	15	YES
L24142	CB24144	CB24142	203.48	0.49	CIRCULAR	18	18	7	867.8	865.7	11	YES
L24143	CB24150	CB24142	47.34	4.33	CIRCULAR	12	12	7	865.2	865.7	4	YES
L24144	CB24146	CB24144	102.3	0.27	CIRCULAR	18	18	6	867.7	867.8	5	YES
L24146	P24148	CB24146	482.84	0.37	CIRCULAR	15	15	4	868.2	867.7	4	YES
L24148	CB24154	P24148	189.27	0.77	CIRCULAR	30	30	36	868.3	868.2	15	YES
L24149	P24118	P24148	150	0.33	CIRCULAR	18	18	6	865.4	868.2	8	NO
L24150	P24222	CB24250	127	1.09	CIRCULAR	15	15	7	885.0	885.4	5	YES
L24152	CB24250	CB24252	917	0.28	CIRCULAR	15	15	3	885.4	879.6	4	NO
L24154	CB24156	CB24154	132.36	1.46	CIRCULAR	27	27	37	868.4	868.3	14	NO
L24156	CB24158	CB24156	220.97	1.05	CIRCULAR	21	21	16	870.8	868.4	10	NO
L24158	CB24160	CB24158	177.61	2.63	CIRCULAR	18	18	17	874.9	870.8	5	NO
L24159	CB24162	CB24158	223.7	0.59	CIRCULAR	15	15	5	871.8	870.8	3	NO
L24164	CB24172	CB24164	117.66	4.31	CIRCULAR	18	18	22	870.9	866.3	6	NO
L24165	CB24166	CB24164	384.44	0.18	CIRCULAR	33	33	23	867.6	866.3	14	NO
L24166	CB24168	CB24166	362.68	4.4	CIRCULAR	30	30	86	882.5	867.6	7	NO
L24167	CB24170	CB24166	46.52	12.75	CIRCULAR	18	18	38	879.9	867.6	6	NO
L24172	CB24174	CB24172	169.36	0.89	CIRCULAR	15	15	6	872.6	870.9	3	NO
L24175	CB24176	P24118	175	0.57	CIRCULAR	27	27	23	865.8	865.4	25	NO
L24176	CB24178	CB24176	35.75	0.28	CIRCULAR	24	24	12	866.3	865.8	22	YES
L24178	CB24180	CB24178	227.07	0.22	CIRCULAR	18	18	5	870.1	866.3	14	YES
L24180	CB24182	CB24180	108.04	8.33	CIRCULAR	15	15	19	876.0	870.1	14	YES
L24182	CB24184	CB24182	322.72	2.17	CIRCULAR	15	15	10	880.5	876.0	3	NO
L24183	CB24186	CB24182	189.5	0.26	CIRCULAR	12	12	2	877.2	876.0	5	YES
L24185	CB24188	P24118	400	1.36	CIRCULAR	15	15	8	871.8	865.4	8	NO

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L24186	CB24190	CB24188	154.69	3.38	CIRCULAR	12	12	7	879.3	871.8	8	YES
L24189	CB24194	P24118	231.55	1.51	CIRCULAR	15	15	8	868.7	865.4	5	NO
L24221	CB24238	P24222	150	3	CIRCULAR	18	18	18	887.2	885.0	18	YES
L24222	CB24224	P24222	140	0.26	CIRCULAR	15	15	3	885.1	885.0	7	YES
L24224	CB24226	CB24224	564.98	0.2	CIRCULAR	15	15	3	889.2	885.1	6	YES
L24226	CB24228	CB24226	63.11	0.13	CIRCULAR	15	15	2	889.1	889.2	3	YES
L24228	P24230	CB24228	198.62	0.35	CIRCULAR	12	12	2	886.8	889.1	4	YES
L24230	CB24232	P24230	40	0.25	CIRCULAR	15	15	3	886.5	886.8	5	YES
L24231	CB24234	CB24232	162.95	0.09	CIRCULAR	15	15	2	886.5	886.5	4	NO
L24232	CB24236	CB24232	994.12	0.1	CIRCULAR	15	15	2	889.3	886.5	4	YES
L24234	CB24234	O-24-2-01	143.71	21.57	CIRCULAR	12	12	17	886.5	854.5	15	YES
L24238	CB24240	CB24238	223.33	0.22	CIRCULAR	15	15	3	891.5	887.2	10	YES
L24241	CB24242	P24222	132	0.38	CIRCULAR	15	15	4	886.8	885.0	8	YES
L24242	P24244	CB24242	232.02	0.86	CIRCULAR	15	15	6	887.6	886.8	5	YES
L24245	CB24246	P24222	313	0.26	CIRCULAR	18	18	5	889.2	885.0	8	NO
L24246	CB24248	CB24246	123.85	0.16	CIRCULAR	18	18	4	891.0	889.2	7	YES
L24402	CB24104	P24402	240	0.17	CIRCULAR	15	15	3	864.0	863.1	5	YES
L24403	CB23150	P24402	110	1.82	CIRCULAR	18	18	14	870.1	863.1	12	NO
L24404	P24406	CB24104	90	0.44	CIRCULAR	15	15	4	864.5	864.0	5	YES
L24405	CB23138	P24406	98	0.82	CIRCULAR	15	15	6	868.5	864.5	7	NO
L24406	CB24408	P24406	22	2	CIRCULAR	15	15	9	865.9	864.5	16	YES
L24407	CB23142	P24406	86	1.8	CIRCULAR	24	24	30	866.4	864.5	10	NO
L24408	CB24428	CB24408	147.52	2.7	CIRCULAR	21	21	26	867.7	865.9	15	NO
L24409	CB23110	CB24408	298.32	0.69	CIRCULAR	15	15	5	868.0	865.9	6	YES
L24412	P23118	CB24412	51	1.86	CIRCULAR	15	15	9	867.5	868.0	8	YES
L24413	CB24414	CB24412	230.88	1.98	CIRCULAR	15	15	9	872.3	868.0	8	YES
L24414	CB24416	CB24414	167.29	0.54	CIRCULAR	12	12	3	873.6	872.3	3	YES
L24425	P24426	CB24408	186	0.04	CIRCULAR	15	15	1	864.0	865.9	4	NO

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L24428	CB24430	CB24428	219.66	1.63	CIRCULAR	18	18	13	870.9	867.7	8	NO
L24430	CB24432	CB24430	271.51	0.61	CIRCULAR	18	18	8	872.9	870.9	8	NO
L24432	CB24434	CB24432	173.89	0.88	CIRCULAR	15	15	6	875.0	872.9	7	YES
L24434	CB24436	CB24434	163.1	0.44	CIRCULAR	15	15	4	875.8	875.0	3	YES
L24440	CB24442	P24440	40	6.88	CIRCULAR	24	24	59	863.8	863.8	34	YES
L24442	J24444	CB24442	265.78	0.13	CIRCULAR	18	18	4	865.9	863.8	13	YES
L24444	J24446	J24444	798.9	0.13	CIRCULAR	18	18	4	866.5	865.9	3	YES
L24446	J24448	J24446	400.9	0.12	CIRCULAR	18	18	4	864.6	866.5	7	YES
L24448	P24450	J24448	70	0.17	CIRCULAR	18	18	4	863.0	864.6	12	NO
L24449	P24452	P24450	110	0.91	CIRCULAR	18	18	10	871.5	863.0	10	NO
L24451	P24402	P24450	146	-0.34	CIRCULAR	15	15	4	863.1	863.0	2	YES
L24453	P23158	P24402	205	0.3	CIRCULAR	18	18	6	865.3	863.1	1	NO
L25250	CB23152	CB23150	38.26	7.84	CIRCULAR	18	18	25	872.7	870.1	10	NO
Link-12	P14270	P14220	300	0.45	CIRCULAR	15	15	4	878.8	860.1	3	NO
ZC15352	J22454	J22454A	93.96	0.28	CIRCULAR	15	15	3	870.0	872.0	5	YES
ZC24414A	CB24416	CB24414	140.12	0.65	CIRCULAR	15	15	5	873.6	872.3	5	YES

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C27270	P27276	P27270	90	2	CIRCULAR	18	18	13	873.8	862.6	0	No
L22302	P22304	P22302	85	1.76	CIRCULAR	15	15	5	866.7	866.4	3	No
L27116	P22302	P27116	75	0.4	CIRCULAR	12	12	1	866.4	866.4	2	Yes
L27118	P27402	P27118	150	0.13	CIRCULAR	24	24	7	861.8	862.5	0	No
L27119	P27102	P27118	150	0.33	CIRCULAR	18	18	6	862.5	862.5	0	No
L27168	CB27170	CB27168	205	0.15	CIRCULAR	15	15	2	867.7	867.4	0	No
L27202	CB27204	P27202	246.08	0.57	CIRCULAR	27	27	23	866.3	865.5	25	Yes
L27203	CB27216	P27202	253	0.09	CIRCULAR	36	36	20	866.1	865.5	43	Yes
L27204	CB27206	CB27204	249.76	0.2	CIRCULAR	27	27	14	869.3	866.3	25	Yes
L27206	CB27208	CB27206	358.38	0.2	CIRCULAR	27	27	14	869.8	869.3	25	Yes
L27207	CB27214	CB27208	355.78	0.2	CIRCULAR	24	24	10	870.6	869.8	12	Yes
L27208	CB27210	CB27208	274.29	0.3	CIRCULAR	24	24	12	870.4	869.8	15	Yes
L27210	CB27212	CB27210	249.7	0.3	CIRCULAR	15	15	4	870.1	870.4	6	Yes
L27216	CB27218	CB27216	411.98	1.28	CIRCULAR	21	21	18	867.1	866.1	12	Yes
L27217	CB27220	CB27216	432.3	0.13	CIRCULAR	30	30	15	866.3	866.1	21	Yes
L27220	CB27222	CB27220	56.19	1.25	CIRCULAR	18	18	12	867.6	866.3	16	Yes
L27221	CB27322	CB27220	90.48	0.13	CIRCULAR	18	18	4	866.3	866.3	9	Yes
L27222	CB27224	CB27222	239.52	2.3	CIRCULAR	15	15	10	869.6	867.6	6	Yes
L27226	CB27228	CB27226	242.8	0.1	CIRCULAR	36	36	21	863.2	862.6	47	Yes
L27228	CB27230	CB27228	92.2	0.1	CIRCULAR	36	36	21	863.7	863.2	39	Yes
L27229	P27234	CB27228	30	0.27	CIRCULAR	15	15	3	863.7	863.2	9	Yes
L27230	CB27232	CB27230	203	0.06	CIRCULAR	36	36	17	864.6	863.7	39	Yes
L27232	P27202	CB27233	24	-1.46	CIRCULAR	36	36	81	865.5	865.1	41	Yes
L27234	CB27236	P27234	60	0.42	CIRCULAR	36	36	43	863.9	863.7	38	Yes
L27236	CB27238	CB27236	261.17	0.51	CIRCULAR	36	36	47	864.5	863.9	30	Yes
L27238	CB27240	CB27241	53.52	0.3	CIRCULAR	30	30	22	865.7	865.1	29	Yes
L27238A	CB27241	CB27238	276.59	0.54	CIRCULAR	33	33	39	865.1	864.5	24	Yes
L27240	CB27242	CB27240	261.17	0.2	CIRCULAR	30	30	18	865.7	865.7	5	Yes

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L27242	CB27244	CB27242	184.51	0.26	CIRCULAR	24	24	12	865.8	865.7	4	Yes
L27243	CB27246	CB27244	68.2	0.22	CIRCULAR	18	18	5	865.9	865.8	4	Yes
L27244	CB27274	CB27244	38	0.71	CIRCULAR	21	21	13	864.9	865.8	18	Yes
L27248	CB27250	CB27248	107	0.21	CIRCULAR	15	15	3	858.2	858.0	0	No
L27250	CB27252	CB27250	247	0.18	CIRCULAR	15	15	3	858.7	858.2	0	No
L27252	CB27254	CB27252	291	0.15	CIRCULAR	15	15	3	859.1	858.7	0	No
L27254	CB27256	CB27254	250	1.84	CIRCULAR	15	15	9	863.7	859.1	0	No
L27256	CB27258	CB27256	400.78	0.21	CIRCULAR	15	15	3	864.5	863.7	0	No
L27258	CB27260	CB27258	394	0.12	CIRCULAR	15	15	2	865.0	864.5	0	No
L27260	CB27262	CB27260	387	0.1	CIRCULAR	15	15	2	865.4	865.0	0	No
L27262	CB27264	CB27262	400	0.21	CIRCULAR	15	15	3	866.3	865.4	0	No
L27264	CB27266	CB27264	403	0.12	CIRCULAR	15	15	2	866.8	866.3	0	No
L27266	CB27168	CB27266	403	0.15	CIRCULAR	15	15	2	867.4	866.8	0	No
L27272	CB27226	MH27235	136	0.16	CIRCULAR	42	42	40	862.6	862.6	47	Yes
L27274	P34174	CB27274	14	0.71	CIRCULAR	15	15	5	863.4	864.9	17	Yes
L27276	MH27235	P27270	40	0.55	CIRCULAR	42	42	75	862.6	862.6	47	Yes
L27301	P27316	P27302	120	0.67	CIRCULAR	24	24	18	865.5	866.0	5	No
L27302	CB27304	P27302	202.82	0.2	CIRCULAR	24	24	10	866.5	866.0	17	Yes
L27303	CB27310	P27302	156.58	0.32	CIRCULAR	18	18	6	866.2	866.0	17	Yes
L27304	CB27306	CB27304	412.06	0.1	CIRCULAR	24	24	7	866.5	866.5	13	Yes
L27306	CB27308	CB27306	333.84	0.1	CIRCULAR	24	24	7	866.6	866.5	11	Yes
L27310	CB27312	CB27310	502.07	0.22	CIRCULAR	18	18	5	866.6	866.2	7	Yes
L27312	CB27314	CB27312	131.05	0.31	CIRCULAR	15	15	4	866.6	866.6	2	Yes
L27322	CB27324	CB27322	273.79	0.13	CIRCULAR	18	18	4	866.7	866.3	7	Yes
L27324	CB27326	CB27324	220.51	0.13	CIRCULAR	18	18	4	865.5	866.7	10	Yes
L27326	CB27328	CB27326	268.85	0.54	CIRCULAR	18	18	8	865.4	865.5	10	Yes
L27328	P27330	CB27328	20	0	CIRCULAR	18	18	1	865.4	865.4	10	Yes
L27330	CB27332	P27330	128	0.31	CIRCULAR	30	30	23	865.4	865.4	24	Yes

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L27332	CB27334	CB27332	353.86	0.23	CIRCULAR	27	27	15	865.4	865.4	18	Yes
L27334	CB27336	CB27334	397.22	0.2	CIRCULAR	18	18	5	865.6	865.4	8	Yes
L27338	CB27340	P27338	136	0.2	CIRCULAR	21	21	7	862.5	862.3	9	Yes
L27340	CB27342	CB27340	396.9	0.2	CIRCULAR	21	21	7	863.1	862.5	9	Yes
L27342	CB27344	CB27342	388.64	0.17	CIRCULAR	21	21	7	863.8	863.1	9	Yes
L27344	P27302	CB27344	143.35	0	CIRCULAR	15	15	0	866.0	863.8	9	Yes
L27346	CB27348	P27346	70	0.71	CIRCULAR	30	30	35	864.4	863.9	31	No
L27347	CB27352	P27346	108	0.37	CIRCULAR	21	21	10	864.0	863.9	14	Yes
L27348	CB27350	CB27348	660.47	0.08	CIRCULAR	24	24	6	866.6	864.4	13	Yes
L27352	CB27354	CB27352	233.15	0.09	CIRCULAR	21	21	5	864.6	864.0	8	Yes
L27401	P27446	CB27447	81.71	-1.6	CIRCULAR	12	12	5	869.1	867.3	5	Yes
L27402	CB27447	P27102	96	0.72	CIRCULAR	12	12	3	867.3	862.5	5	No
L27404	P27346	P27402	100	0.5	CIRCULAR	18	18	7	863.9	861.8	10	No
L27407	CB27444	P27408	204	1.96	CIRCULAR	15	15	9	872.7	865.4	5	No
L27408	CB27410	P27408	174	0.34	CIRCULAR	21	21	9	868.1	865.4	10	No
L27409	CB27438	P27408	856.87	0.18	CIRCULAR	24	24	9	872.0	865.4	13	No
L27410	CB27412	CB27410	55.74	0.36	CIRCULAR	18	18	6	868.8	868.1	9	Yes
L27412	CB27414	CB27412	257.7	0.35	CIRCULAR	18	18	6	870.2	868.8	8	Yes
L27414	P27416	CB27414	55	0.55	CIRCULAR	15	15	5	871.0	870.2	7	Yes
L27415	CB27436	CB27414	184.49	0.6	CIRCULAR	18	18	8	870.2	870.2	3	No
L27416	CB27418	P27416	164	0.37	CIRCULAR	21	21	10	873.8	871.0	16	No
L27417	CB27426	P27416	148	0.54	CIRCULAR	21	21	12	871.1	871.0	13	Yes
L27418	CB27420	CB27418	209.66	0.29	CIRCULAR	21	21	8	874.7	873.8	11	Yes
L27420	CB27422	CB27420	94.92	0.32	CIRCULAR	18	18	6	875.7	874.7	9	Yes
L27422	CB27424	CB27422	167.88	0.3	CIRCULAR	15	15	4	878.0	875.7	7	Yes
L27426	CB27428	CB27426	35.71	0.56	CIRCULAR	18	18	8	871.3	871.1	11	Yes
L27428	CB27430	CB27428	63.59	0.79	CIRCULAR	15	15	6	872.9	871.3	9	Yes
L27430	CB27432	CB27430	407.35	1.35	CIRCULAR	12	12	4	880.0	872.9	4	Yes

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L27432	P27434	CB27432	158.66	0.63	CIRCULAR	12	12	3	878.0	880.0	4	Yes
L27438	CB27440	CB27438	247.67	0.81	CIRCULAR	18	18	9	874.0	872.0	12	Yes
L27440	CB27442	CB27440	220.83	0.91	CIRCULAR	15	15	6	876.1	874.0	8	Yes
L27446	CB27448	P27446	48	2.06	CIRCULAR	15	15	9	869.2	869.1	6	Yes
L27447	CB27454	P27446	160	1.08	CIRCULAR	12	12	4	869.5	869.1	2	Yes
L27448	CB27450	CB27448	144	1.14	CIRCULAR	15	15	7	870.1	869.2	7	Yes
L27450	CB27452	CB27450	124	1.05	CIRCULAR	15	15	7	870.8	870.1	4	No
L34104	P34106	CB34104	254.91	1.45	CIRCULAR	24	24	27	859.0	854.0	22	No
L34118	CB34120	CB35318	152.36	0.47	CIRCULAR	42	42	69	852.7	851.7	61	No
L34120	CB34122	CB34120	105.12	0.47	CIRCULAR	42	42	69	853.5	852.7	61	No
L34121	CB34152	CB34130	710	0.2	CIRCULAR	30	30	18	860.7	856.9	29	Yes
L34122	CB34124	CB34122	145.85	0.71	CIRCULAR	42	42	85	854.3	853.5	61	No
L34124	CB34126	CB34124	31	0.13	CIRCULAR	42	42	36	854.8	854.3	61	No
L34128	CB34130	CB34128	194	0.14	CIRCULAR	42	42	38	856.9	856.5	39	Yes
L34130	CB34132	CB34130	80	0.18	CIRCULAR	42	42	42	856.9	856.9	9	Yes
L34132	CB34134	CB34132	44	0.73	CIRCULAR	21	21	14	857.1	856.9	9	Yes
L34134	CB34136	CB34134	233	0.15	CIRCULAR	21	21	6	858.0	857.1	9	Yes
L34136	CB34138	CB34136	304	0.16	CIRCULAR	21	21	6	858.0	858.0	2	Yes
L34137	P34137	CB34136	41.71	-1.03	CIRCULAR	15	15	7	859.1	858.0	10	Yes
L34138	CB34140	CB34138	321.89	0.14	CIRCULAR	21	21	6	858.0	858.0	2	Yes
L34139	P34170	CB34182	200	0.08	CIRCULAR	15	15	2	862.2	861.3	6	Yes
L34140	CB34142	CB34140	324	0.21	CIRCULAR	21	21	7	858.0	858.0	2	Yes
L34142	CB34144	CB34142	404	0.13	CIRCULAR	18	18	4	858.0	858.0	1	No
L34144	CB34146	CB34144	396	0.17	CIRCULAR	18	18	4	858.0	858.0	1	No
L34146	CB27248	CB34146	386	0.19	CIRCULAR	18	18	5	858.0	858.0	0	No
L34149	P34148	CB34128	522	0.38	CIRCULAR	24	24	14	857.9	856.5	11	Yes
L34150	CB34154	P34150	141	0.23	CIRCULAR	36	36	32	861.3	861.2	39	Yes
L34152	P34150	CB34152	46	0.2	CIRCULAR	30	30	18	861.2	860.7	29	Yes

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L34154	CB34156	CB34154	270	0.05	CIRCULAR	36	36	15	861.8	861.3	40	Yes
L34156	CB34158	CB34156A	20.21	-0.54	CIRCULAR	36	36	49	862.2	862.0	41	Yes
L34156B	CB34156A	CB34156	18	0.61	CIRCULAR	36	36	52	862.0	861.8	41	Yes
L34158	CB34160	CB34158	344	0.09	CIRCULAR	36	36	20	863.1	862.2	37	Yes
L34160	CB34162	CB34160	311	0.13	CIRCULAR	36	36	24	863.8	863.1	35	Yes
L34174	CB34176	CB34178	300	0.1	Arch	15.48	26.04	3	862.0	861.4	9	Yes
L34178	CB34178	CB34180	350	0.1	Arch	15.48	26.04	3	861.4	864.3	10	Yes
L34180	CB34180	CB34162	352	0.1	CIRCULAR	36	36	18	864.3	863.8	25	Yes
L34182	CB34182	P34150	80	0.54	CIRCULAR	15	15	5	861.3	861.2	6	Yes
L34405	P34402	MH34404	44	-2.66	Arch	15.48	26.04	18	860.7	860.5	9	Yes
L34406	CB34406	P34402	47	0.06	CIRCULAR	24	24	6	860.7	860.7	8	Yes
L34412	CB34408	CB34406	188	0.16	CIRCULAR	24	24	9	860.8	860.7	8	Yes
L34416	CB34410	CB34408	247	0.09	CIRCULAR	24	24	7	861.0	860.8	8	Yes
L35126	CB34128	CB34126	417	0.14	CIRCULAR	42	42	37	856.5	854.8	61	Yes
L35300	CB35302	O35301	209.03	1.91	CIRCULAR	27	27	43	851.8	842.1	64	Yes
L35302	CB35304	CB35302	385.37	1.04	CIRCULAR	27	27	32	857.6	851.8	43	Yes
L35304	CB35306	CB35304	426.8	0.94	CIRCULAR	24	24	22	857.6	857.6	27	Yes
L35310	CB35312	O34204	269.57	0.48	CIRCULAR	48	48	99	849.7	847.9	92	No
L35312	CB35314	CB35312	73.86	0.47	CIRCULAR	48	48	99	850.5	849.7	92	No
L35314	CB35316	CB35314	86.54	0.46	CIRCULAR	48	48	98	851.0	850.5	75	No
L35316	CB35318	CB35316	431.98	0.47	CIRCULAR	48	48	98	851.7	851.0	66	No
L35317	P35402	CB35316	126.17	1.16	CIRCULAR	18	18	11	852.5	851.0	11	Yes
L35400	J34101	O34203	32	1.84	CIRCULAR	21	21	22	843.9	842.5	45	Yes
L35401	CB34102	J34101	470	1.1	CIRCULAR	21	21	21	855.0	843.9	23	Yes
L35402	CB35403	CB35404	430	0.1	CIRCULAR	36	36	21	857.1	857.6	24	Yes
L35403	MH34404	CB34176	150	0.12	Arch	15.48	26.04	4	860.5	862.0	9	Yes
L35404	CB35404	CB35406	225	0.1	CIRCULAR	36	36	23	857.6	858.1	24	Yes
L35406	CB35406	CB35407	110	0.14	CIRCULAR	36	36	25	858.1	858.2	24	Yes

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L35407	P35407	CB35407	40	-1.32	CIRCULAR	36	36	77	858.2	858.2	69	Yes
L35408	CB35408	CB35410	205	0.13	CIRCULAR	42	42	36	859.3	859.7	42	Yes
L35410	CB35410	P35420	296.71	0.27	CIRCULAR	42	42	52	859.7	860.2	39	Yes
L35411	CB35412	CB35410	109.33	0.91	CIRCULAR	42	42	96	859.7	859.7	11	Yes
L35414	CB35416	CB35414	355.99	0.27	CIRCULAR	48	48	75	860.8	860.3	53	Yes
L35416	CB35418	CB35416	349.36	0.27	CIRCULAR	48	48	75	861.6	860.8	38	Yes
L35419	CB35440	P35420	735.61	0.48	CIRCULAR	30	30	28	862.0	860.2	30	Yes
L35420	P35420	P35424	133	0.38	CIRCULAR	42	42	62	860.2	861.3	59	No
L35421	CB35414	P35420	148.95	0.34	CIRCULAR	48	48	83	860.3	860.2	53	Yes
L35422	SB35409	SB35411	220	0.27	CIRCULAR	36	36	38	858.5	859.2	44	Yes
L35423	CB35407	SB35409	202	0.21	CIRCULAR	36	36	31	858.2	858.5	47	Yes
L35424	CB35426	P35424	180	0.28	CIRCULAR	54	54	104	861.6	861.3	59	Yes
L35425	CB35403	CB35402	295	-0.1	CIRCULAR	36	36	21	857.1	856.9	24	Yes
L35426	CB35428	CB35427	374.3	0.11	CIRCULAR	48	48	49	862.6	862.4	41	Yes
L35427	CB34129	CB34128	41	0.39	CIRCULAR	36	36	42	856.6	856.5	25	Yes
L35428	CB35402	CB34129	502	-0.1	CIRCULAR	36	36	21	856.9	856.6	25	Yes
L35429	CB35434	CB35428	209.63	0.24	CIRCULAR	24	24	11	862.6	862.6	10	Yes
L35430	CB35430	CB35428	459	0.15	CIRCULAR	42	42	39	863.0	862.6	39	Yes
L35431	CB35432	CB35430	121.33	0.15	CIRCULAR	36	36	26	863.3	863.0	35	Yes
L35432	P35474	CB35432	331.18	3	CIRCULAR	15	15	11	867.1	863.3	2	No
L35434	CB35436	CB35434	50.99	0.59	CIRCULAR	12	12	3	862.3	862.6	4	Yes
L35436	P35438	CB35436	87.43	0.57	CIRCULAR	12	12	3	861.9	862.3	4	Yes
L35440	CB35442	CB35440	203.01	0.75	CIRCULAR	30	30	35	862.0	862.0	23	Yes
L35442	CB35444	CB35442	255.69	0.77	CIRCULAR	30	30	36	862.6	862.0	27	Yes
L35445	CB35454	P35446	497.39	0.6	CIRCULAR	30	30	32	866.7	866.7	18	Yes
L35446	CB35466	CB354466A	363	1	CIRCULAR	27	27	31	872.1	867.7	33	No
L35446A	CB354466A	CB35466B	180	4.28	CIRCULAR	27	27	64	867.7	866.7	33	No
L35446B	CB35466B	P35446	26	1.46	CIRCULAR	27	27	37	866.7	866.7	27	Yes

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L35447	CB35470	P35446	470.04	1.17	CIRCULAR	30	30	44	866.7	866.7	16	Yes
L35448	CB35448	P35446	187.07	4.01	CIRCULAR	21	21	32	866.8	866.7	17	Yes
L35449	CB35450	CB35448	492.25	0.81	CIRCULAR	18	18	9	868.3	866.8	6	No
L35450	CB35452	CB35450	332.39	3.16	CIRCULAR	15	15	11	877.9	868.3	3	No
L35454	CB35456	CB35454	121.65	2.06	CIRCULAR	24	24	32	866.7	866.7	4	Yes
L35455	CB35458	CB35454	110.77	0.45	CIRCULAR	24	24	15	866.7	866.7	7	Yes
L35458	CB35460	CB35458	127.61	1.41	CIRCULAR	18	18	12	866.7	866.7	3	Yes
L35460	CB35462	CB35460	41.58	0.48	CIRCULAR	15	15	4	866.7	866.7	2	Yes
L35462	P35464	CB35462	84.51	0.59	CIRCULAR	12	12	3	866.7	866.7	5	Yes
L35466	CB35468	CB35466	174.06	1.19	CIRCULAR	18	18	11	874.3	872.1	12	Yes
L35468A	CB35468A	CB35468	115	0.61	CIRCULAR	18	18	8	876.2	874.3	12	Yes
L35468B	CB35468B	CB35468A	40	0.6	CIRCULAR	18	18	8	877.2	876.2	12	Yes
L35470	CB35472	CB35470	545.93	0.22	CIRCULAR	24	24	11	866.7	866.7	6	Yes
P243	CB35476	CB35474	398.8	0.26	CIRCULAR	42	42	51	861.1	862.0	24	Yes
P244	CB35474	CB35418	399.36	0.27	CIRCULAR	42	42	52	862.0	861.6	34	Yes
P247	SB35411	CB35408	65	0.31	CIRCULAR	42	42	56	859.2	859.3	43	Yes
P248	CB35427	CB35426	518.65	0.11	CIRCULAR	48	48	48	862.4	861.6	59	Yes
P35418	P35422	CB35476	392.31	0.05	CIRCULAR	42	42	23	860.3	861.1	10	Yes

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C11407	P11316	P11338	50	0.2	CIRCULAR	18	18	4	872.5	872.2	1	No
L11118	P11116	P11118	100	-1.1	CIRCULAR	18	18	11	879.2	874.1	1	No
L11120	P11118	P11402	100	1	CIRCULAR	18	18	11	874.1	871.5	9	No
L11204	P11206	J11204	85	0.24	CIRCULAR	24	24	11	872.5	872.0	7	No
L11211	P11202	J11206	398.43	-0.1	CIRCULAR	12	12	1	869.6	868.8	1	No
L11212	J11206	J11207	100	1	CIRCULAR	12	12	4	868.8	868.0	1	No
L11213	J11207	J11208	672.77	0.34	CIRCULAR	12	12	2	868.0	865.0	1	No
L11216	J11209	J11210	63.25	0.47	CIRCULAR	12	12	2	875.3	874.2	5	No
L11218	J11204	P11213	20	6.5	CIRCULAR	12	12	9	872.0	870.6	7	No
L11338	P11340	P11338	100	2	CIRCULAR	18	18	13	874.5	872.2	3	No
L11401	J11412	P11402	185	1.35	CIRCULAR	18	18	12	875.8	871.5	7	No
L12306	P12313	P12314	20	9	CIRCULAR	15	15	19	858.0	856.5	1	No
L13406	P13408	J13406	40	1	CIRCULAR	12	12	2	864.0	863.1	1	No
L14104	P14106	J14104	80	0.25	CIRCULAR	12	12	2	875.2	874.4	1	No
L14434	P14436	J14434	76	-0.66	CIRCULAR	15	15	5	871.5	870.6	3	No
L14435	P14401	O14429	715	0.91	CIRCULAR	15	15	7	874.9	866.3	8	Yes

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L34106	CB34108	CB34106	444.35	0.56	CIRCULAR	18	18	8	857.7	855.2	12	Yes
L34200	CB34202	O34300	181.87	7.15	CIRCULAR	27	27	83	849.7	843.0	15	No
L34201	CB34204	O34301	340.29	3.23	CIRCULAR	27	27	56	852.3	843.3	49	Yes
L34204	CB34106	CB34204	562.32	0.53	CIRCULAR	27	27	23	855.2	852.3	33	Yes
L34300	CB34302	O34400	43	0.67	CIRCULAR	24	24	19	847.7	843.6	59	Yes
L34302	P34304	CB34302	90	1.14	CIRCULAR	24	24	24	847.0	847.7	28	Yes
L34304	CB34306	P34304	150	0.5	CIRCULAR	27	27	22	848.1	847.0	33	Yes
L34305	CB34342	P34304	165	0.3	CIRCULAR	18	18	6	848.4	847.0	13	Yes
L34306	CB34308	CB34306	251	0.39	CIRCULAR	27	27	19	851.4	848.1	33	Yes
L34308	CB34310	CB34308	225	0.45	CIRCULAR	27	27	21	853.3	851.4	21	Yes
L34310	CB34412	CB34310	147	0.48	CIRCULAR	27	27	21	852.1	853.3	19	Yes
L34311	P34311	CB34310	65	1.08	CIRCULAR	15	15	7	852.0	853.3	6	Yes
L34328	CB34442	CB34440	279	0.42	CIRCULAR	27	27	20	854.9	854.4	14	No
L34340	CB34344	CB34342	320	0.37	CIRCULAR	18	18	6	854.0	848.4	13	Yes
L34342	CB34346	CB34344	270	0.26	CIRCULAR	18	18	5	854.8	854.0	7	Yes
L34344	CB34448	CB34346	472	0.2	CIRCULAR	18	18	5	854.8	854.8	6	Yes
L344100	CB34485	CB34487	28.54	0.7	CIRCULAR	30	30	34	854.3	854.3	2	Yes
L344101	CB34487	CB34489	33.67	0	CIRCULAR	30	30	2	854.3	854.3	2	Yes
L344102	CB34488	CB34489	46.54	5.35	CIRCULAR	18	18	24	854.3	854.3	0	No
L344103	CB34486	CB34485	71.93	1.11	CIRCULAR	18	18	11	854.3	854.3	0	Yes
L344104	CB34489	CB34497	241.59	0.41	CIRCULAR	30	30	26	854.3	854.3	2	Yes
L344105	CB34474	CB34476	97.57	1.47	CIRCULAR	30	30	50	854.3	854.3	0	No
L34412	CB34414	CB34412	217	0.3	CIRCULAR	27	27	17	855.5	852.1	19	Yes
L34414	P34418	CB34414	380	0.42	CIRCULAR	24	24	15	854.3	855.5	19	Yes
L34415	P34316	CB34414	30	12.17	CIRCULAR	15	15	23	852.3	855.5	4	No
L34416	CB34418	P34418	157	0.21	CIRCULAR	42	42	46	854.4	854.3	37	Yes
L34417	CB34430	P34418	51	1	CIRCULAR	18	18	11	854.4	854.3	9	Yes
L34418	CB34420	CB34418	155	0.43	CIRCULAR	36	36	44	854.4	854.4	35	Yes

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L34420	CB34422	CB34420	450	0.34	CIRCULAR	36	36	39	854.4	854.4	28	No
L34422	CB34424	CB34422	219	0.39	CIRCULAR	30	30	26	855.6	854.4	22	No
L34424	CB34426	CB34424	219	0.61	CIRCULAR	24	24	18	856.5	855.6	15	No
L34426	CB34428	CB34426	143	0.44	CIRCULAR	24	24	15	857.3	856.5	15	No
L34430	CB34432	CB34430	65	1.25	CIRCULAR	15	15	7	854.4	854.4	9	Yes
L34432	P34434	CB34432	32	3.28	CIRCULAR	15	15	12	854.4	854.4	4	Yes
L34433	CB34433	CB34432	30	1.97	CIRCULAR	15	15	9	855.5	854.4	11	Yes
L34434	CB34436	P34434	54	0.43	CIRCULAR	36	36	44	854.4	854.4	26	Yes
L34436	CB34438	CB34436	149	0.13	CIRCULAR	36	36	24	854.4	854.4	26	Yes
L34438	CB34440	CB34438	333	0.4	CIRCULAR	30	30	26	854.4	854.4	25	No
L34442	CB34444	CB34442	183	0.59	CIRCULAR	24	24	17	855.8	854.9	14	No
L34444	CB34446	CB34444	282	0.72	CIRCULAR	15	15	5	857.5	855.8	4	No
L34448	CB34450	CB34448	204	0.84	CIRCULAR	18	18	10	852.3	854.8	11	Yes
L34450	CB34454	CB34450	168	0.21	CIRCULAR	18	18	5	853.3	852.3	8	Yes
L34451	P34451	CB34450	32	0.31	CIRCULAR	18	18	6	852.2	852.3	15	Yes
L34452	P34452	CB34450	62	0.48	CIRCULAR	18	18	7	852.3	852.3	7	Yes
L34454	CB34456	CB34454	267	0.25	CIRCULAR	18	18	5	854.7	853.3	8	Yes
L34456	CB34458	CB34456	140	0.36	CIRCULAR	15	15	4	857.1	854.7	7	Yes
L34458	P34460	CB34458	2.61	100	CIRCULAR	27	27	310	855.0	857.1	84	No
L34459	CB34493	CB34494	33.37	0.27	CIRCULAR	18	18	5	854.3	854.3	0	No
L34460	CB34496	CB34497	122.82	1.15	CIRCULAR	18	18	11	854.3	854.3	1	Yes
L34461	CB34494	CB34496	136.81	1.36	CIRCULAR	18	18	12	854.3	854.3	0	No
L34462	CB34495	CB34496	103.55	0.69	CIRCULAR	18	18	9	854.3	854.3	2	Yes
L34463	CB34492	CB34493	81.16	0.36	CIRCULAR	18	18	6	854.3	854.3	0	No
L34464	CB34497	CB34498	38.88	1.8	CIRCULAR	36	36	90	854.3	854.3	3	Yes
L34465	CB34498	P34418	45	0.82	CIRCULAR	36	36	60	854.3	854.3	3	Yes
L34466	CB34491	CB34497	119.39	1.37	CIRCULAR	18	18	12	854.3	854.3	0	Yes
L34467	CB34490	CB34491	109.2	0.62	CIRCULAR	18	18	8	854.3	854.3	0	Yes

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L34468	CB344102	CB344103	36.58	0.36	CIRCULAR	18	18	6	854.3	854.3	0	Yes
L34469	CB344104	CB344105	132.01	-0.05	CIRCULAR	21	21	4	854.3	854.3	0	Yes
L34470	CB344103	CB344104	72.86	2.14	CIRCULAR	21	21	23	854.3	854.3	0	Yes
L34471	CB344105	CB344106	117.23	0.38	CIRCULAR	21	21	10	854.3	854.3	1	Yes
L34472	CB344106	P34418	47	0.21	CIRCULAR	24	24	10	854.3	854.3	1	Yes
L34473	CB344100	P34418	20	1	CIRCULAR	12	12	10	854.3	854.3	0	Yes
L34474	CB34499	P34418	20	1	CIRCULAR	12	12	7	854.3	854.3	0	Yes
L34475	CB34459	CB34460	31.4	7.36	CIRCULAR	12	12	10	858.5	856.2	0	No
L34476	CB34461	CB34462	23.73	12.73	CIRCULAR	12	12	13	858.5	855.5	0	No
L34477	CB34460	CB34462	69.2	0.94	CIRCULAR	18	18	10	856.2	855.5	0	No
L34478	CB34462	CB34463	77.68	0.33	CIRCULAR	18	18	6	855.5	855.3	0	No
L34479	CB34463	CB34465	94.68	0.25	CIRCULAR	18	18	5	855.3	855.0	0	No
L34480	CB34464	CB34465	24.77	4.84	CIRCULAR	12	12	8	856.2	855.0	0	No
L34481	CB34465	CB34474	38.36	5.14	CIRCULAR	18	18	24	855.0	854.3	0	No
L34482	CB34466	CB34467	36	0.44	CIRCULAR	12	12	2	855.9	855.8	0	No
L34483	CB34467	CB34468	42.89	0.49	CIRCULAR	12	12	2	855.8	855.6	0	No
L34484	CB34468	CB34469	89.41	0.83	CIRCULAR	18	18	10	855.6	854.8	0	No
L34485	CB34469	CB34470	179.48	0.53	CIRCULAR	18	18	8	854.8	854.3	0	No
L34486	CB34471	CB34472	32.86	0.79	CIRCULAR	12	12	3	855.9	855.6	0	No
L34487	CB34472	CB34470	61.69	2.8	CIRCULAR	12	12	6	855.6	854.3	0	No
L34488	CB34470	CB34473	60.49	0.31	CIRCULAR	18	18	6	854.3	854.3	0	No
L34489	CB34473	CB34474	59.35	1.1	CIRCULAR	18	18	11	854.3	854.3	0	No
L34490	CB34475	CB34476	42.98	7.38	CIRCULAR	18	18	29	854.8	854.3	0	No
L34491	CB34477	CB34478	35.24	6.07	CIRCULAR	18	18	26	854.3	854.3	0	No
L34492	CB34476	CB34478	147.21	0	CIRCULAR	30	30	1	854.3	854.3	1	Yes
L34493	CB34479	CB34480	139.99	0.34	CIRCULAR	18	18	6	854.5	854.3	0	No
L34494	CB34480	CB34481	118.29	0.74	CIRCULAR	18	18	9	854.3	854.3	0	No
L34495	CB34481	CB34483	99.83	0.56	CIRCULAR	18	18	8	854.3	854.3	0	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L34496	CB34482	CB34483	133.04	0.56	CIRCULAR	18	18	8	854.3	854.3	0	No
L34497	CB34483	CB34478	108.36	0.88	CIRCULAR	18	18	10	854.3	854.3	0	Yes
L34498	CB34478	CB34484	126.56	-0.37	CIRCULAR	30	30	25	854.3	854.3	1	No
L34499	CB34484	CB34485	123.45	0.5	CIRCULAR	30	30	29	854.3	854.3	2	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L01306	P01308	P01306	50	5	Filled Circula	6	18	4	871.1	867.4	1	No
L03312	P03314	J03312	70	1.43	CIRCULAR	18	18	11	882.7	881.1	4	No
L03419	P03432	P03418	150	0.67	CIRCULAR	18	18	7	888.8	888.3	0	No
L04402	P06404	J06402	98.38	0.51	CIRCULAR	18	18	6	888.4	887.3	9	No
L05336	P05338	J05136	20	5	CIRCULAR	42	42	195	887.2	885.2	32	No
L05338	P05340	P05338	150	2.67	CIRCULAR	42	42	142	891.2	887.2	31	No
L06408	P06410	J06408	107.95	0.93	CIRCULAR	18	18	9	891.0	889.1	6	No
L06412	P06414	J06412	96.03	2.08	CIRCULAR	18	18	13	902.5	900.1	2	No
L06416	P06418	J06416	99.94	2	CIRCULAR	18	18	13	901.5	899.1	3	No
L06419	J06420	J06419	39.28	20.37	CIRCULAR	18	18	41	909.0	900.2	20	No
L06422	P06424	J06422	106.7	0.47	CIRCULAR	18	18	6	910.3	909.6	1	No
L07102	P07107	P07102	100	0.5	CIRCULAR	24	24	14	892.2	892.2	6	yes
L07107	P07106	P07107	100	0.2	CIRCULAR	24	24	9	892.3	892.2	7	yes
L07202	P07204	J07202	300	4.33	CIRCULAR	18	18	13	885.6	872.4	3	No
L07204	P07206	P07204	77	10.39	CIRCULAR	18	18	20	900.4	885.6	20	No
L07206	J07208	P07206	100	0.5	CIRCULAR	18	18	6	901.3	900.4	13	yes
L07414	P07102	P07414	100	0.5	CIRCULAR	15	15	4	892.2	892.2	4	yes
L08302	P08304	J08302	90	2.78	CIRCULAR	18	18	15	886.4	883.6	1	No
L08328	P08330	J08328	91.17	1.1	Arch	60	108	481	870.2	870.1	81	No
L08406	CB08408	P08406	50	0.2	CIRCULAR	15	15	3	887.1	887.1	9	yes
L08407	P08418	P08408	50	11.4	CIRCULAR	18	18	22	892.4	885.0	10	No
L08408	P08416	P08408	35	0.57	CIRCULAR	15	15	4	885.0	885.0	8	yes
L08409	CB08406	P08406	50	3	CIRCULAR	18	18	16	888.6	887.1	19	yes
L08410	P07112	P08410	130	1.15	Arch	27.6	18	23	890.4	889.8	2	No
L08416	CB08420	P08416	30	13.33	CIRCULAR	15	15	20	885.0	885.0	10	No
L08417	CB08418	P08416	50	0.2	CIRCULAR	15	15	3	887.4	885.0	11	yes
L08418	P08420	P08418	105	1.05	CIRCULAR	15	15	6	896.2	892.4	9	No
L09123	P09434	P09122	1659.56	0.03	CIRCULAR	15	15	1	885.6	890.0	1	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L09218	P09320	J09218	110	0.23	Arch	60	108	219	867.1	866.9	89	No
L09324	P09426	P09424	100	0.5	CIRCULAR	15	15	4	892.8	892.0	0	No
L09326	P09428	P09426	1100.57	0.05	CIRCULAR	15	15	1	892.0	892.8	1	No
L09330	P09432	P09330	818.23	1.28	CIRCULAR	15	15	6	887.9	873.4	7	No
L10110	P10412	J10110	90	0.56	Arch	84	138	766	865.4	865.3	91	No
L10112	P10114	J10112	115	0.43	rizontal Ellip	18	24	11	886.8	885.7	6	No
L10122	P10122	P10120	100	1	CIRCULAR	15	15	6	888.5	888.6	1	No
L17405	P17407	P17404	100	3	CIRCULAR	15	15	10	873.5	874.2	0	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
2P Pipe	2P	1P	172	0.58	CIRCULAR	21	21	10	869.5	868.6	15	Yes
3P pipe	3P	2P	115	0.55	CIRCULAR	18	18	7	871.1	869.5	9	No
L17400	P17400	CB17400	107.87	-0.76	CIRCULAR	15	15	5	872.0	871.9	1	No
L17402	CB17401	MH17401	51.89	1.16	CIRCULAR	15	15	6	871.7	871.5	1	No
L174111	P17406	CB17402	100	0.3	CIRCULAR	15	15	3	873.3	873.0	0	No
L174112	CB17402	CB17403	31	0.65	CIRCULAR	15	15	5	873.0	872.8	0	No
L174113	CB17403	J17405	181.73	0.72	CIRCULAR	15	15	5	872.8	872.0	0	No
L18302	CB18304	J18302	195	0.39	CIRCULAR	24	24	14	883.1	868.7	27	No
L18304	CB18306	CB18304	48	0.15	CIRCULAR	24	24	9	883.2	883.1	8	No
L18305	CB18310	CB18304	168.05	1.79	CIRCULAR	15	15	9	885.4	883.1	8	Yes
L18306	CB18308	CB18306	224.92	0.12	CIRCULAR	15	15	2	883.7	883.2	5	Yes
L18307	CB18312	CB18304	484	0.4	CIRCULAR	15	15	4	886.5	883.1	6	Yes
L18312	CB18314	CB18312	169	0.5	CIRCULAR	15	15	5	887.0	886.5	6	Yes
L18316	J18318	L18316	164	6.9	CIRCULAR	15	15	15	879.2	868.5	6	No
L18318	CB18320	J18318	350	0.35	CIRCULAR	15	15	3	884.5	879.2	6	No
L18322	CB18324	J18322	320	4.54	CIRCULAR	15	15	14	881.9	868.6	12	No
L18326	CB18328	J18326	195	0.39	CIRCULAR	24	24	14	880.8	878.1	12	No
L18328	CB18330	CB18328	48	0.13	CIRCULAR	24	24	8	881.9	880.8	1	No
L18329	CB18340	CB18328	293	0.2	CIRCULAR	18	18	5	884.6	880.8	9	Yes
L18330	J18332	CB18330	275	0.1	CIRCULAR	15	15	2	882.5	881.9	1	No
L18336	CB18338	J18336	198	0.29	CIRCULAR	15	15	3	890.3	885.9	5	No
L18339	CB18339	CB18338	68	0.28	CIRCULAR	15	15	3	893.5	890.3	11	Yes
L20306	P20400	P20306	125	0	CIRCULAR	24	24	1	870.2	869.8	0	No
L21202-E	P21204-E	P21202-E	90	0.33	CIRCULAR	15	15	4	868.4	868.3	3	Yes
L21204-E	P21206-E	P21204-E	86	0.58	CIRCULAR	15	15	4	868.5	868.4	4	Yes
L21400	P21402	P21400	100	2	CIRCULAR	24	24	28	876.9	867.8	9	No
L27300	CB27302	J27300	176.06	0.01	CIRCULAR	18	18	15	863.5	863.4	5	No
L27301	P27306	J27300	120.3	0.06	CIRCULAR	18	18	3	862.9	863.4	4	No

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L27302	CB27304	CB27302	153.25	0.03	CIRCULAR	18	18	2	863.5	863.5	3	Yes
L27308	P34400	O27308	90	0	Arch	18	15	0	863.1	860.0	3	No
L28100	P28102	CB28100	1050	0.25	Arch	45	72	99	865.3	864.5	68	Yes
L28100-E	CB28102-E	CB28136	120.01	-0.52	CIRCULAR	24	24	16	865.5	865.4	11	Yes
L28101	J28116	P28102	10	0	CIRCULAR	15	15	1	865.3	865.3	5	Yes
9P outlet	9P	1P	108	4.31	CIRCULAR	15	15	12	868.6	868.6	3	Yes
L28102-E	P28104-E	CB28102-E	415	0.36	CIRCULAR	24	24	14	864.3	865.5	12	No
L28103	CB28130	P28102	50	0.1	CIRCULAR	24	24	7	865.4	865.3	21	Yes
L28104	CB28106	P28104	43	0.22	Arch	36	58	53	865.3	865.3	64	Yes
L28104-E	P28106-E	P28104-E	70	0.71	CIRCULAR	18	18	9	865.8	864.3	10	No
L28105	J28132	P28102	150	0.39	CIRCULAR	60	60	152	865.3	865.3	80	No
L28105-E	MH28154-E	P28104-E	90	0.11	CIRCULAR	18	18	42	865.9	864.3	8	No
L28106	CB28254	P28104	70	0.21	CIRCULAR	42	42	43	865.4	865.3	41	Yes
L28106a	CB28108	CB28106	56	0.2	Arch	36	58	50	865.4	865.3	58	Yes
L28106-E	CB28108-E	P28106-E	100	0.46	CIRCULAR	48	48	97	866.8	865.8	33	No
L28107	CB28120	P28104	67	0.55	CIRCULAR	33	33	36	865.4	865.3	37	Yes
L28107a	CB28146	P28102	50	0.76	CIRCULAR	48	48	116	865.3	865.3	76	Yes
L28107-E	CB28142-E	P28106-E	282.65	0.18	CIRCULAR	18	18	4	867.9	865.8	7	No
L28108	J28110	CB28108	208	0.5	CIRCULAR	36	36	44	868.1	865.4	28	Yes
L28108-E	CB28110-E	CB28108-E	94.51	0.28	CIRCULAR	30	30	22	867.8	866.8	31	No
L28109	J28156	P28102	120	0.1	CIRCULAR	54	54	58	865.3	865.3	58	Yes
L28109-E	CB28138-E	CB28110-E	209.73	1.56	CIRCULAR	12	12	4	868.5	867.8	2	No
L28110	CB28112	J28110	300	0.5	CIRCULAR	30	30	27	869.5	868.1	28	Yes
L28110-E	CB28112-E	CB28110-E	110	0.55	CIRCULAR	27	27	23	869.2	867.8	28	Yes
L28111	CB28256	P28104	50	0.38	CIRCULAR	21	21	9	865.3	865.3	5	Yes
L28111-E	CB28134-E	CB28110-E	163.57	0.41	CIRCULAR	15	15	4	868.2	867.8	4	Yes
L28112	CB28114	CB28112	320	0.5	CIRCULAR	24	24	15	870.0	869.5	13	Yes
L28112-E	CB28114-E	CB28112-E	186.54	0.36	CIRCULAR	27	27	19	870.6	869.2	23	Yes

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L28113-E	CB28140-E	CB28112-E	223.47	1.24	CIRCULAR	12	12	4	871.8	869.2	4	Yes
L28114-E	CB28116-E	CB28114-E	218.56	0.69	CIRCULAR	27	27	26	871.0	870.6	11	Yes
L17401	CB17400	CB17401	27	-0.3	CIRCULAR	15	15	3	871.9	871.7	1	No
L28115-E	CB28124-E	CB28114-E	62.98	0.79	CIRCULAR	24	24	20	870.9	870.6	14	Yes
L28116-E	CB28118-E	CB28116-E	286.64	0.23	CIRCULAR	21	21	8	871.8	871.0	6	Yes
L28118	P28104	N28118	10	0	CIRCULAR	15	15	1	865.3	865.3	7	Yes
L28118-E	CB28120-E	CB28118-E	134.75	1.22	CIRCULAR	15	15	7	870.9	871.8	1	No
L28119-E	CB28122-E	CB28118-E	78.67	0.6	CIRCULAR	18	18	8	872.6	871.8	5	Yes
L28120	J28122	CB28120	250	1	CIRCULAR	18	18	10	867.7	865.4	11	Yes
L28121	J28126	CB28120	191	0.5	CIRCULAR	30	30	27	865.8	865.4	24	Yes
L28122	P28124	J28122	40	0.5	CIRCULAR	18	18	7	868.2	867.7	12	Yes
L28124-E	CB28126-E	CB28124-E	332.53	0.23	CIRCULAR	24	24	11	871.3	870.9	11	Yes
L28126	CB28128	J28126	200	0.49	CIRCULAR	30	30	27	867.8	865.8	24	Yes
L28126-E	CB28128-E	CB28126-E	137.89	0.23	CIRCULAR	21	21	8	871.6	871.3	7	Yes
L28128-E	CB28132-E	CB28128-E	316.76	0.32	CIRCULAR	18	18	6	872.6	871.6	7	Yes
L28129-E	CB28130-E	CB28128-E	194.16	0.22	CIRCULAR	12	12	2	872.0	871.6	2	Yes
L28132	CB28134	J28132	300	0.09	CIRCULAR	60	60	74	865.3	865.3	81	No
L28134a	CB28136	CB28134	130	0.42	CIRCULAR	54	54	119	865.4	865.3	55	No
L28134-E	P28136-E	CB28134-E	193.08	0.83	CIRCULAR	15	15	6	867.8	868.2	4	No
L28136	J28138	CB28136	100	0.69	CIRCULAR	30	30	32	866.0	865.4	21	Yes
L28136-E	P21202-E	P28136-E	100	0.2	CIRCULAR	18	18	3	868.3	867.8	4	No
L28137	CB28144	CB28136	300	0.65	CIRCULAR	27	27	23	870.4	865.4	21	Yes
L28138	CB28140	J28138	250	0.44	CIRCULAR	27	27	19	869.9	866.0	21	Yes
L28143-E	MH28144-E	P28143-E	30	2.5	CIRCULAR	48	48	227	866.2	866.2	17	No
L28144-E	MH28146-E	MH28144-E	19.78	0.51	CIRCULAR	48	48	102	866.2	866.2	10	No
L28145-E	MH28148-E	MH28146-E	64.82	0.08	CIRCULAR	12	12	1	866.7	866.2	3	Yes
L28146	CB28148	CB28146	220	0.12	Arch	36	58	39	867.3	865.3	68	Yes
L28146-E	MH28150-E	MH28146-E	399.16	-0.03	CIRCULAR	36	36	11	866.4	866.2	7	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L28148	CB28150	CB28148	600	0.21	CIRCULAR	27	27	13	869.6	867.3	23	Yes
L28149	CB28154	CB28148	350	0.54	CIRCULAR	33	33	36	871.1	867.3	24	Yes
L28150	CB28152	CB28150	320	0.13	CIRCULAR	27	27	11	871.8	869.6	6	Yes
L28150-E	MH28152-E	MH28150-E	296.88	0.13	CIRCULAR	30	30	15	866.5	866.4	4	No
L28154-E	P28143-E	MH28154-E	40	0	CIRCULAR	18	18	1	866.2	865.9	12	Yes
L28156	CB28158	J28156	100	0.1	CIRCULAR	27	27	9	865.4	865.3	21	Yes
L28157	CB28162	J28156	300	0.1	CIRCULAR	30	30	12	865.3	865.3	14	Yes
L28158	CB28160	CB28158	180	0.39	CIRCULAR	21	21	9	866.4	865.4	14	Yes
L28159	CB28164	J28156	280	0.1	CIRCULAR	42	42	30	865.3	865.3	25	Yes
L28164	CB28166	CB28164	365	0.1	CIRCULAR	42	42	29	865.4	865.3	24	Yes
L28188	J28490	J28488	400	0.5	CIRCULAR	36	36	41	865.8	870.0	27	Yes
L28201	P28310	J28202	20	-0.15	CIRCULAR	48	48	52	862.4	861.4	111	Yes
L28202	J28204	J28202	120.29	0.12	CIRCULAR	60	60	218	861.4	861.4	37	Yes
L28204	J28206	J28204	141	0.1	CIRCULAR	60	60	76	861.4	861.4	37	Yes
L28206	J28208	J28206	343	0.1	CIRCULAR	60	60	71	861.3	861.4	37	Yes
L28208	J28210	J28208	360	0.1	CIRCULAR	60	60	76	861.1	861.3	37	Yes
L28210	J28212	J28210	360	0.1	CIRCULAR	60	60	76	861.0	861.1	37	Yes
L28212	J28214	J28212	360	0.1	CIRCULAR	60	60	76	860.9	861.0	37	Yes
L28214	J28216	J28214	360	0.1	CIRCULAR	60	60	76	860.8	860.9	37	Yes
L28216	J28218	J28216	246	0.1	CIRCULAR	60	60	77	862.2	860.8	151	Yes
L28218	P28220	J28218	210	2.33	Rectangular	36	84	352	863.5	862.2	151	Yes
L28219	P28228	P28220	591	-0.04	Arch	72	114	135	863.4	863.5	150	Yes
L28220	J28222	P28220	106	-0.33	Arch	54	88	193	863.6	863.5	94	Yes
L28221	CB28250	P28220	150	-0.31	CIRCULAR	36	36	35	864.9	863.5	50	Yes
L28222	CB28224	J28222	179	0.13	Arch	54	88	123	863.8	863.6	94	Yes
L28223	CB28252	P28220	200	-0.21	CIRCULAR	30	30	17	864.5	863.5	28	Yes
L28224	CB28226	CB28224	500	0.1	Arch	54	87	104	864.2	863.8	73	Yes
L28225	J27300	P28220	341.37	1.74	CIRCULAR	24	24	30	863.4	863.5	4	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L28226	CB28100	CB28226	300	0.1	Arch	54	87	102	864.5	864.2	73	Yes
L28228	CB28230	P28228	239	0.07	Arch	72	114	181	863.4	863.4	152	Yes
L28230	CB28232	CB28230	365	0.07	Arch	54	88	88	863.4	863.4	104	Yes
L28231	J28246	CB28230	750	0.17	Arch	36	58	46	865.4	863.4	32	Yes
L28232	CB28234	CB28232	265	0.07	Arch	54	88	87	863.3	863.4	77	Yes
L28234	J28236	CB28234	440	0.07	Arch	54	88	88	863.8	863.3	80	Yes
L28236	J28238	J28236	340	0.13	Arch	54	88	121	864.1	863.8	80	Yes
L28237	P28244	J28238	125	1.18	Arch	31	51	85	864.6	864.1	36	Yes
L28238	J28240	J28238	260	0.1	CIRCULAR	60	60	75	865.0	864.1	45	Yes
L28240	P28242	J28240	200	0.11	CIRCULAR	42	42	30	864.4	865.0	18	Yes
L28244	P28326	P28244	200	0.38	Arch	31	51	48	865.2	864.6	33	Yes
L28246	P28248	J28246	280	0.1	CIRCULAR	33	33	16	864.0	865.4	13	Yes
L28300	J28302	J28300	300	1.63	CIRCULAR	42	42	111	851.7	846.7	28	No
L28301	P28334	Mh28305	44	-3	CIRCULAR	30	30	62	854.3	853.5	28	Yes
L28302	P28304	P28334	146	0.25	CIRCULAR	42	42	47	854.4	854.3	25	Yes
L28303	Mh28305	J28302	400	0.1	CIRCULAR	42	42	28	853.5	851.7	28	No
L28305	MH28306	J28302	129.86	0.32	CIRCULAR	42	42	2	851.7	851.7	0	No
L28306	J28200	I28337	6.03	3.48	CIRCULAR	72	72	785	854.4	862.0	4	No
L28310	CB28312	P28310	187	0.18	CIRCULAR	54	54	153	863.0	862.4	137	Yes
L28312	CB28314	CB28312	560	0.1	CIRCULAR	84	84	188	863.3	863.0	119	No
L28314	CB28316	CB28314	357	0.1	CIRCULAR	84	84	188	863.6	863.3	105	No
L28316	CB28318	CB28316	506	0.1	CIRCULAR	84	84	188	863.8	863.6	95	No
L28317	CB28400	CB28318	650	0.1	CIRCULAR	72	72	124	863.9	863.8	66	No
L28318	P28320	CB28318	340	0.2	CIRCULAR	48	48	60	864.3	863.8	50	Yes
L28320	CB28324	P28320	300	1.34	CIRCULAR	18	18	11	868.1	864.3	10	Yes
L28321	CB28322	P28320	660	0.26	CIRCULAR	24	24	11	865.1	864.3	7	Yes
L28326	CB28328	P28326	400	0.1	Arch	26	43	16	866.5	865.2	23	Yes
L28400	J28102	CB28400	500	0.1	CIRCULAR	72	72	122	863.9	863.9	38	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L28401	J28488	CB28400	600	0.2	CIRCULAR	36	36	28	870.0	863.9	27	Yes
L28402	J28404	J28102	125	0.05	CIRCULAR	42	42	20	863.9	863.9	34	Yes
L28403	CB28476	J28102	420	0.27	Arch	45	72	106	864.2	863.9	53	No
L28404	J28406	J28404	605	0.05	CIRCULAR	42	42	21	864.2	863.9	34	Yes
L28405	CB28454	P28408	220	0.1	CIRCULAR	72	72	122	864.3	864.3	100	No
L28406	P28408	J28406	100	0.15	Rectangular	24	60	33	864.3	864.2	130	Yes
L28407	CB28430	P28408	100	0.6	CIRCULAR	21	21	11	864.3	864.3	13	Yes
L28408	CB28410	P28408	215	0.05	CIRCULAR	54	54	41	864.5	864.3	33	No
L28409	J28432	P28408	150	0.27	CIRCULAR	60	60	126	864.3	864.3	14	No
L28410	P28412	CB28410	107	0.05	CIRCULAR	48	48	29	864.3	864.5	24	No
L28411	CB28426	CB28410	330	0.1	CIRCULAR	42	42	30	866.0	864.5	36	No
L28413	CB28470	P28408	100	0.14	CIRCULAR	48	48	50	864.3	864.3	40	Yes
L28414	P28416	P28414	116	0.22	CIRCULAR	30	30	18	867.2	864.3	36	No
L28415	CB28401	P28402	220	0.5	CIRCULAR	18	18	6	877.4	876.6	3	No
L28416	P29104	P28416	60	0.1	CIRCULAR	24	24	6	866.3	867.2	17	No
L28417	MH28401	MH28402	24.7	2.06	CIRCULAR	15	15	8	873.1	872.7	1	No
L28418	MH28402	MH28403	232.36	0.5	CIRCULAR	18	18	6	872.7	871.4	1	No
L28419	MH28403	MH28404	43.44	0.99	CIRCULAR	24	24	20	871.4	870.9	1	No
L28420	MH28404	MH28405	30.14	1	CIRCULAR	24	24	20	870.9	870.7	1	No
L28421	MH28405	CB28406	324.57	1.04	CIRCULAR	24	24	20	870.7	866.2	5	No
L28422	P28403	CB28406	432.27	0.14	CIRCULAR	27	27	10	866.4	866.2	1	No
L28423	CB28407	P28404	94.17	0.46	CIRCULAR	18	18	6	870.4	869.9	3	No
L28424	P28404	P28405	164.3	0.6	CIRCULAR	21	21	11	869.9	869.2	4	No
L28425	P28405	P28406	177.99	0.47	CIRCULAR	24	24	13	869.2	868.5	6	No
L28426	CB28428	CB28426	380	0.21	CIRCULAR	33	33	22	866.8	866.0	19	Yes
L28427	P28406	P28407	148.52	0.55	CIRCULAR	24	24	15	868.5	867.9	8	No
L28428	P28407	CB28408	168.11	0.47	CIRCULAR	24	24	13	867.9	866.8	9	No
L28429	CB28408	CB28409	140.84	0.5	CIRCULAR	30	30	25	866.8	865.9	9	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L28430	CB28409	CB28412	149.41	0.91	CIRCULAR	33	33	44	865.9	865.1	12	No
L28431	CB28406	CB28411	281.54	0.25	CIRCULAR	48	48	63	866.2	865.7	6	No
L28432	CB28434	P28440	214	0.26	Arch	45	72	103	864.3	863.6	32	No
L28433	CB28411	CB28412	315.8	0.14	CIRCULAR	60	60	84	865.7	865.1	18	No
L28434	CB28413	CB28411	142.32	1.1	CIRCULAR	36	36	61	866.4	865.7	11	No
L28435	CB28414	CB28413	87.52	1.58	CIRCULAR	30	30	45	867.8	866.4	7	No
L28436	CB28415	CB28414	109.46	0.59	CIRCULAR	24	24	15	868.8	867.8	7	No
L28437	CB28416	CB28415	98.08	0.53	CIRCULAR	18	18	7	869.0	868.8	3	No
L28439	P28410	CB28415	75.79	0.51	CIRCULAR	18	18	7	869.1	868.8	4	No
L28440	P28409	P28410	220.74	0.49	CIRCULAR	18	18	6	869.8	869.1	2	No
L28441	P28411	P28413	173.23	0.5	CIRCULAR	18	18	6	868.3	868.0	4	No
L28442	P28413	P28415	220.61	0.5	CIRCULAR	18	18	6	868.0	867.6	4	Yes
L28449	P28420	CB28412	142	0.39	CIRCULAR	15	15	3	861.8	865.1	0	No
L28454	CB28456	CB28454	300	0.23	CIRCULAR	54	54	88	865.3	864.3	80	No
L28455	J28466	CB28456	290	0.33	CIRCULAR	42	42	54	866.0	865.3	34	Yes
L28456	CB28458	CB28456	445	0.28	CIRCULAR	42	42	49	866.2	865.3	34	Yes
L28458	CB28460	CB28458	389	0.28	CIRCULAR	42	42	49	866.6	866.2	32	No
L28460	CB28462	CB28460	188	0.28	CIRCULAR	42	42	49	866.9	866.6	31	No
L28462	CB28464	CB28462	400	0.41	CIRCULAR	27	27	19	871.1	866.9	23	Yes
L28466	J28468	J28466	350	0.53	CIRCULAR	27	27	21	868.5	866.0	16	Yes
L28470	P28472	CB28470	360	0.13	CIRCULAR	33	33	18	864.4	864.3	23	Yes
L28472	P28474	P28472	150	0.1	CIRCULAR	33	33	16	865.0	864.4	23	Yes
L28475	CB28186	CB28476	100	0.27	CIRCULAR	54	54	95	864.2	864.2	1	No
L28476	J28478	CB28476	130	0.28	Arch	40	65	79	864.3	864.2	27	Yes
L28478	CB28480	J28478	210	0.1	CIRCULAR	42	42	30	864.5	864.3	28	No
L28480	CB28482	CB28480	170	0.11	CIRCULAR	42	42	30	864.7	864.5	25	No
L28482	CB28484	CB28482	150	0.11	CIRCULAR	42	42	31	864.8	864.7	18	No
L28484	P28486	CB28484	470	0.2	CIRCULAR	27	27	13	865.7	864.8	13	Yes

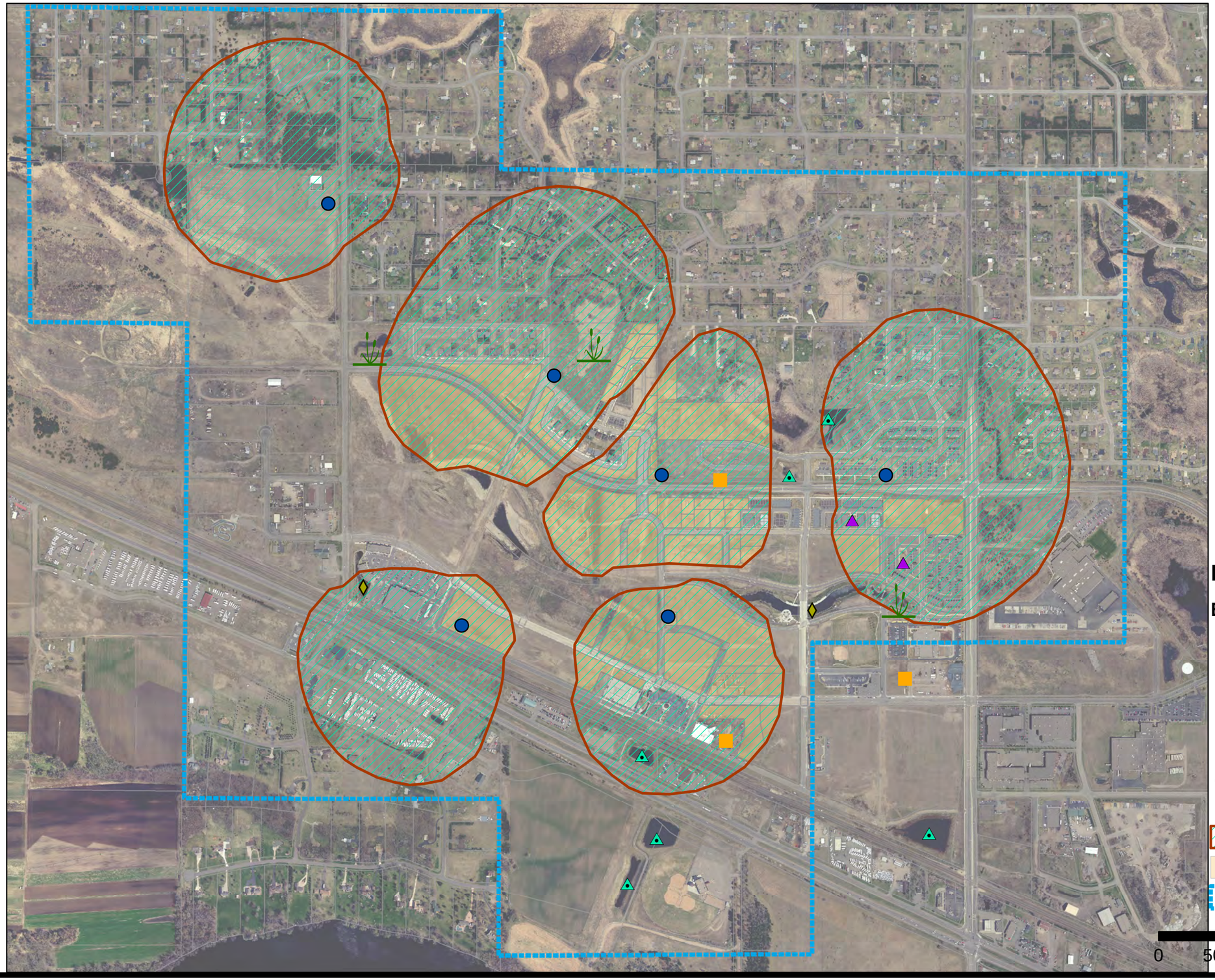
PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
L28490	P28492	J28490	56	-0.38	CIRCULAR	36	36	58	866.2	865.8	40	Yes
L28492	J28494	P28492	28	0.5	CIRCULAR	36	36	44	866.4	866.2	65	Yes
L28494	J28496	J28494	46	0.5	CIRCULAR	36	36	44	868.2	866.4	65	Yes
L28496	CB28498	J28496	12.5	0.4	CIRCULAR	36	36	39	869.0	868.2	65	Yes
L28497	CB29106	CB28498	80	0.2	CIRCULAR	36	36	28	869.4	869.0	39	Yes
L28498	CB28499	CB28498	76	0.5	CIRCULAR	24	24	15	870.1	869.0	25	Yes
L29100	P29102	CB29105	371.55	0.5	CIRCULAR	18	18	6	869.4	868.4	4	No
L29102	CB29105	P29100	26.71	1.87	CIRCULAR	18	18	12	868.4	868.4	4	Yes
L29104	CB29104	P29102	39.89	0.18	CIRCULAR	12	12	1	871.2	869.4	5	No
L30102	CB30104	O30101	345.94	0.23	CIRCULAR	24	24	11	852.8	849.0	16	Yes
L30104	CB30106	CB30104	244.41	0.08	CIRCULAR	18	18	36	852.0	852.8	9	Yes
L30106	CB30108	CB30106	802.88	1.18	CIRCULAR	12	12	4	862.0	852.0	4	Yes
L33404	J33408	O33404	10	10	CIRCULAR	4	4	1	842.5	850.5	4	Yes
L33408	J33410	J33408	176	1.51	CIRCULAR	42	42	107	861.3	842.5	98	Yes
L33410	J33412	J33410	294	1.5	CIRCULAR	42	42	114	843.0	861.3	28	No
L33412	J28300	J33412	300	1.49	CIRCULAR	42	42	114	846.7	843.0	28	No
L5065	5065	CB28100	257.71	0.57	CIRCULAR	24	24	15	867.8	864.5	22	Yes
L5066	5066	5065	214.13	0.51	CIRCULAR	24	24	14	866.4	867.8	11	Yes
L5067	5067	5066	218.78	0.42	CIRCULAR	18	18	6	867.5	866.4	4	Yes
L5073	5073	5065	66.74	0.72	CIRCULAR	15	15	5	868.9	867.8	4	Yes
L5074	5074	5066	65.95	0.86	CIRCULAR	21	21	13	866.5	866.4	10	Yes
L5200	5200	5067	103.59	0.29	CIRCULAR	15	15	3	866.5	867.5	2	Yes
L5202	5202	5067	41.18	0.44	CIRCULAR	18	18	6	867.2	867.5	3	Yes
L5203	5203	5202	94.35	0.35	CIRCULAR	18	18	5	867.2	867.2	4	Yes
L5204	5204	5203	99.58	0.27	CIRCULAR	18	18	5	866.7	867.2	5	Yes
L-A1	A1	5065	65	1	CIRCULAR	24	24	20	868.2	867.8	14	Yes
L-A2	A2	A1	165	1	CIRCULAR	21	21	14	868.2	868.2	9	Yes
L-A3	A3	A2	40	1	CIRCULAR	15	15	6	867.8	868.2	6	Yes

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
Link-05	J28353A	I28348	47	0.4	CIRCULAR	12	12	2	870.0	862.0	4	Yes
Link-06	J28376	J28374	7.13	1.96	CIRCULAR	18	18	13	874.0	873.9	0	No
Link-07	J28374	I28372	27.33	0.88	CIRCULAR	18	18	9	873.9	862.0	0	No
Link-08	J28362	P28336	127	0.31	CIRCULAR	30	30	23	860.8	860.4	23	No
Link-10	I28366	I28364	62.51	1.68	CIRCULAR	18	18	12	862.0	862.0	1	No
Link-11	CB28412	CB28434	57	0.14	Arch	45	72	72	865.1	864.3	32	No
Link-12	I28362	I28364	34.22	0.7	CIRCULAR	18	18	8	862.0	862.0	0	No
Link-13	I28364	I28368	56.5	0.81	CIRCULAR	18	18	8	862.0	862.0	2	No
Link-14	J28380	I28380	61.28	0.46	CIRCULAR	18	18	6	870.8	862.0	1	No
Link-15	I28380	J28378	21.43	1.49	CIRCULAR	18	18	11	862.0	870.3	2	No
Link-25	I28337	P28304	91.97	0.34	CIRCULAR	72	72	228	862.0	854.4	17	No
Link-26	J28433	P28418	371.31	0.08	CIRCULAR	42	42	25	867.3	867.2	13	Yes
Link-27	J28431	J28433	130.06	1.66	CIRCULAR	24	24	25	867.4	867.3	9	Yes
Link-30	P28415	P28417	162.38	0.5	CIRCULAR	21	21	10	867.6	867.3	7	Yes
Link-31	P28417	J28430	95.49	1.15	CIRCULAR	24	24	21	867.3	870.9	5	Yes
Link-32	J28430	J28433	163.57	0.62	CIRCULAR	33	33	36	870.9	867.3	12	Yes
Link-35	P-6	P29104	50	-1.6	CIRCULAR	36	36	219	874.3	866.3	4	No
Link-40	1P	1P outlet	32	-5	CIRCULAR	18	18	20	868.6	868.0	8	Yes
Link-42	1P outlet	RTC Connect	426	0.12	CIRCULAR	36	36	20	868.0	868.0	0	Yes
P-33	I28360	I28358	10.85	1.66	CIRCULAR	18	18	12	862.0	862.0	0	Yes
P-38A	I28352	I28356	69.17	0.39	CIRCULAR	15	15	4	862.0	862.0	3	No
P391	I28372	I28370	73.42	6.69	CIRCULAR	18	18	24	862.0	862.0	0	No
P392	I28370	J28372	92.42	0.94	CIRCULAR	18	18	9	862.0	868.6	5	No
Pipe - (11)	I28348	I28346	37.5	0.51	CIRCULAR	15	15	5	862.0	862.0	4	No
Pipe - (28)	I28378	I28376	36	0.33	CIRCULAR	18	18	10	862.0	862.0	2	No
Pipe 10	I28336	I28334	35	0.26	CIRCULAR	15	15	3	862.0	862.0	3	No
Pipe 11	CBMH13	J28360	55	0.58	CIRCULAR	24	24	17	862.0	857.6	8	No
Pipe 12	J28360	J28358	454	0.22	CIRCULAR	24	24	11	857.6	856.8	8	No

PIPE ID	FROM NODE	TO NODE	LENGTH (ft)	AVERAGE PIPE SLOPE %	PIPE SHAPE	PIPE DIAMETER (in)	PIPE WIDTH (in)	DESIGN FLOW CAPACITY (cfs)	MAXIMUM US HGL (ft)	MAXIMUM DS HGL (ft)	PEAK FLOW DURING ANALYSIS (CFS)	PIPE FLOWING FULL?
Pipe 14	CBMH 14	CBMH13	34	0.5	CIRCULAR	18	18	7	862.0	862.0	7	No
Pipe 15	I28340	I28338	36.74	0.49	CIRCULAR	15	15	5	862.0	862.0	2	No
Pipe 16	P28336	CBMH 14	116	0.72	CIRCULAR	15	15	6	860.4	862.0	6	No
Pipe 18	J28364	J28362	164	0.44	CIRCULAR	30	30	27	861.6	860.8	23	No
Pipe 19	J28366	J28364	243	0.44	CIRCULAR	30	30	27	862.6	861.6	23	No
Pipe 20a	I28338	J28366	320.21	0.44	CIRCULAR	30	30	27	862.0	862.6	23	No
Pipe 21	I28342	I28338	195	0.35	CIRCULAR	30	30	24	862.0	862.0	20	No
Pipe 22	I28346	I28342	164	0.35	CIRCULAR	27	27	18	862.0	862.0	17	No
Pipe 24	I28344	I28342	38.2	0.5	CIRCULAR	18	18	7	862.0	862.0	2	No
Pipe 25	J28368	I28346	384	0.24	CIRCULAR	27	27	15	866.3	862.0	12	No
Pipe 27	J28370	J28368	248	0.25	CIRCULAR	27	27	15	866.8	866.3	12	No
Pipe 28	I28354	J28370	236	0.49	CIRCULAR	24	24	16	862.0	866.8	12	No
Pipe 29	I28376	I28368	34	0.32	CIRCULAR	18	18	6	862.0	862.0	2	No
Pipe 3	J28356	I28337	96	0.36	CIRCULAR	18	18	6	861.8	862.0	0	No
Pipe 30	I28368	I28370	38	0.34	CIRCULAR	18	18	6	862.0	862.0	4	No
Pipe 31	I28374	J28376	33	0.64	CIRCULAR	18	18	8	862.0	874.0	0	No
Pipe 312	J28358	I28337	267	0.22	CIRCULAR	24	24	11	856.8	862.0	10	No
Pipe 32	J28372	I28354	121	0.6	CIRCULAR	18	18	8	868.6	862.0	5	No
Pipe 35	I28356	I28354	39.01	1.1	CIRCULAR	18	18	11	862.0	862.0	6	No
Pipe 36	J28378	I28378	34	0.5	CIRCULAR	15	15	5	870.3	862.0	2	No
Pipe 37	I28350	I28352	10.54	1.23	CIRCULAR	15	15	8	862.0	862.0	3	No
Pipe 4	J28354	J28356	164	0.35	CIRCULAR	18	18	6	862.4	861.8	0	No
Pipe 40	P28342	J28354	115.58	-1.3	CIRCULAR	18	18	10	861.7	862.4	5	No
Pipe 5	J28352	J28354	93	0.35	CIRCULAR	18	18	6	863.7	862.4	5	No
Pipe 6	J28350	J28352	321	0.35	CIRCULAR	18	18	6	864.8	863.7	5	No
Pipe 8	I28334	J28350	115	0.35	CIRCULAR	18	18	6	862.0	864.8	6	No
Pipe PL	P28340	I28344	26	1.96	CIRCULAR	12	12	5	867.3	862.0	0	No

Figures

2015 Infiltration Exhibit



N
W E
S

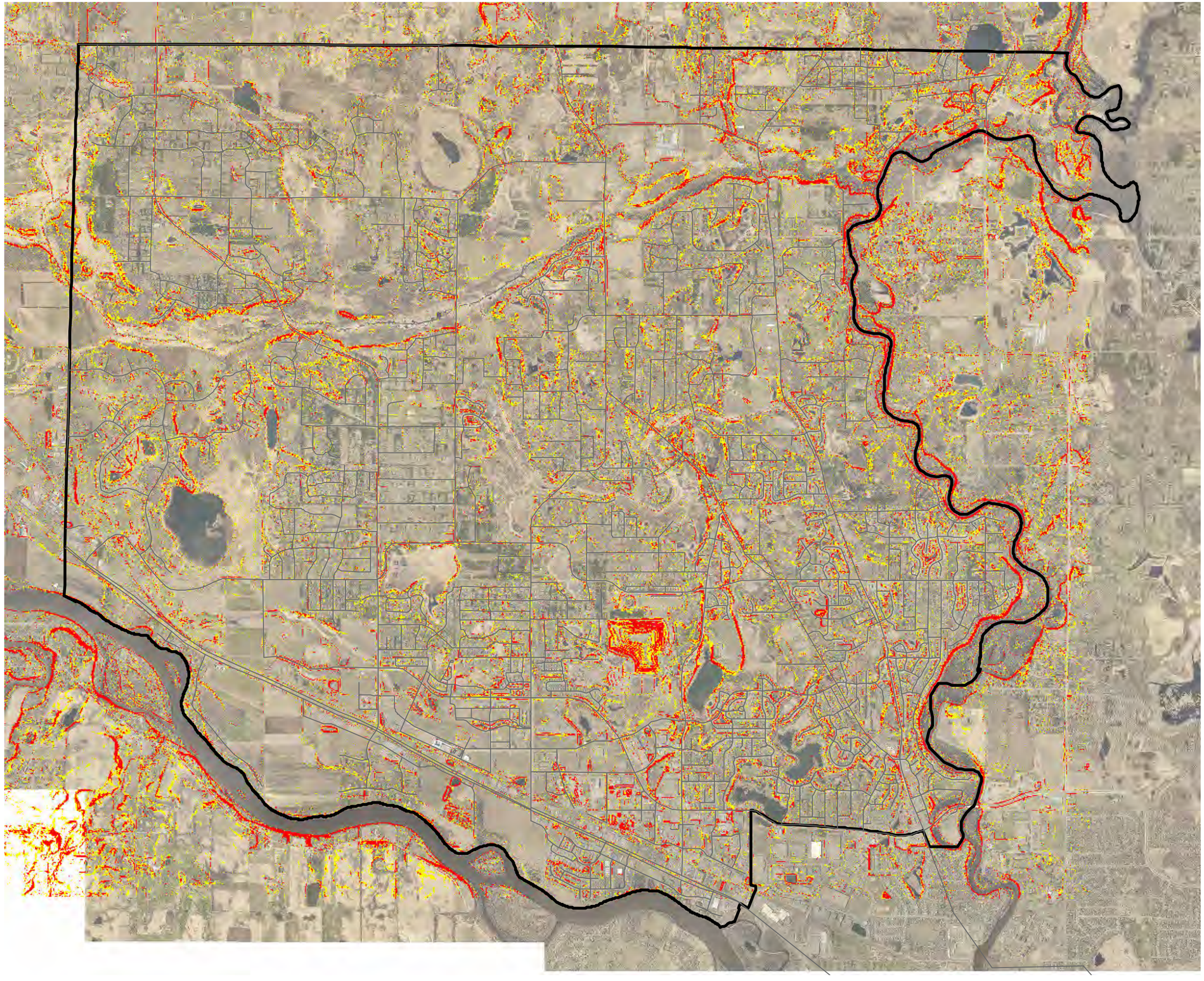
City of RAMSEY

Legend

BMP_Style

- Lined Pond
- Pond
- Raingarden
- Underground Infil
- Wetland
- Public Wells
- 10 Year Capture Zone
- COR Parcels in 10 Year Zone
- Drinking Water Supply Managment Area

0 500 1,000 2,000 3,000 Feet



SLOPE AREAS MAP

FIGURE NO. 1
OCTOBER, 2015

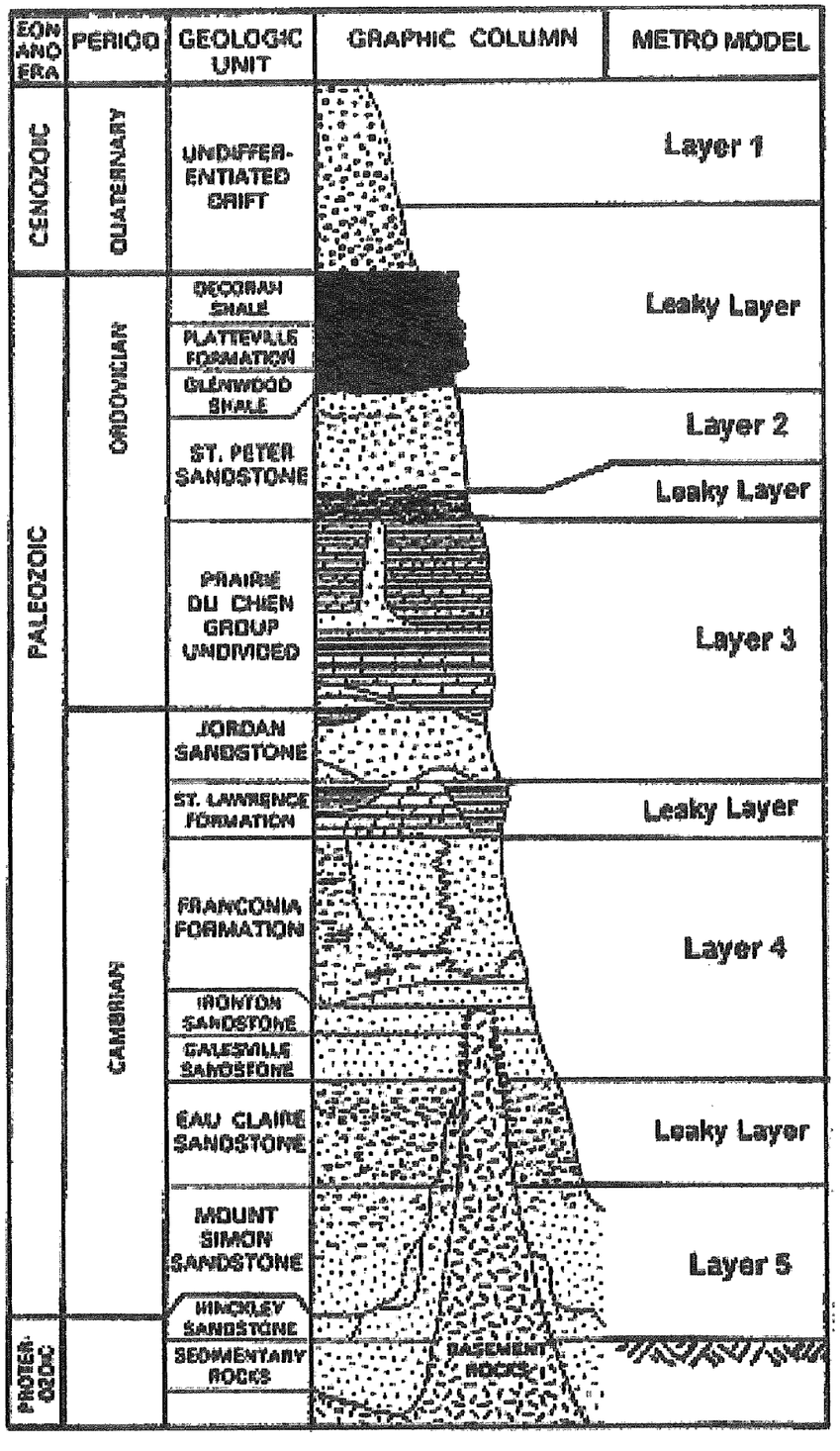
Legend

SLOPES

- Less than 12% Slopes
- 12% - 18% Slopes
- Greater than 18% Slopes

N

0 2,000 4,000 8,000 Feet



Source http://pca.state.mn.us/water/groundwater/mnoverview.html
2015 -Link Broken

City of RAMSEY

HYDROSTRATIGRAPHIC COLUMN AND CONCEPTURAL MODEL METROPOLITAN AREA GROUNDWATER MODEL - CONCEPTUAL

FIGURE 2
OCTOBER, 2015

GEOLOGIC SENSITIVITY OF THE UPPERMOST AQUIFER TO POLLUTION

FIGURE NO. 3
OCTOBER, 2015

Legend

Sensitivity Ratings

- Very High - Hours to Months
- High - Weeks to Years
- Moderate - Years to Decades
- Low - Decades to Years
- Water
- City Limits

Estimated travel time for water-borne contaminants at the land surface to reach the uppermost aquifer.

N

0 2,000 4,000 8,000 Feet

DRINKING WATER SUPPLY MANAGEMENT AREA MAP

FIGURE NO. 4
OCTOBER, 2015

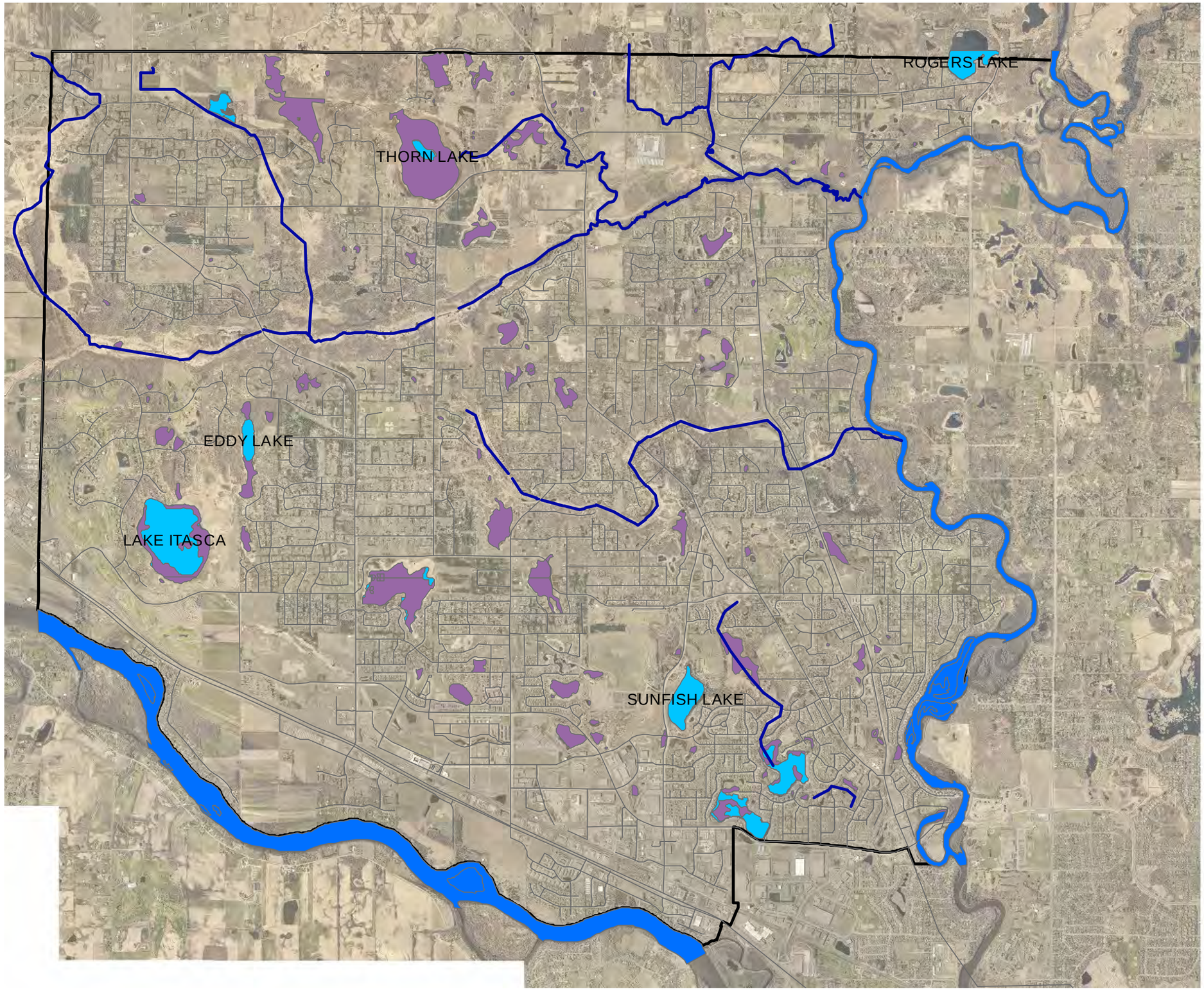
Legend

NWI_CODE

- Protected Waters
- Lakes and Ponds
- Capture Zones
- dwsma

N

0 2,000 4,000 8,000 Feet



City of RAMSEY

PUBLIC WATERS INVENTORY MAP

FIGURE NO. 5
OCTOBER, 2015

Legend

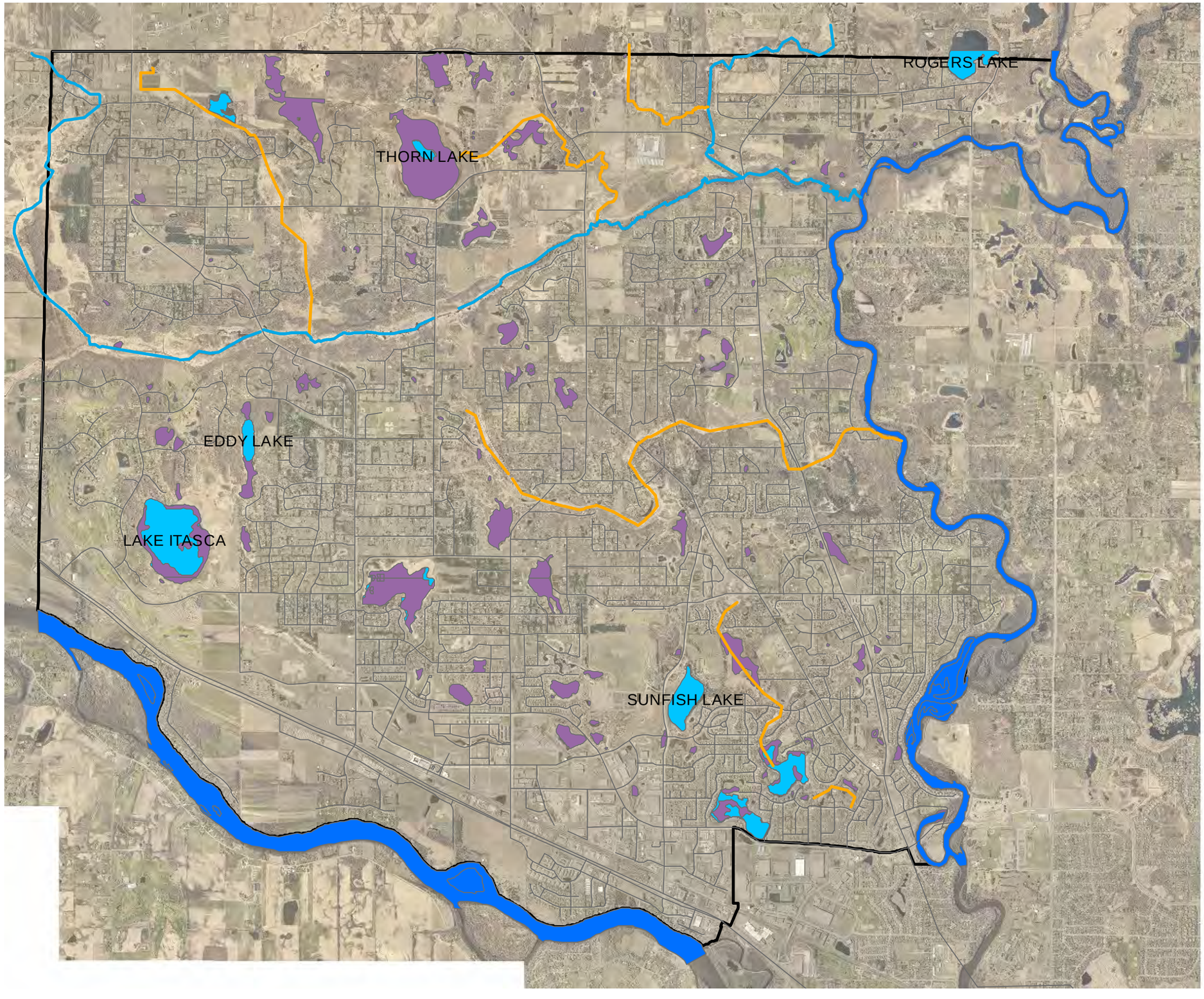
- Creeks and Ditches
- Rivers

NWI_CODE

- Protected Waters
- Lakes and Ponds

N

0 2,000 4,000 8,000 Feet



City of RAMSEY

PUBLIC WATERS INVENTORY MAP WITH PUBLIC DITCHES (MS 103E)

FIGURE NO. 5A
OCTOBER, 2015

Legend

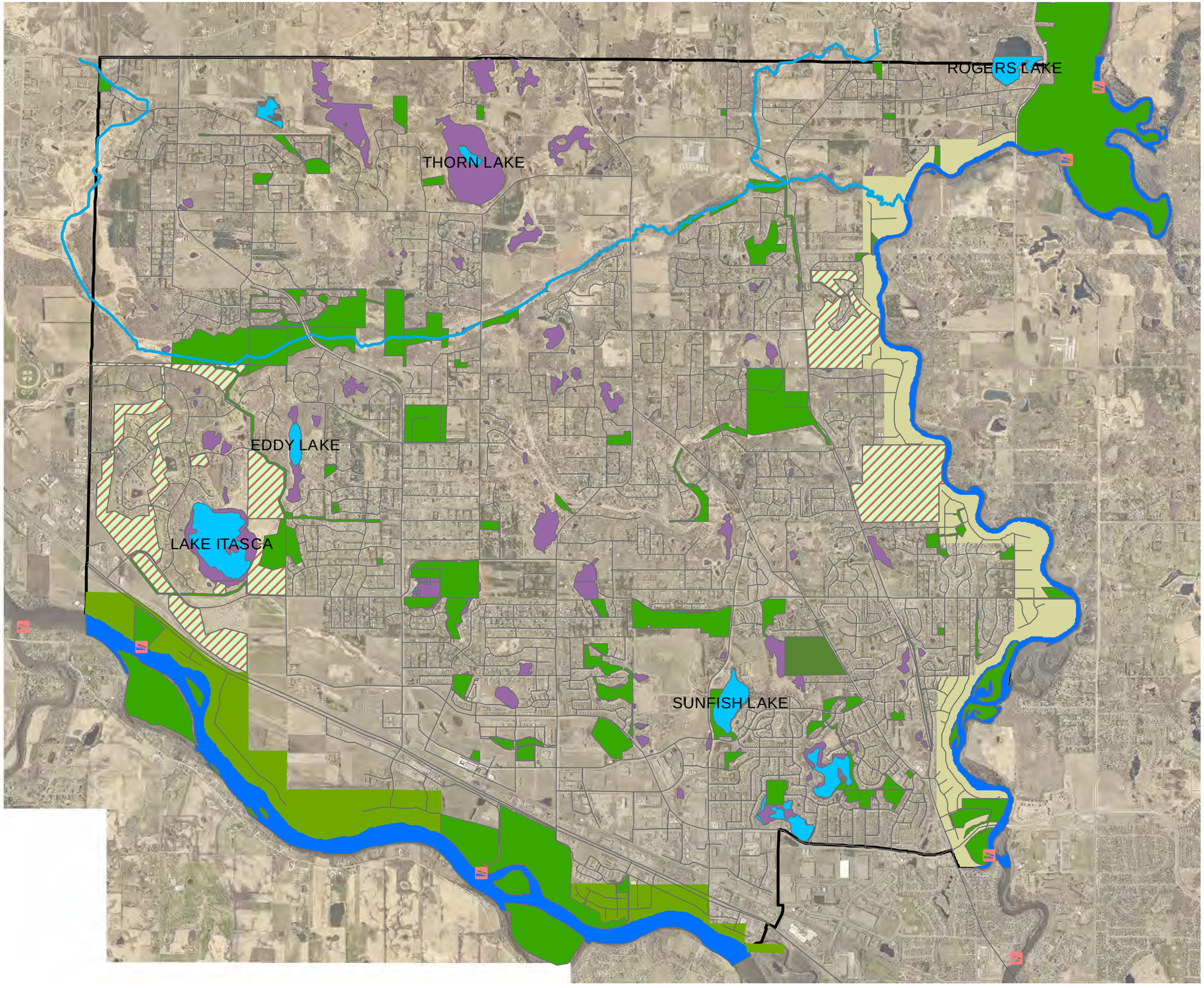
- County Ditches
- Brooks
- Rivers

NWI_CODE

- Protected Waters
- Lakes and Ponds

N

0 2,000 4,000 8,000 Feet



City of RAMSEY

PARKS MAP

FIGURE NO. 6
OCTOBER, 2015

Legend

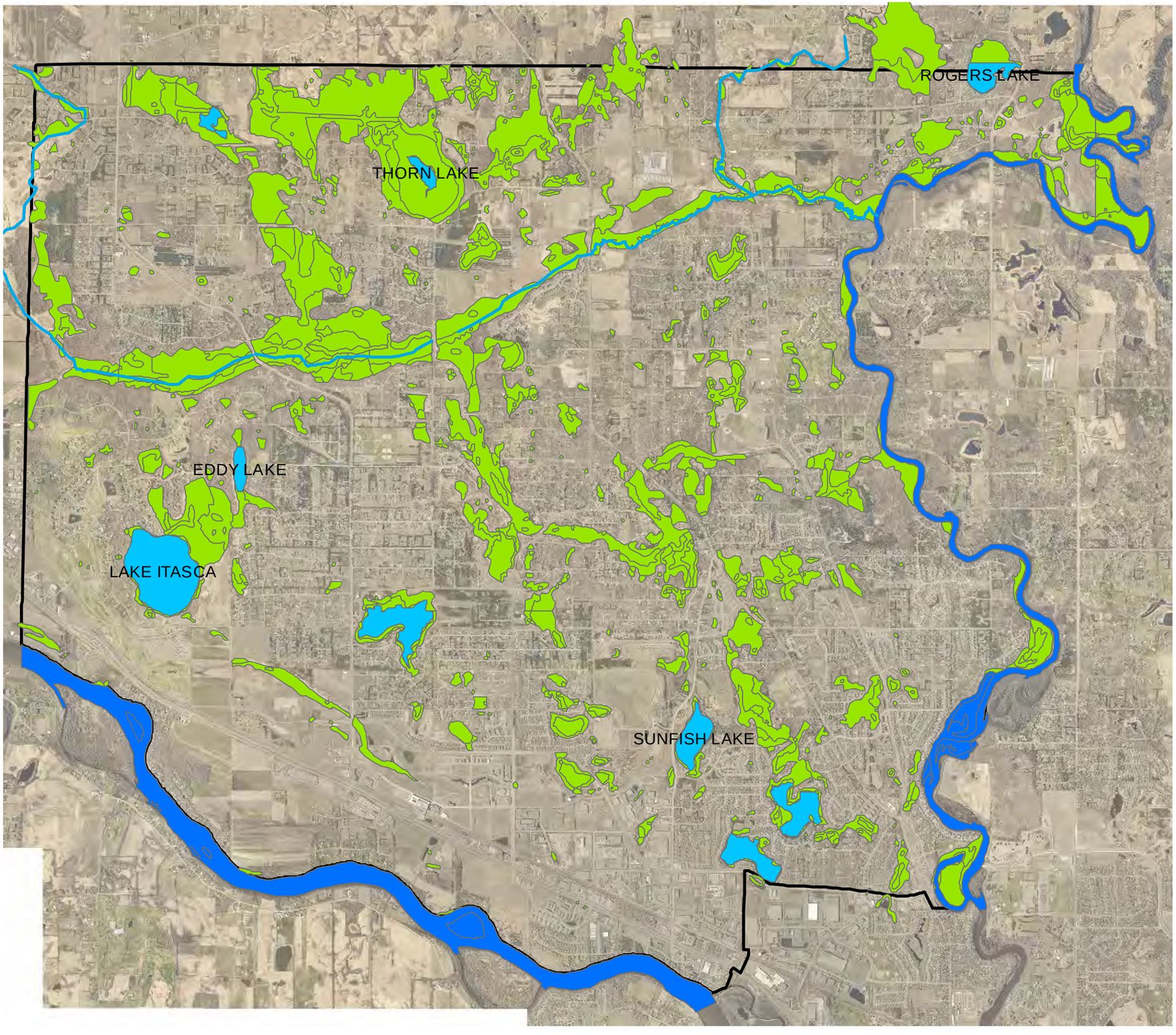
- Water Access Points
- Brooks
- Parks
- School
- Club Recreation Areas
- Mississippi River Corridor Critical Area
- Rum River Scenic Land Use District
- Rivers

NWI

- Protected Waters
- Lakes and Ponds

N

0 2,000 4,000 8,000 Feet



City of RAMSEY

NATIONAL WETLAND INVENTORY MAP

FIGURE NO. 7
OCTOBER, 2015

Legend

- Brooks
- Rivers
- Lakes and Ponds
- NWI

N

0 2,000 4,000 8,000 Feet

GENERAL WATERSHED MAP WITH HISTORIC FLOODING LOCATIONS

FIGURE NO. 8
OCTOBER, 2015

Trott

Golf

D66

Wmiss

D43

Emiss

Mmiss

Legend

- Streets

HISTORIC FLOODING

- 10-18-85 CITY COUNCIL MEETING
- 1997 LIST
- CITY STAFF 2007
- 2011 LIST
- 2014 LIST
- NWI
- Creeks
- Rivers
- Lakes, Ponds
- City Limits
- Watersheds
- Parcels

N

0 2,000 4,000 8,000 Feet

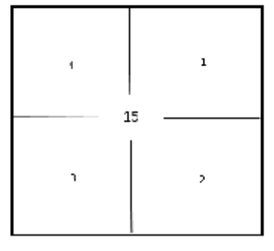
COUNTY SECTION NUMBERING AND MODELING ELEMENT NAMING CONVENTION

FIGURE NO. 9
OCTOBER, 2015

Trott
Golf
D66
Wmiss
D43
Emiss
Mmiss

Modeling Element Naming Convention

Elements are named based on the location of the item in the quadrant of the County Section, then numbered sequentially based on its relative position to the outfall. Outfall begins with 0, unless multiple outfalls exist in a given watershed, and additional elements are numbered in the upstream direction. Pipes and Channels share sequencing numbers with the Junction, Catch Basin or Pond to which it flows. Also, catchbasins share sequence numbers with the Junction, Catch Basin or Pond to which it flows. There are exceptions to these rules where elements were added out of new developments, or when the sequencing numbers wouldn't fall in exact numerical order. Please see the figure below for the quadrant order and example. The thick black line is the section outline with the section number in the middle. The quadrant numbers start in the northeast quadrant and move clockwise.



Example: CS 5106

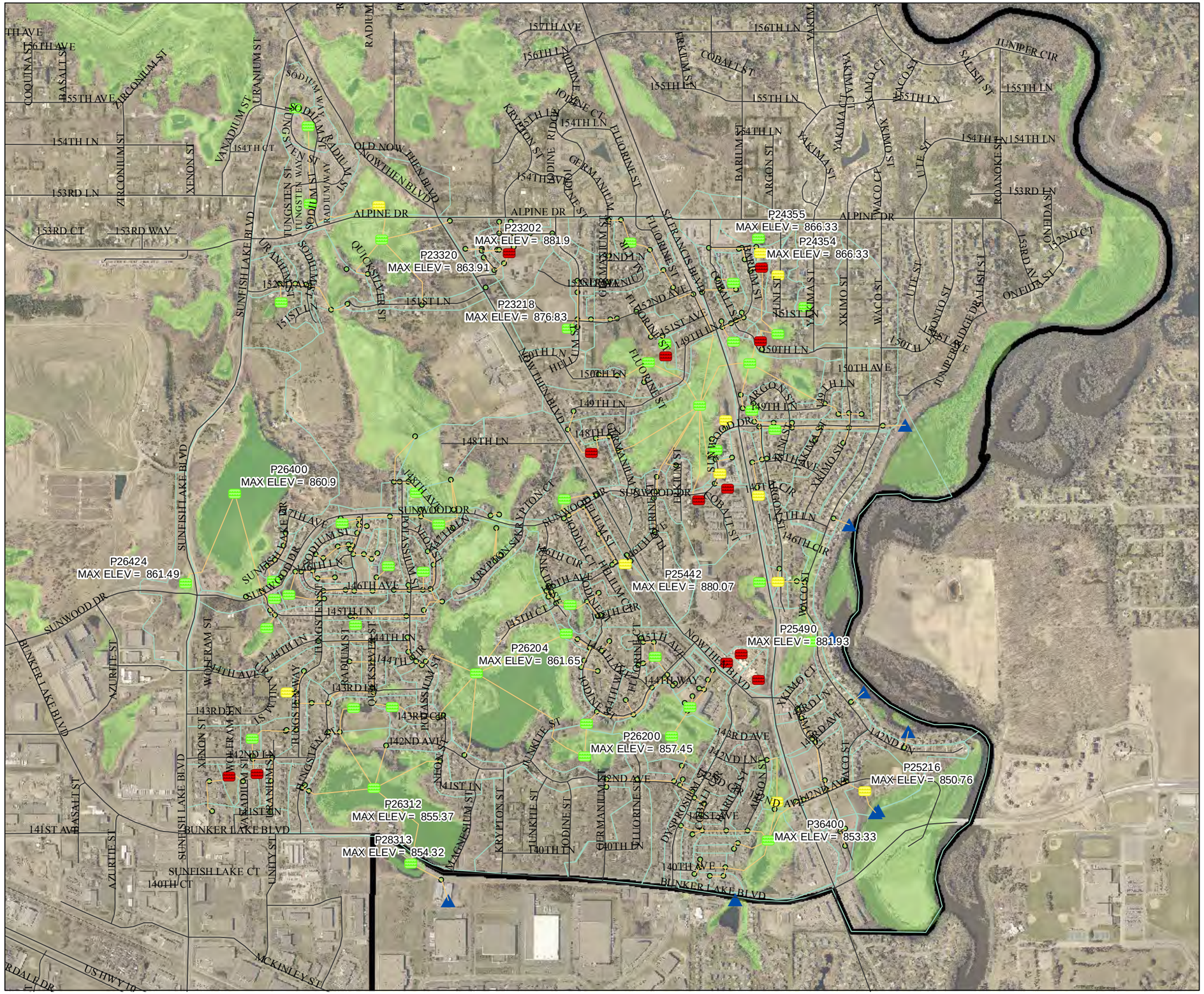
This would be catchbasin number 6 located in quadrant 1 of section 15.

Legend

- Streets
- NWI
- Creeks
- Rivers
- Lakes, Ponds
- Watersheds
- Section_only
- Section_qtr
- City Limits

N

0 2,000 4,000 8,000 Feet



D43 POND SUMMARY 100 YEAR PEAK ELEVATION

FIGURE NO. 10
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures
- Pipe
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 500 1,000 2,000 Feet

City of RAMSEY

D43 PIPE SUMMARY
10 YEAR PIPE CAPACITY

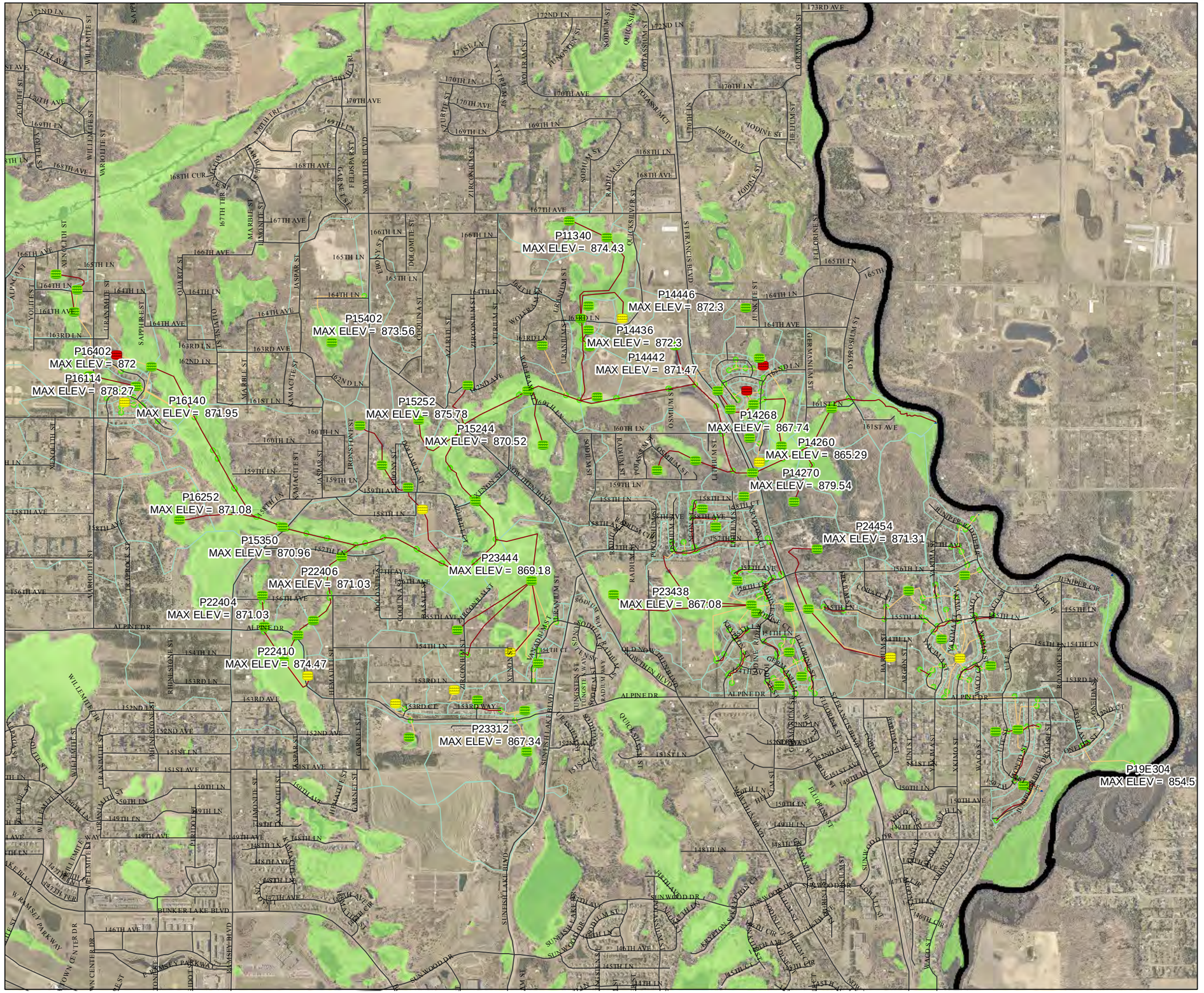
FIGURE NO. 11
OCTOBER, 2015

Legend

- Pond
- Pipe
- Pipe Flowing Full
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 500 1,000 2,000 Feet



D66 POND SUMMARY 100 YEAR PEAK ELEVATION

FIGURE NO. 12
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures
- Channel
- Pipe
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 1,000 2,000 4,000 Feet

D66 PIPE SUMMARY
10 YEAR PIPE CAPACITY

FIGURE NO. 13
OCTOBER, 2015

Legend

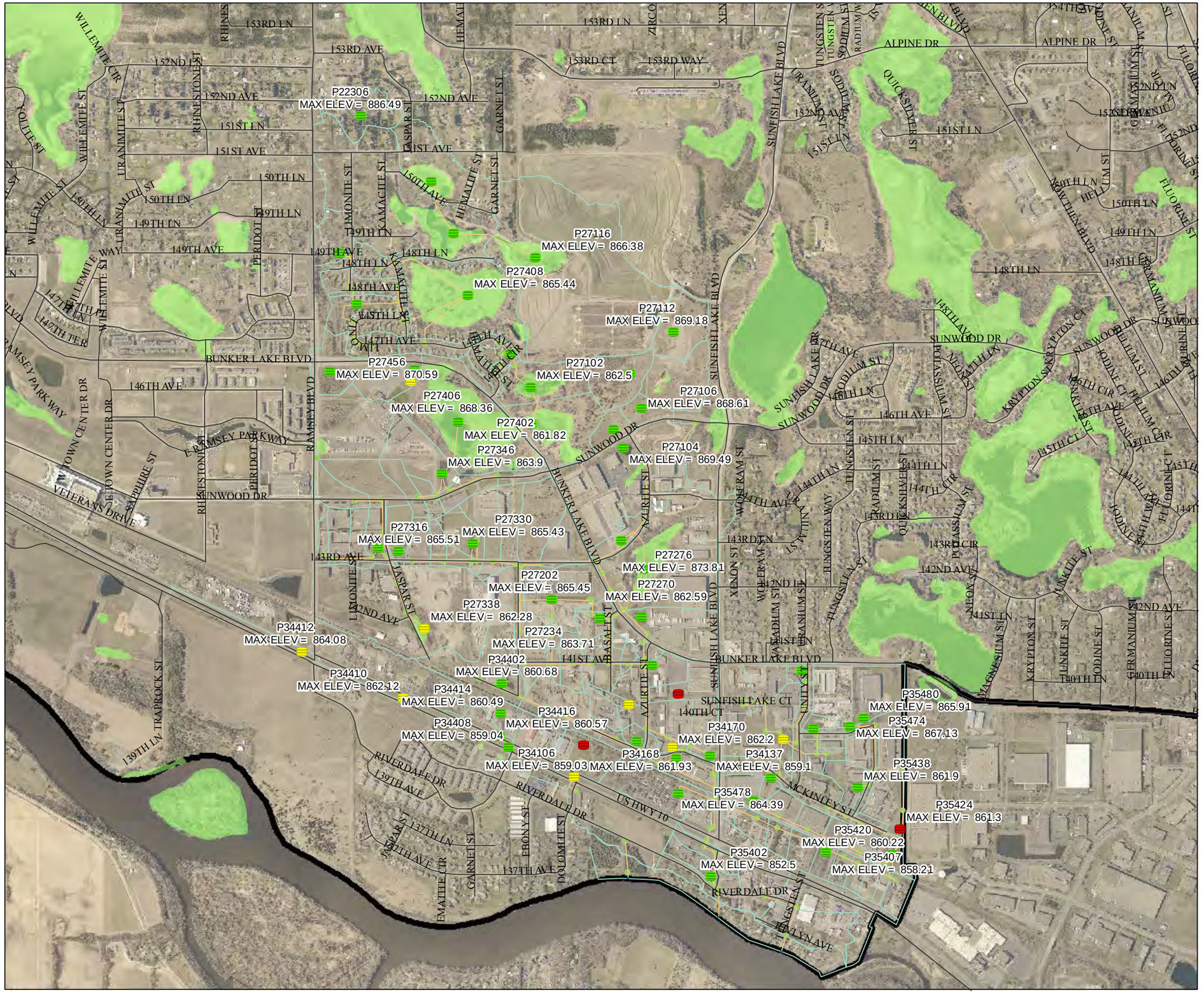
- Pond

PIPE_FULL

- Pipe
- Pipe Flowing Full
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 1,000 2,000 4,000 Feet



EMISS POND SUMMARY 100 YEAR PEAK ELEVATION

FIGURE NO. 14
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures

Pipe

Junc

Outfall

Subbasin

NWI

City Limits

N

0 500 1,000 2,000 Feet

City of RAMSEY

EMISS PIPE SUMMARY
10 YEAR PIPE CAPACITY

FIGURE NO. 15
OCTOBER, 2015

Legend

- Pond

PIPE_FULL

- Pipe
- Pipe Flowing Full
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 500 1,000 2,000 Feet

GOLF POND SUMMARY
100 YEAR PEAK ELEVATION

FIGURE NO. 16
OCTOBER, 2015

Legend

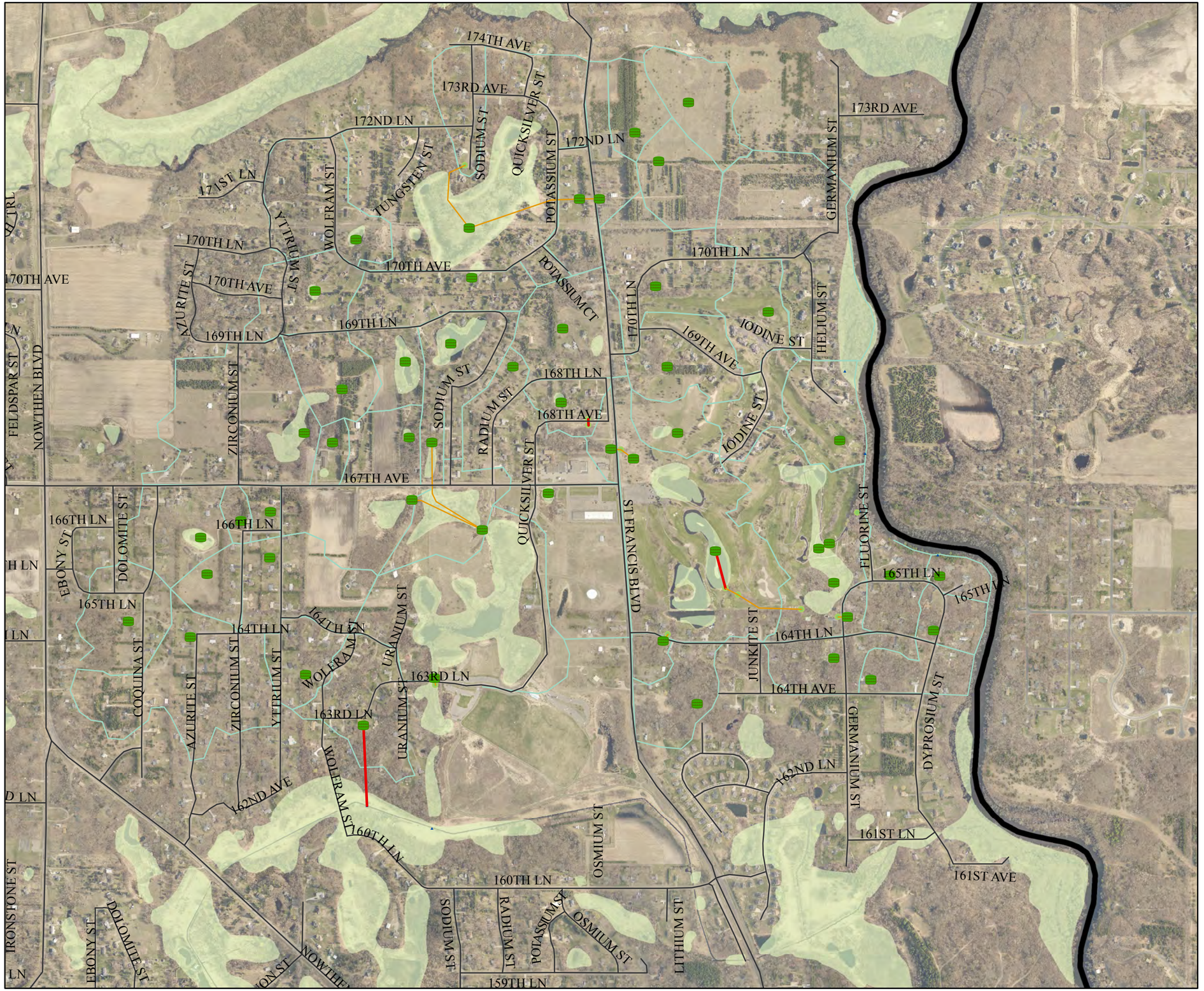
Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures

- Channel
- Pipe
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 500 1,000 2,000 Feet



City of RAMSEY

GOLF PIPE SUMMARY
10 YEAR PIPE CAPACITY

FIGURE NO. 17
OCTOBER, 2015

Legend

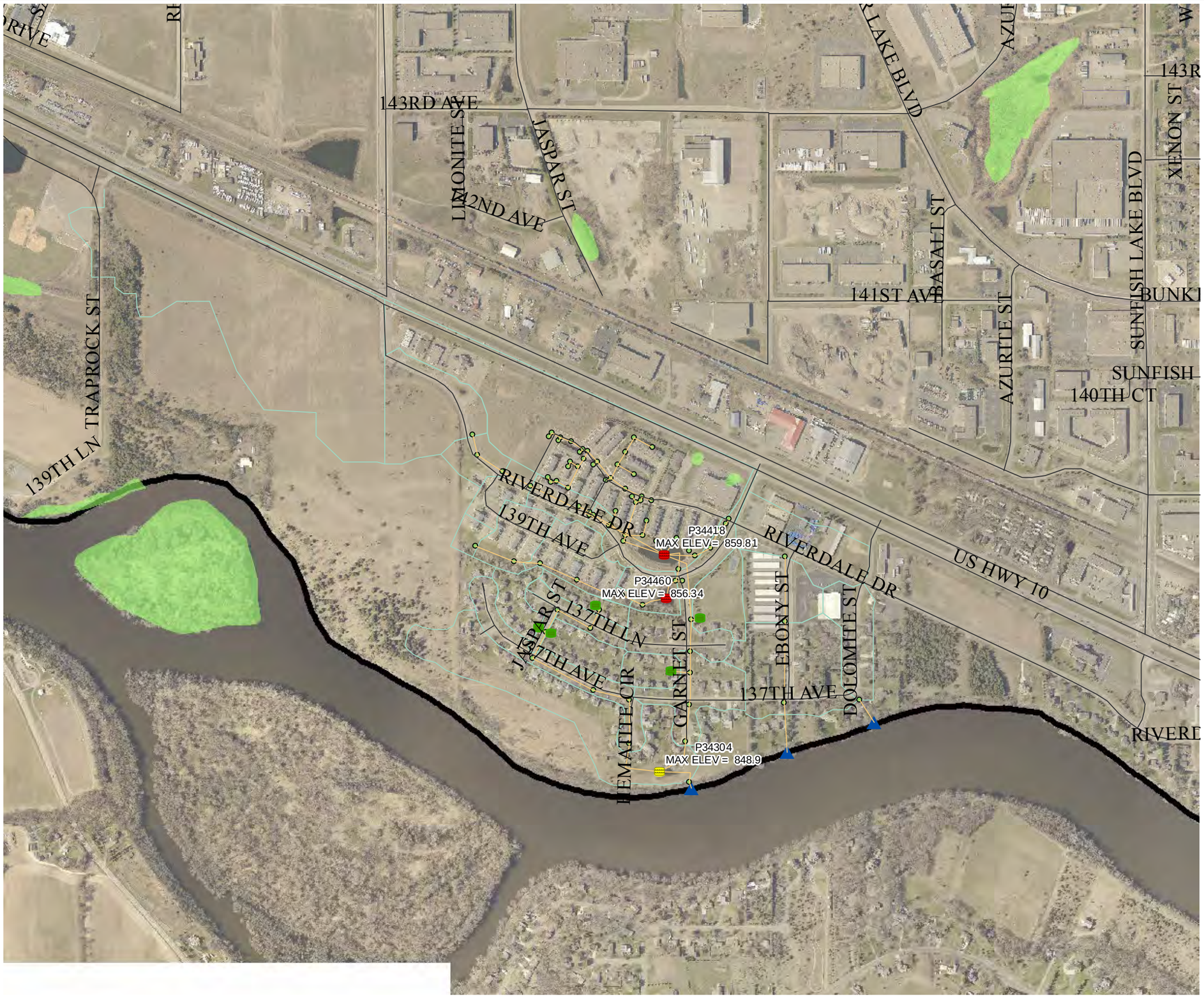
- Pond

PIPE_FULL

- Pipe
- Pipe Flowing Full
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 500 1,000 2,000 Feet



City of RAMSEY

MMISS POND SUMMARY 100 YEAR PEAK ELEVATION

FIGURE NO. 18
OCTOBER, 2015

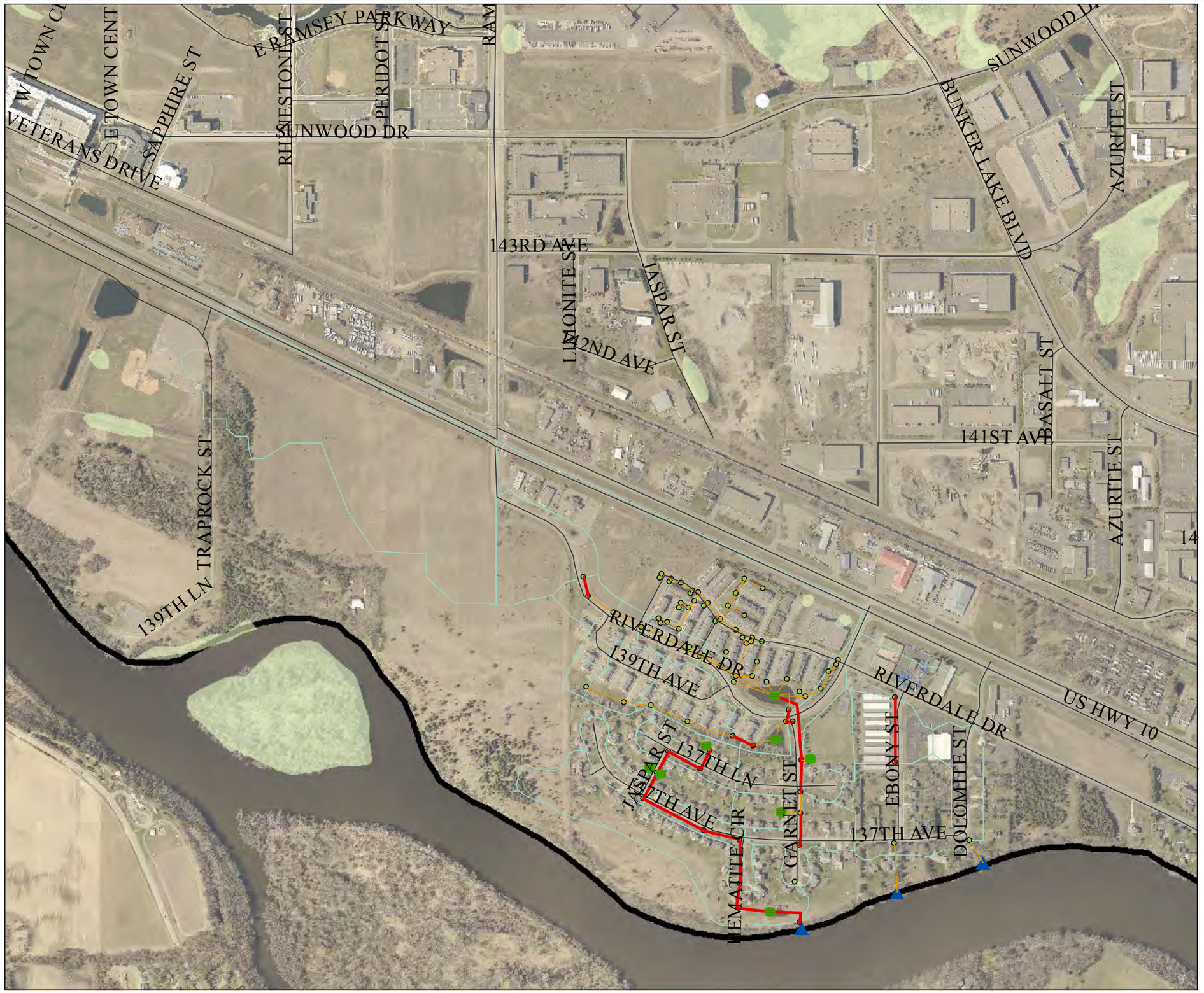
Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures
- Pipe
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 300 600 1,200 Feet



MMISS PIPE SUMMARY
10 YEAR PIPE CAPACITY

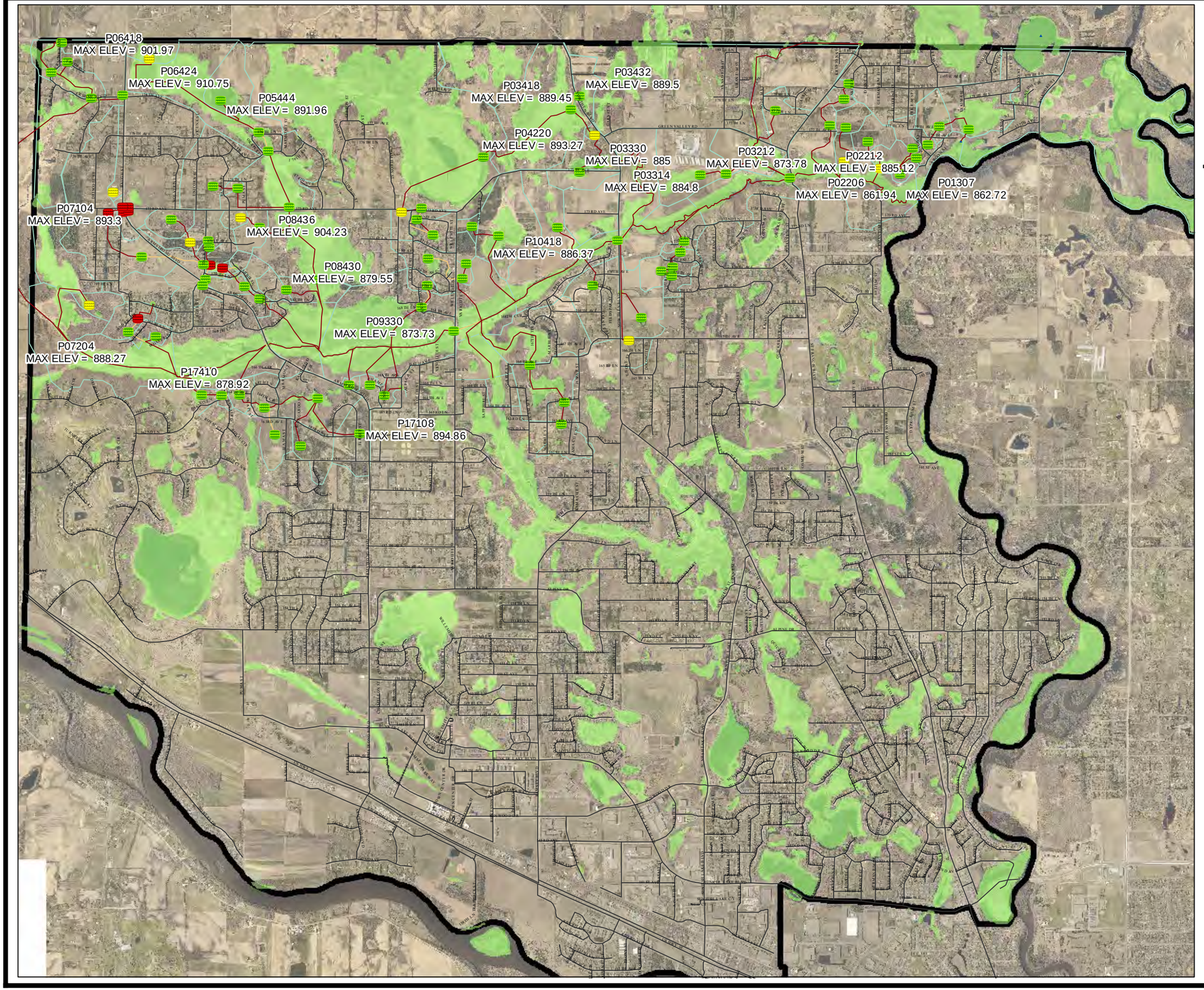
FIGURE NO. 19
OCTOBER, 2015

Legend

- Pond
- **PIPE_FULL**
- Pipe
- Pipe Flowing Full
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

Feet
0 300 600 1,200



City of RAMSEY

TROTT POND SUMMARY 100 YEAR PEAK ELEVATION

FIGURE NO. 20
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures

Channel

Pipe

Junc

Outfall

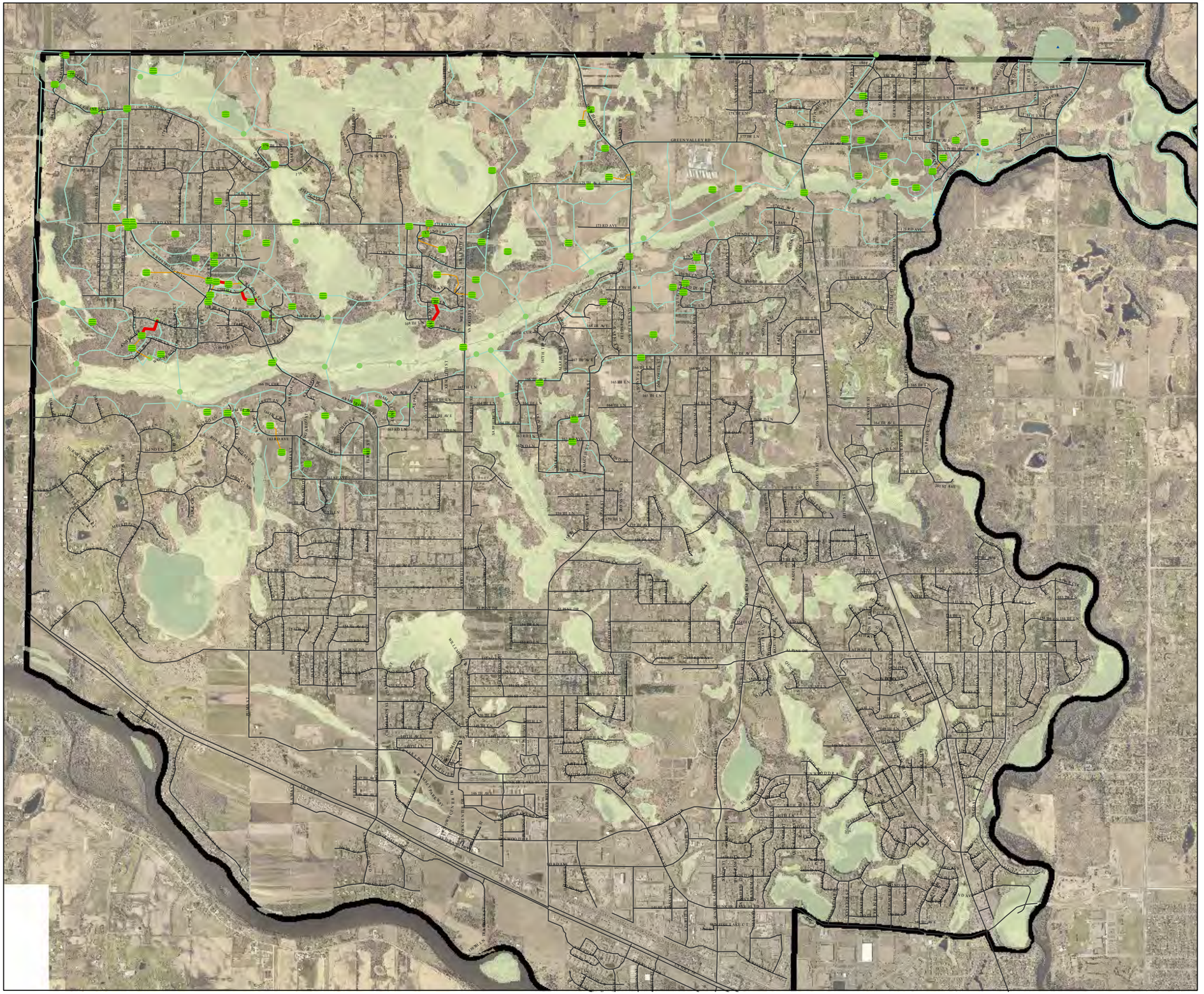
Subbasin

NWI

City Limits

N

0 1,500 3,000 6,000 Feet



City of RAMSEY

TROTT PIPE SUMMARY
10 YEAR PIPE CAPACITY

FIGURE NO. 21
OCTOBER, 2015

Legend

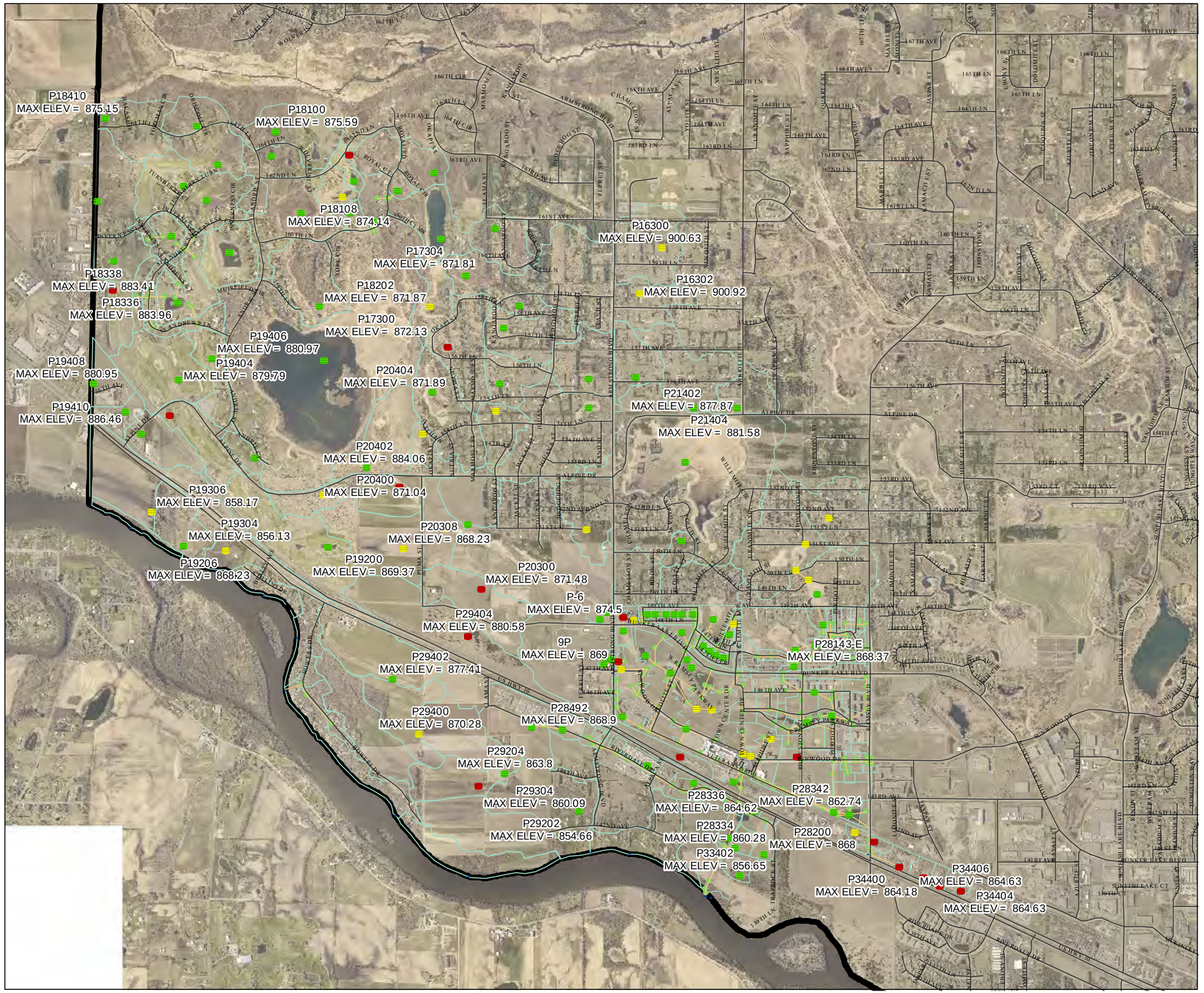
- Pond
- Streets2012

PIPE_FULL

- Pipe
- Pipe Flowing Full
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

Feet
0 1,500 3,000 6,000



City of RAMSEY

WMISS POND SUMMARY 100 YEAR PEAK ELEVATION

FIGURE NO. 22
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures

Streets2012

Pipe

Junc

Outfall

Subbasin

City Limits

N

0 1,000 2,000 4,000 Feet

WMISS PIPE SUMMARY
10 YEAR PIPE CAPACITY

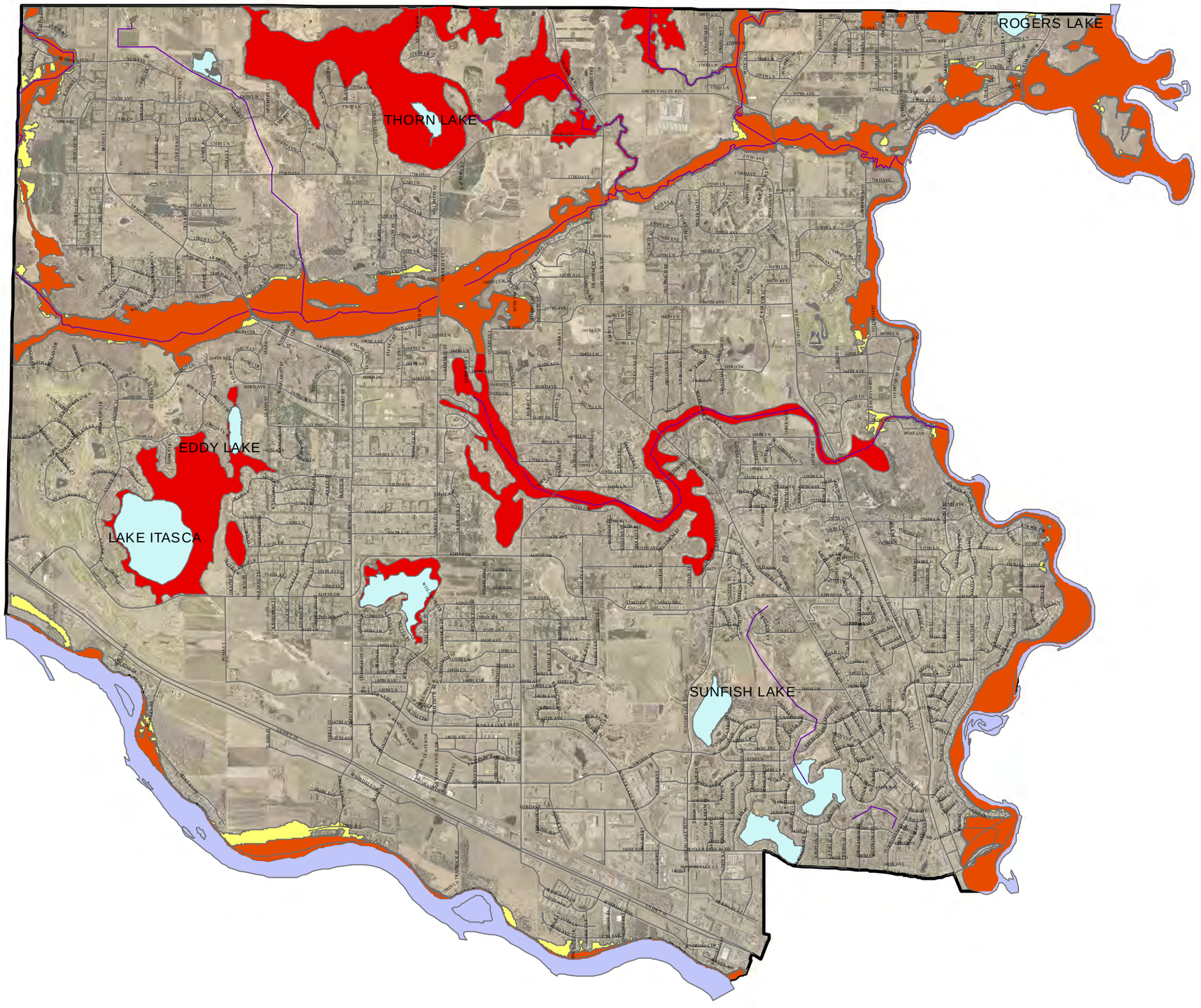
FIGURE NO. 23
OCTOBER, 2015

Legend

- Pond
- Pipe
- Pipe Flowing Full
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 1,000 2,000 4,000 Feet



City of RAMSEY

FEMA FLOODPLAIN BOUNDARIES MAP

FIGURE NO. 24
OCTOBER, 2015

Legend

- Streams and Ditches
- Lakes_Ponds

FLD_ZONE

- 500 YR
- 100 YR Approximate
- 100 YR Detailed
- 100 YR Shallow
- Rivers

N

0 2,000 4,000 8,000 Feet

City of RAMSEY

HYDROLOGIC SOILS MAP

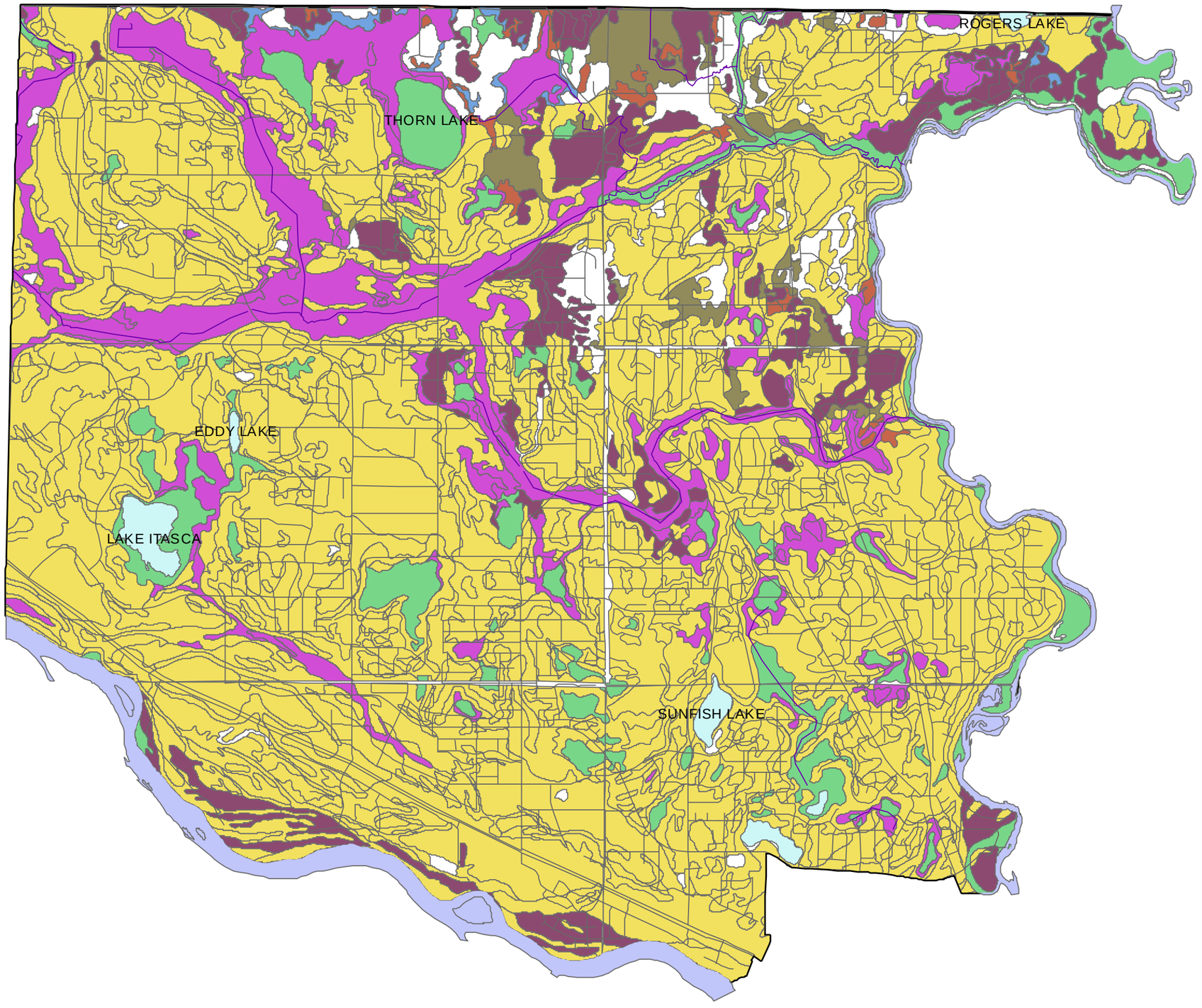


FIGURE NO. 25
OCTOBER, 2015

Legend

Streams and Ditches

Soil Hydrologic Groupings

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Lakes_Ponds
- Rivers

N

Feet
0 2,000 4,000 8,000

City of RAMSEY

EXISTING LAND USE MAP

FIGURE NO. 26A
OCTOBER, 2015

Legend

EXISTING LAND USES

- Agricultural
- Rural Estate Residential
- Single Family Residential
- Multi-Famil;y Residential
- Commercial
- Industrial
- Landfill
- Public/Quasi-public
- Park
- Vacant
- Right-of-Way
- Water

N

0 2,000 4,000 8,000 Feet

City of RAMSEY

FUTURE LAND USE MAP

FIGURE NO. 26B
OCTOBER, 2015

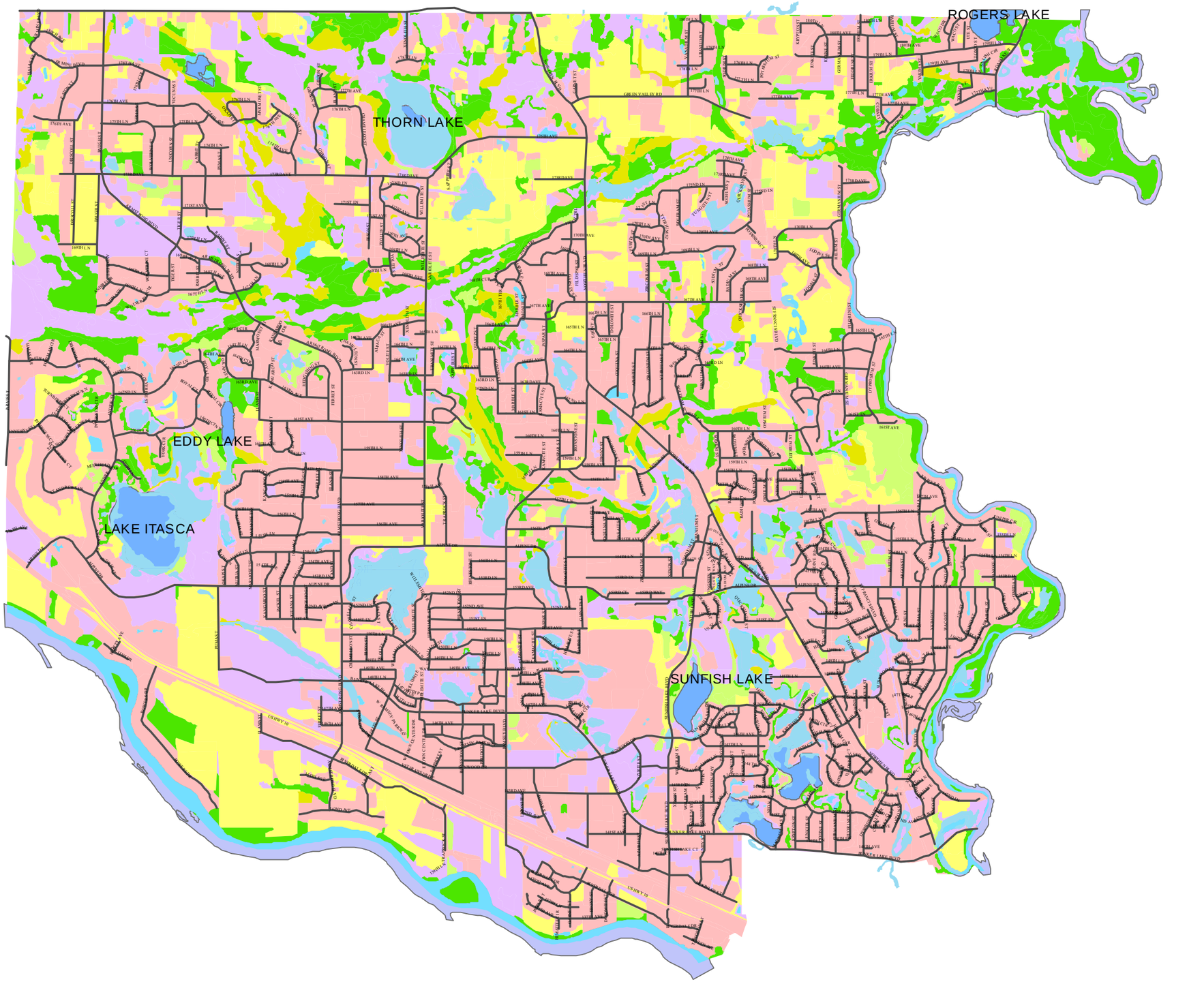
Legend

Future Land Use

- LDR
- MDR
- HDR
- Office Park
- Commercial
- MU
- Business Park
- Public
- Rural Developing
- Rural Preserve
- Park

N

Feet
0 2,000 4,000 8,000



City of RAMSEY

MINNESOTA LAND COVER CLASSIFICATION SYSTEM MAP

FIGURE NO. 26C
OCTOBER, 2015

Legend

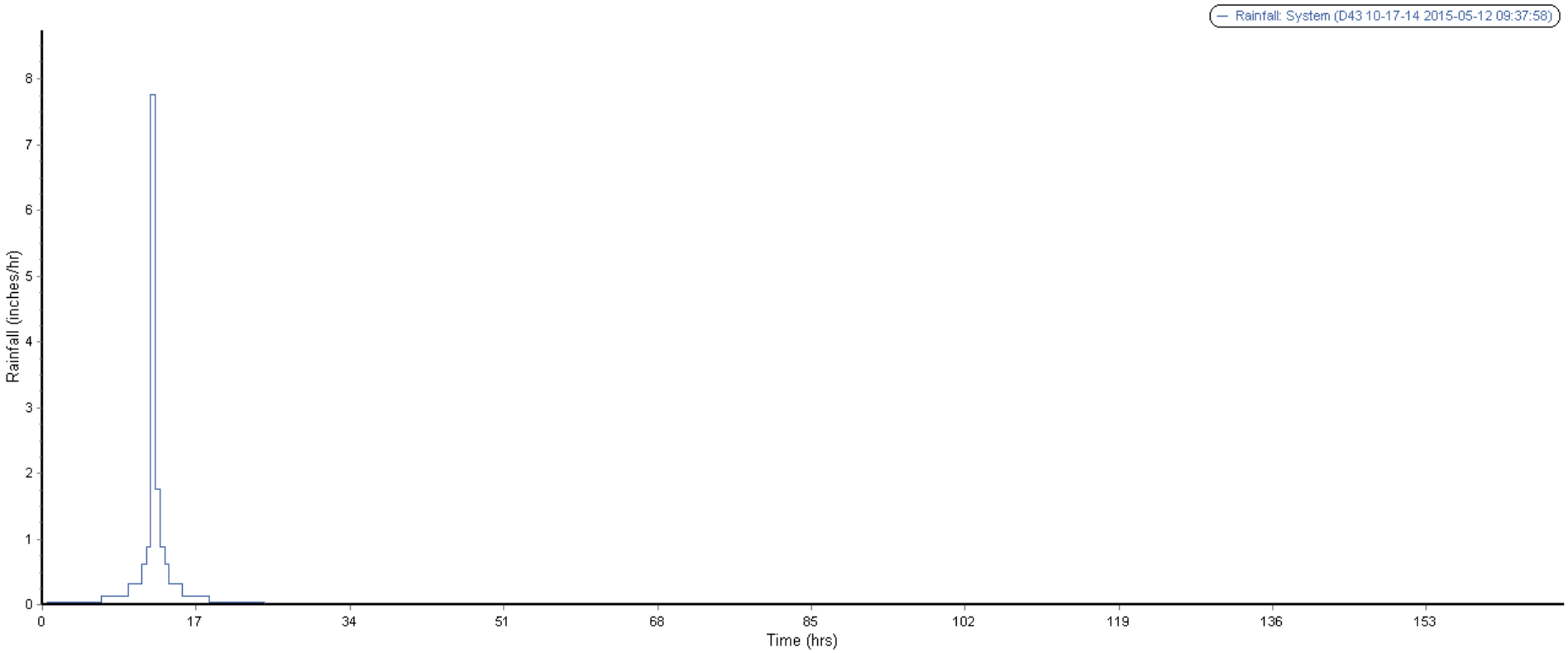
- NWI
- Protected Waters

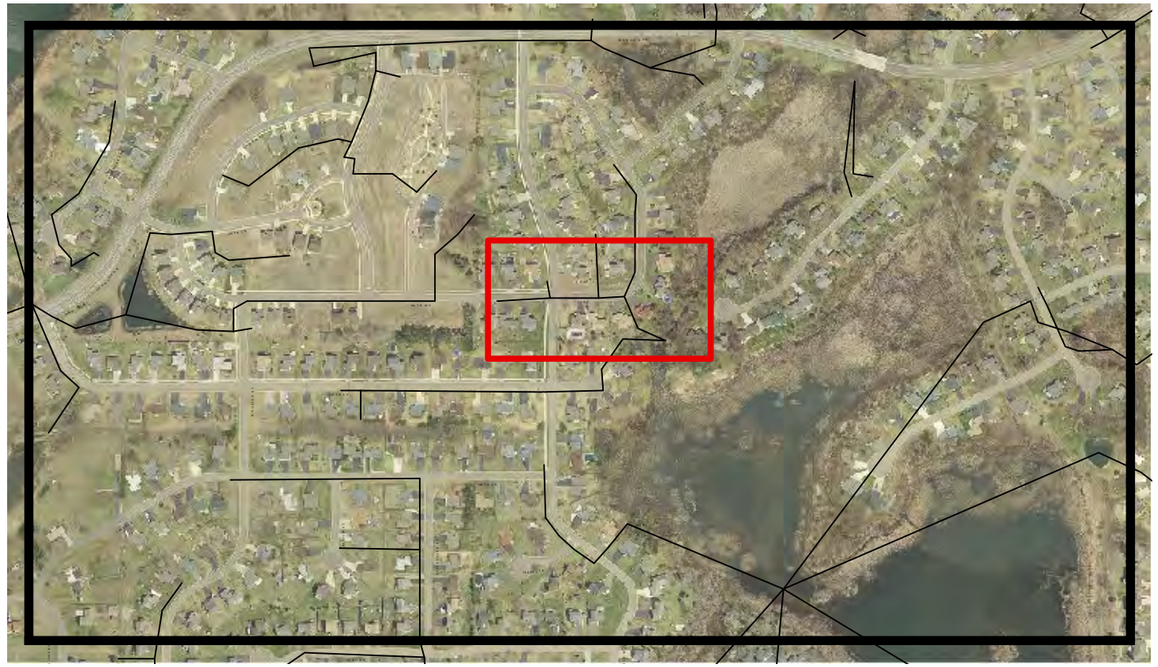
MLCCS

- <all other values>
- Artificial Surfaces and Associated Area
- Planted or Cultivated Vegetation
- Forests
- Woodland
- Shrubland
- Herbaceous
- Water
- Rivers

N

0 2,000 4,000 8,000 Feet


Rainfall: System (D43 10-17-14 2015-05-12 09:37:58)
Rainfall (inches/hr)
0
1
2
3
4
5
6
7
8
0
17
34
51
68
85
102
119
136
153
Time (hrs)





PLAN VIEW PLOT OF 146TH AVENUE NW

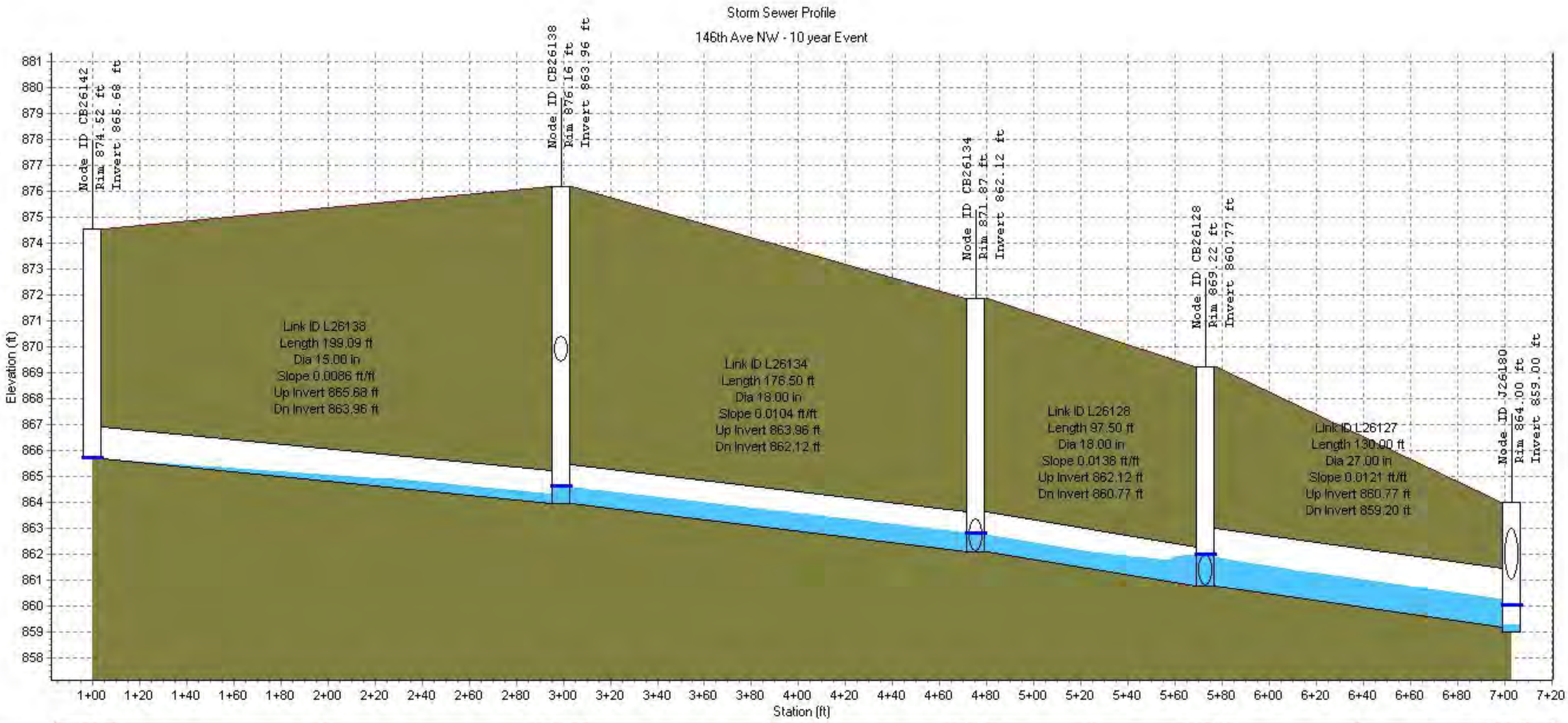
FIGURE NO. 28
OCTOBER, 2015

Legend

- Pond
- Pipe
- Junc
- Outfall
- Subbasin
- City Limits

N

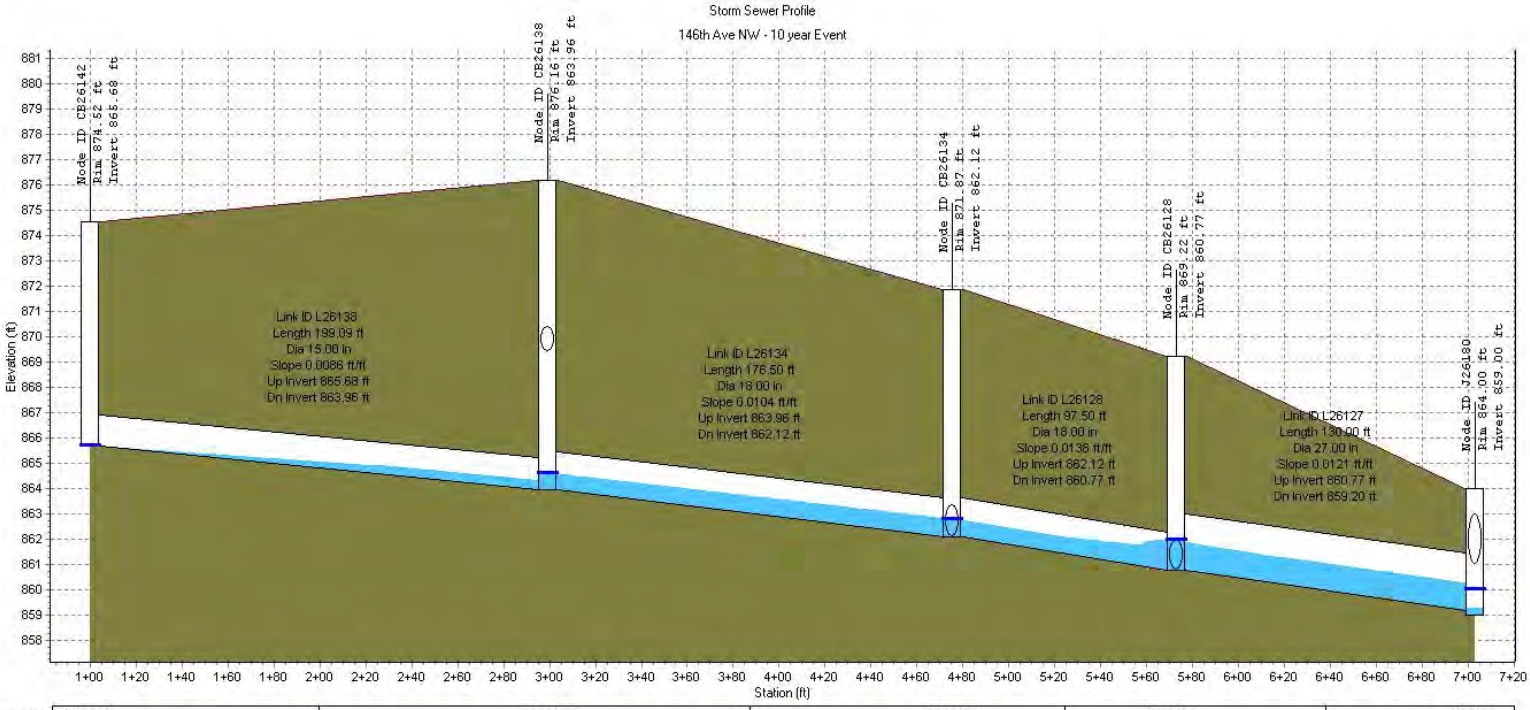
0 50 100 200 Feet



Node ID:	CB26142	CB26138	CB26134	CB26128	J26180
Rim (ft):	874.52	876.16	871.87	869.22	864.00
Invert (ft):	865.68	863.96	862.12	860.77	859.00
Min Pipe Cover (ft):	0.00	0.00	8.25	0.00	1.00
Max HGL (ft):	865.68	864.61	862.81	861.99	860.03

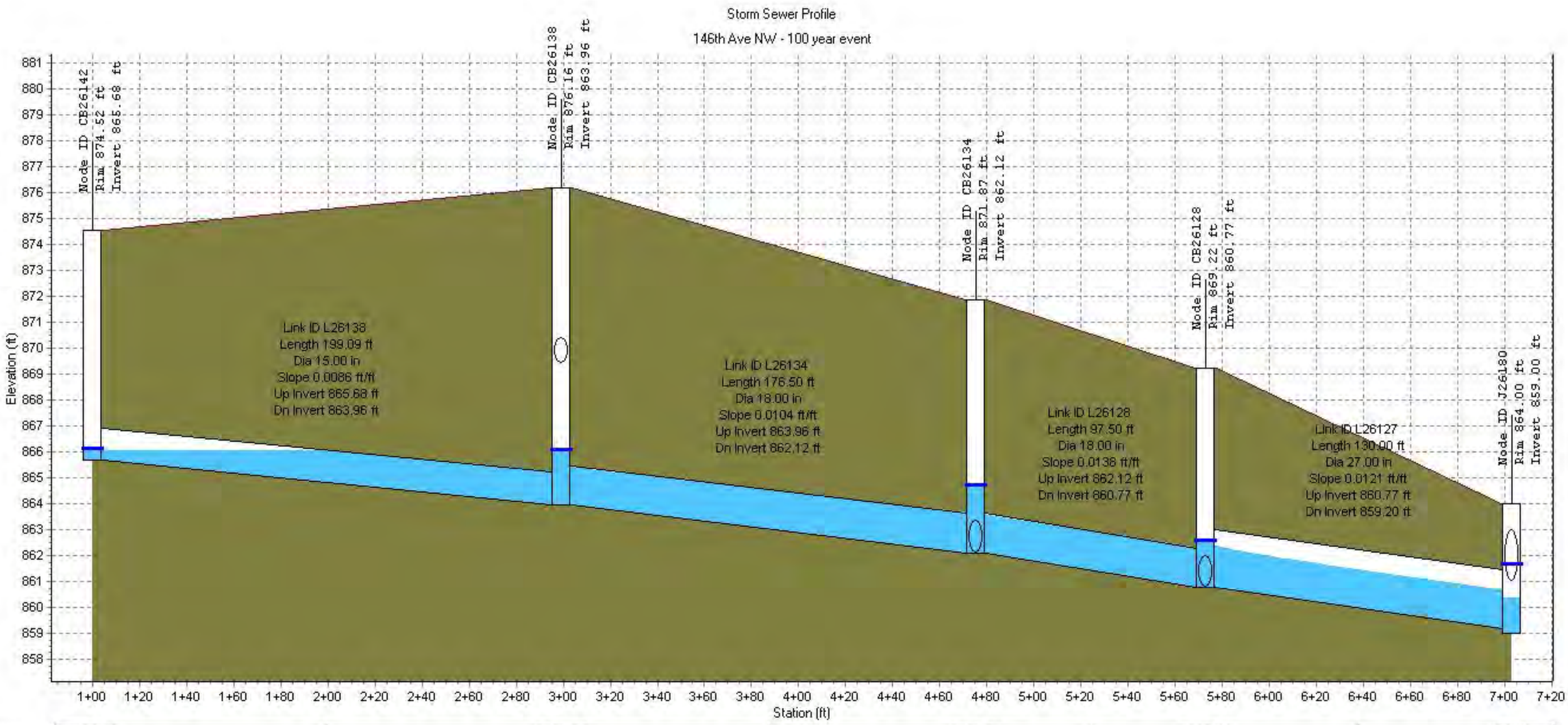
Link ID:	L26138	L26134	L26128	L26127
Length (ft):	199.09	176.50	97.50	130.00
Dia (in):	15.00	18.00	18.00	27.00
Slope (ft/ft):	0.0086	0.0104	0.0138	0.0121
Up Invert (ft):	865.68	863.96	862.12	860.77
Dn Invert (ft):	863.96	862.12	860.77	859.20
Max Q (cfs):	0.00	4.00	5.41	15.23
Max Vel (ft/s):	0.00	5.31	5.07	7.59
Max Depth (ft):	0.33	0.66	0.94	1.12

Figure 29



Node ID:	CB26142	CB26138	CB26134	CB26128	J26180
Rim (ft):	874.52	876.16	871.87	869.22	864.00
Invert (ft):	865.68	863.96	862.12	860.77	859.00
Min Pipe Cover (ft):	0.00	0.00	8.25	0.00	1.00
Max HGL (ft):	865.68	864.61	862.81	861.99	860.03

Link ID:	L26138	L26134	L26128	L26127
Length (ft):	199.09	176.50	97.50	130.00
Dia (in):	15.00	18.00	18.00	27.00
Slope (ft/ft):	0.0086	0.0104	0.0138	0.0121
Up Invert (ft):	865.68	863.96	862.12	860.77
Dn Invert (ft):	863.96	862.12	860.77	859.20
Max Q (cfs):	0.00	4.00	5.41	15.23
Max Vel (ft/s):	0.00	5.31	5.07	7.59
Max Depth (ft):	0.33	0.66	0.94	1.12



Node ID:	CB26142	CB26138	CB26134	CB26128	J26180
Rim (ft):	874.52	876.16	871.87	869.22	864.00
Invert (ft):	865.68	863.96	862.12	860.77	859.00
Min Pipe Cover (ft):	0.00	0.00	8.25	0.00	1.00
Max HGL (ft):	867.19	867.19	866.52	863.37	861.65

Link ID:	L26138	L26134	L26128	L26127
Length (ft):	199.09	176.50	97.50	130.00
Dia (in):	15.00	18.00	18.00	27.00
Slope (ft/ft):	0.0086	0.0104	0.0138	0.0121
Up Invert (ft):	865.68	863.96	862.12	860.77
Dn Invert (ft):	863.96	862.12	860.77	859.20
Max Q (cfs):	0.77	9.33	14.65	32.70
Max Vel (ft/s):	0.95	5.83	8.29	8.73
Max Depth (ft):	0.83	1.50	1.50	1.63

Figure 30

City of RAMSEY

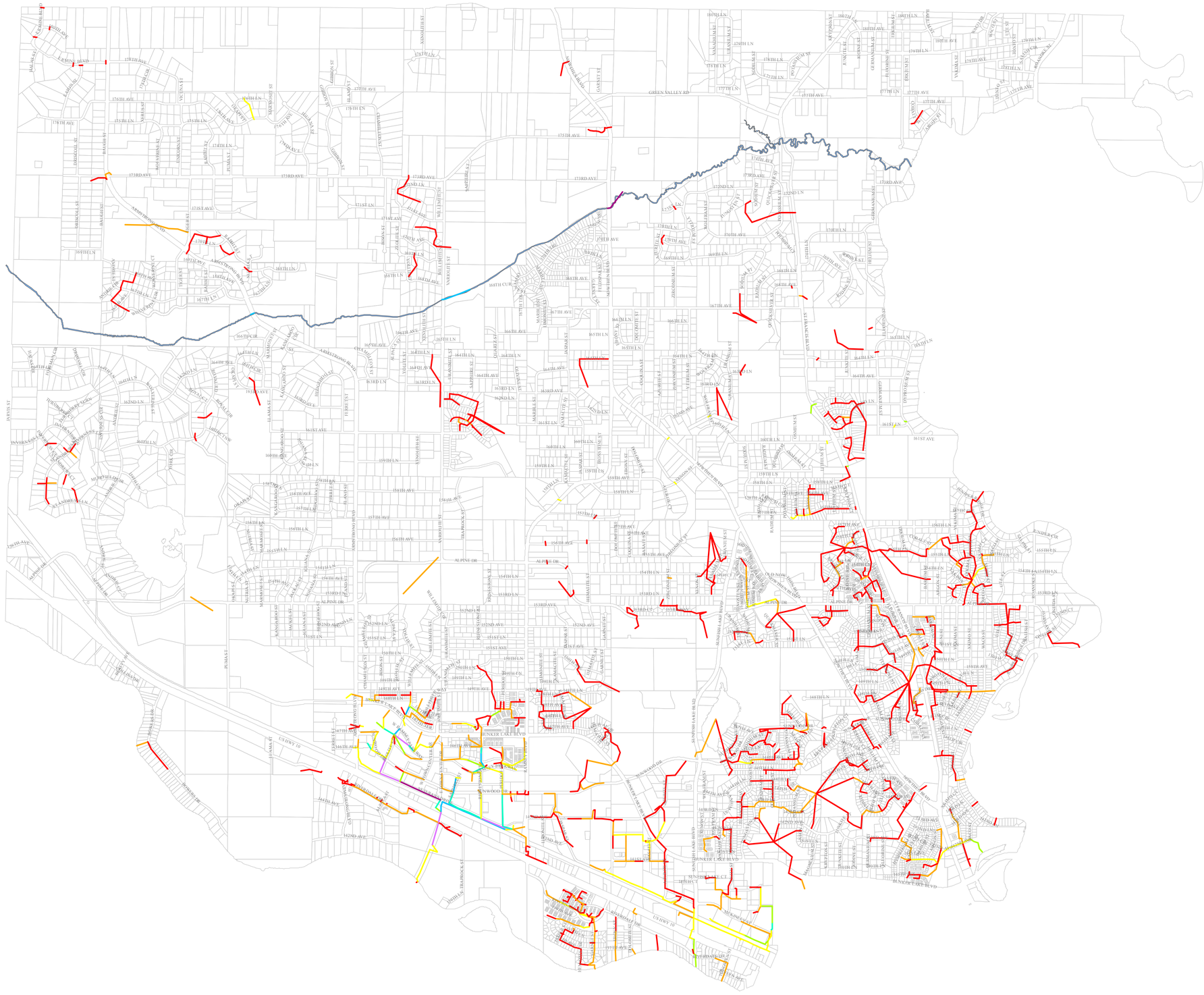
STORM SEWER SYSTEM MAP

FIGURE NO. 31
OCTOBER, 2015

Legend

DIAMETER

- 12" - 21"
- 24" - 33"
- 36" - 42"
- 48"
- 54"
- 60
- 72
- 84
- Creeks
- Parcels



N

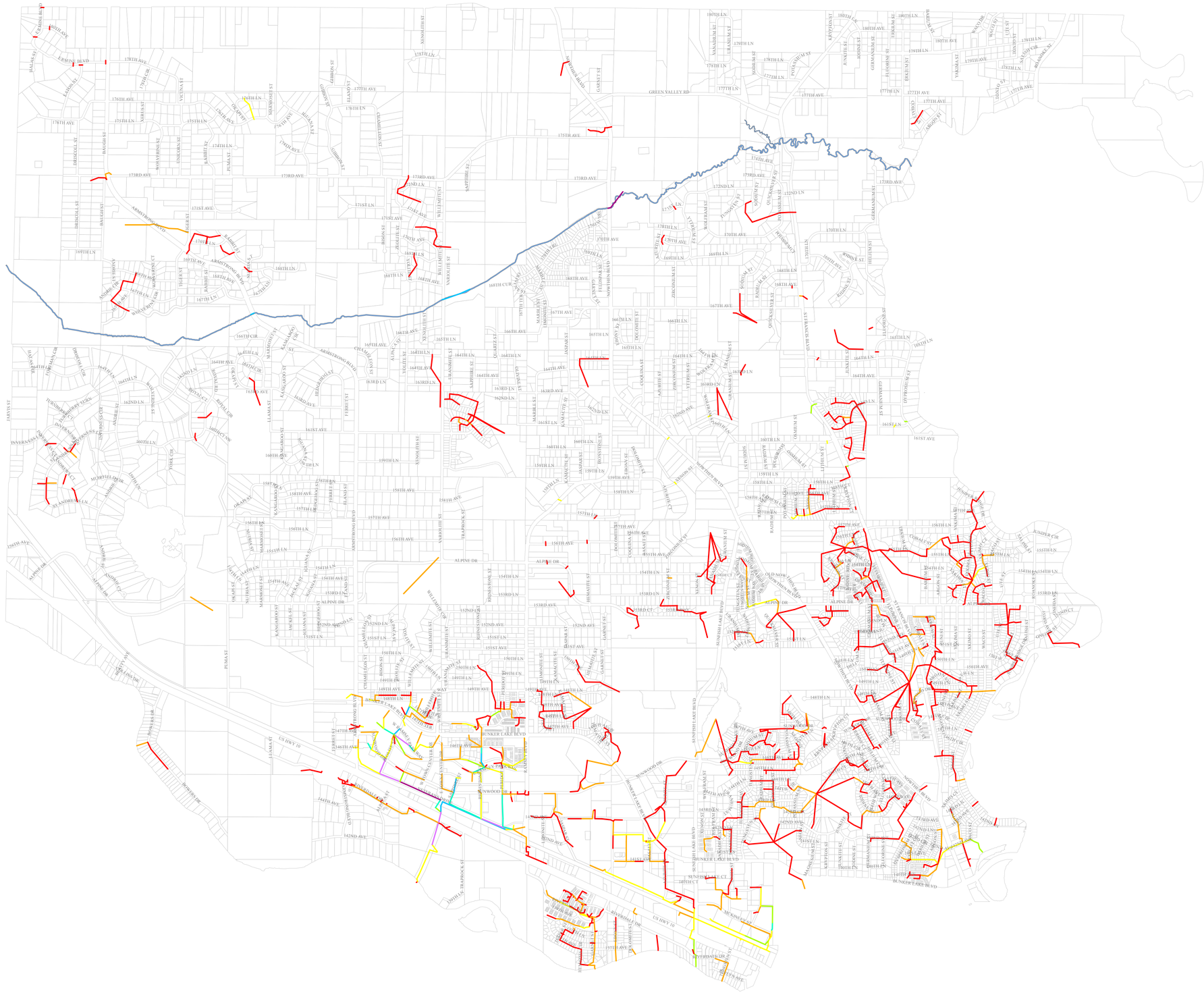
0 1,500 3,000 6,000 Feet

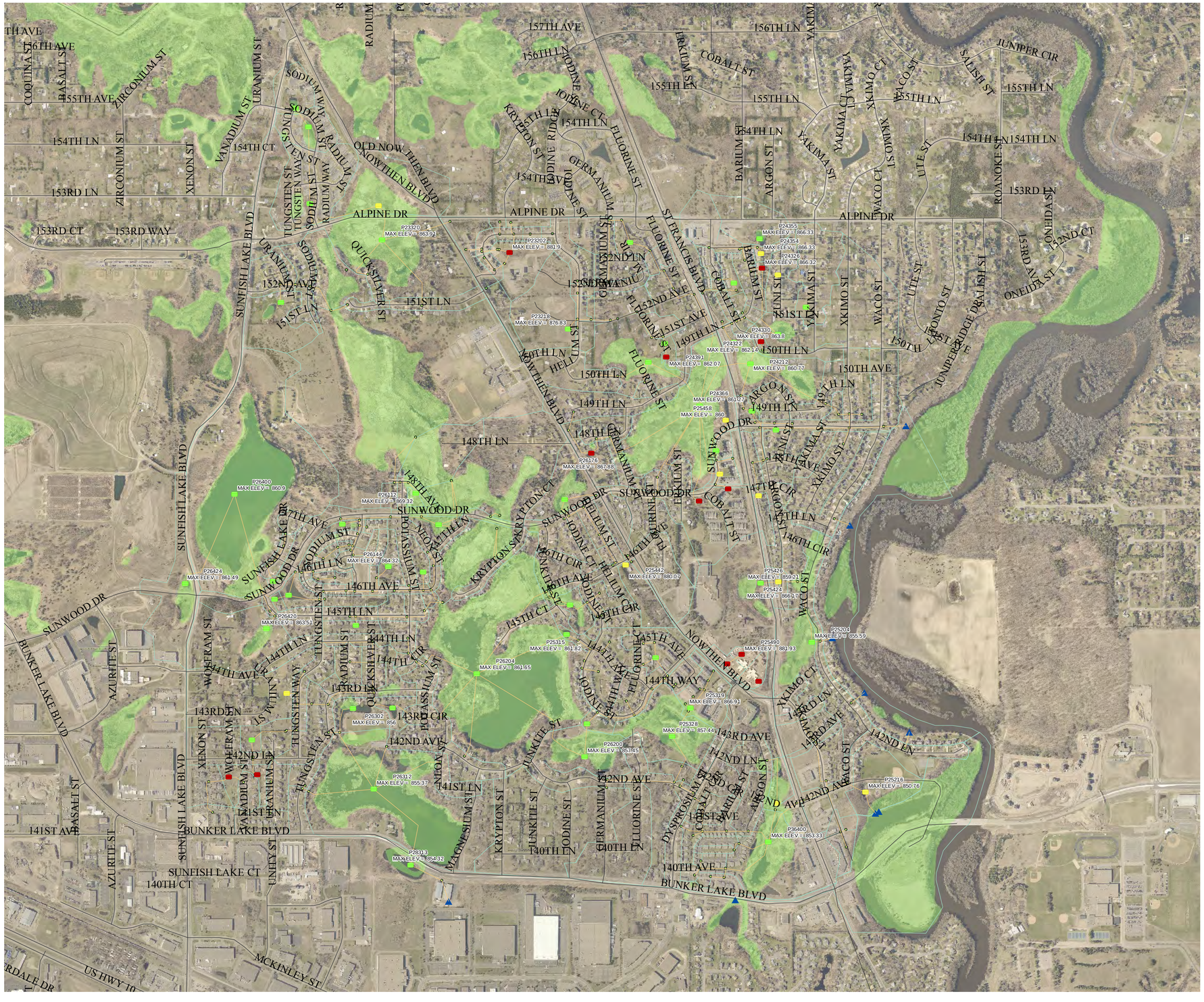
City of RAMSEY

2014 SURFACE WATER MANANGEMENT PLAN

STORM SEWER SYSTEM MAP

FIGURE NO. 31
OCTOBER, 2015





D43 POND SUMMARY 100 YEAR PEAK ELEVATION

FIGURE NO. 32
OCTOBER, 2015

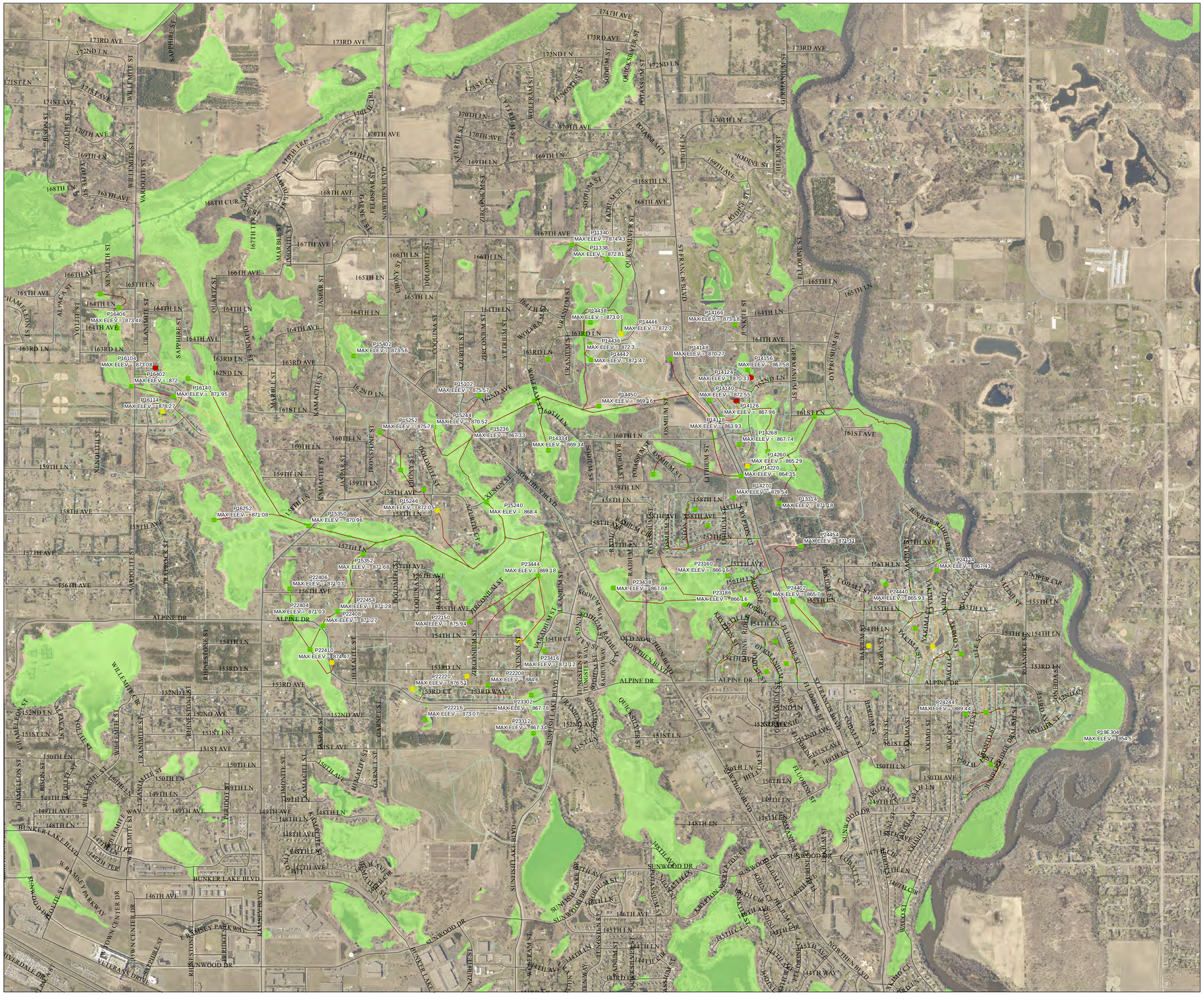
Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures
- Pipe
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 1,000 2,000 4,000 Feet



D66 POND SUMMARY
100 YEAR PEAK ELEVATION

FIGURE NO. 33
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures

Channel

Pipe

Junc

Outfall

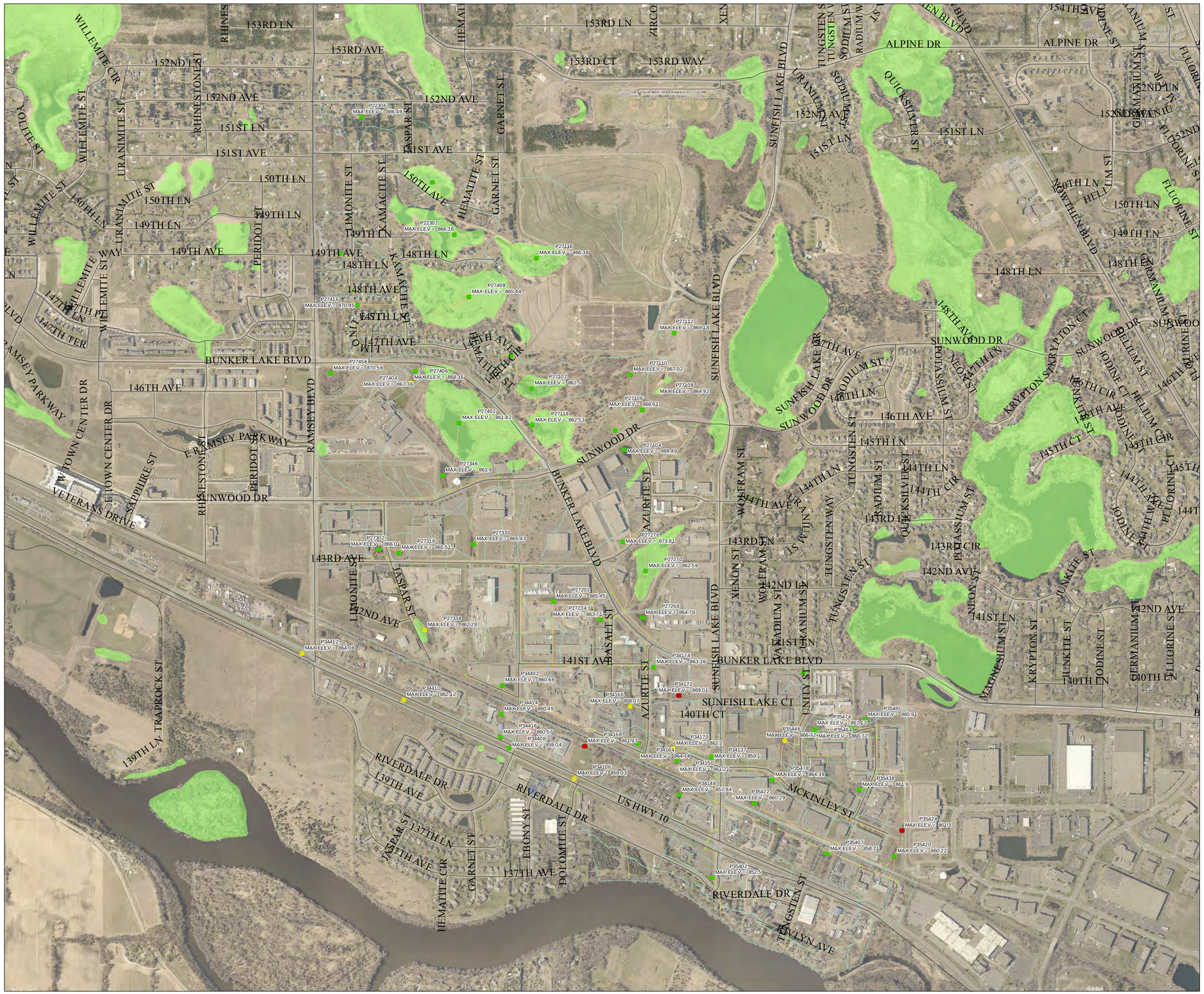
Subbasin

NWI

City Limits

N

0 1,500 3,000 6,000 Feet



EMISS POND SUMMARY
100 YEAR PEAK ELEVATION

FIGURE NO. 34
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures

Pipe

Junc

Outfall

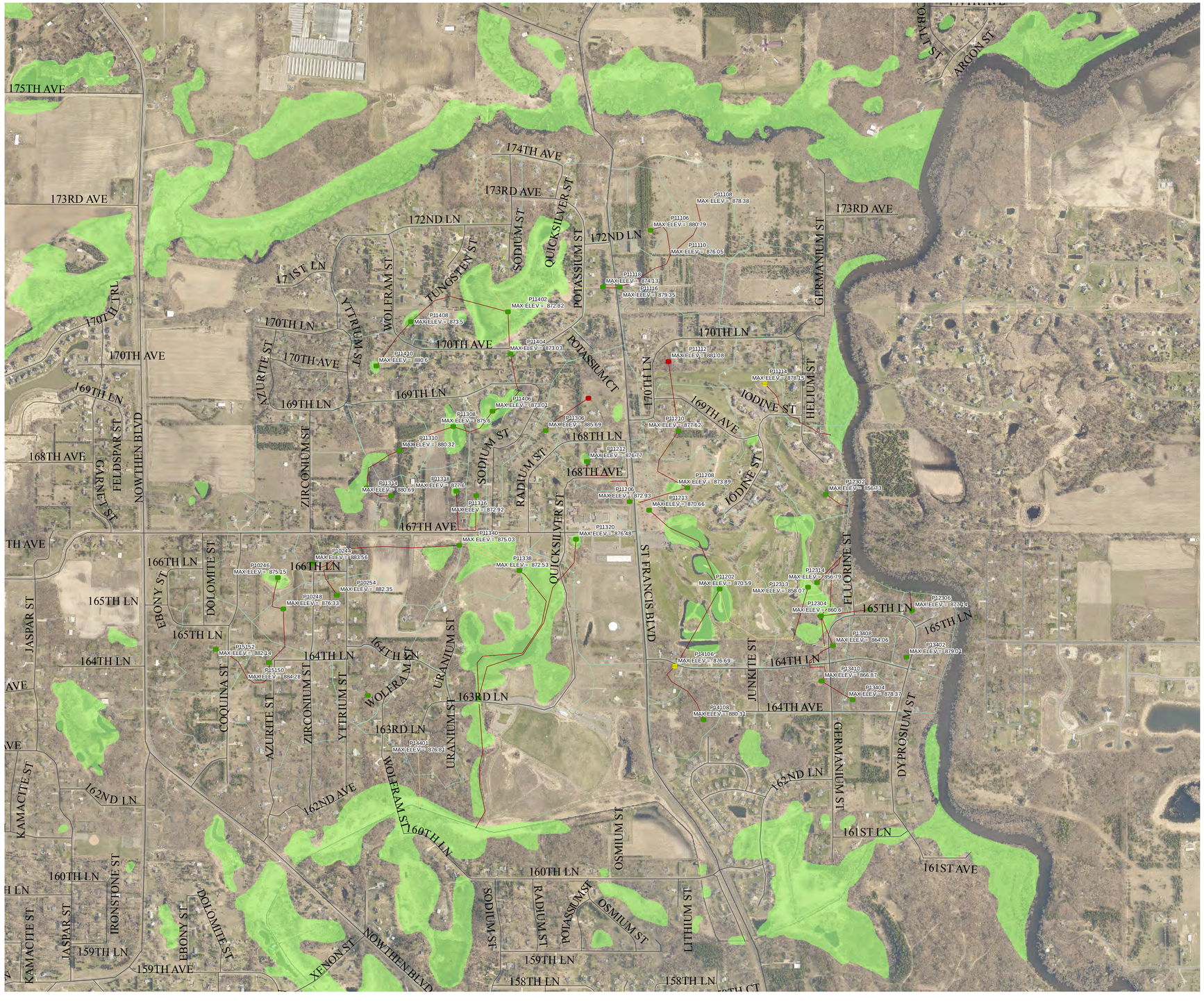
Subbasin

NWI

City Limits

N

0 1,000 2,000 4,000 Feet



GOLF POND SUMMARY
100 YEAR PEAK ELEVATION

FIGURE NO. 35
OCTOBER, 2015

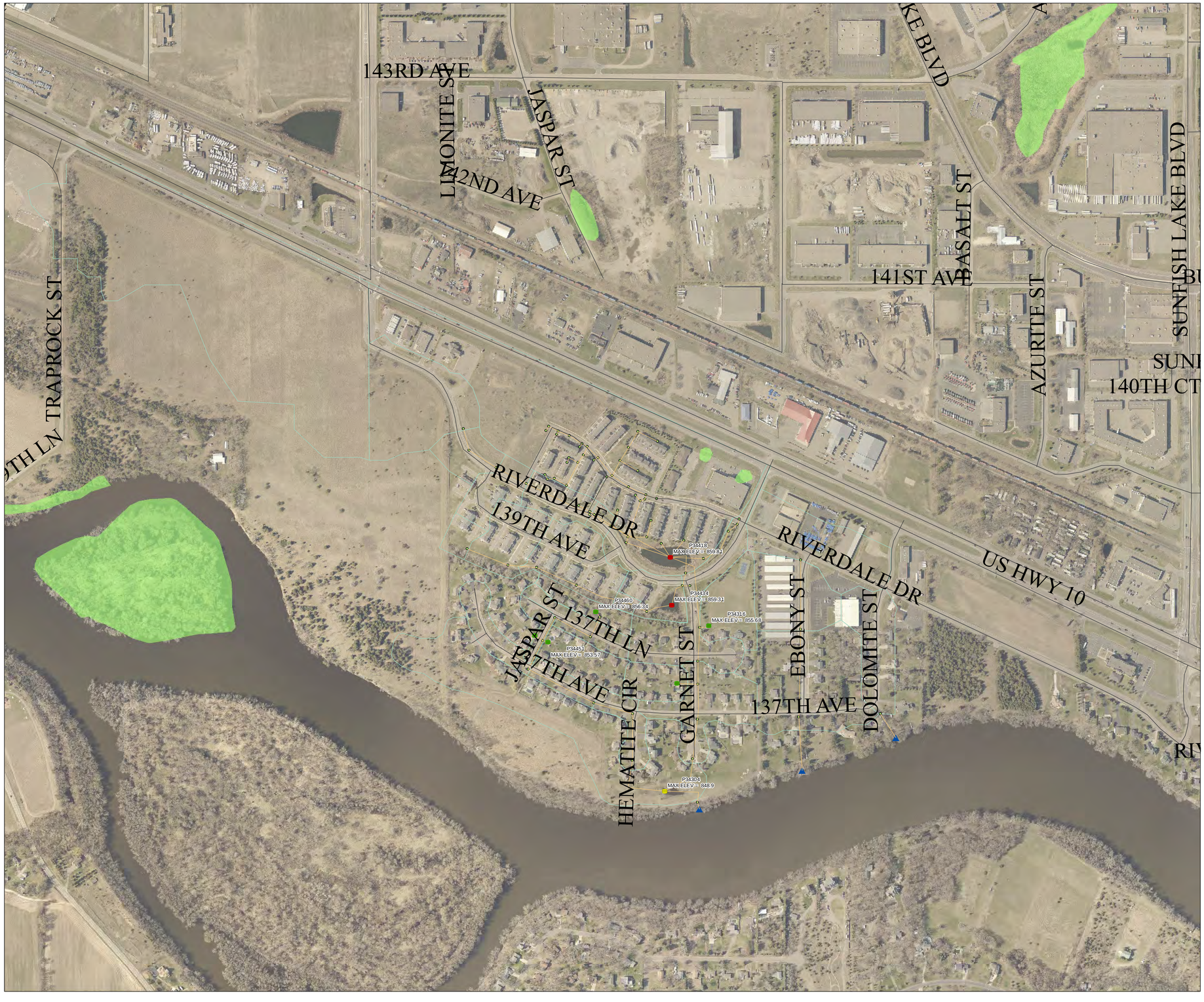
Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures
- Channel
- Pipe
- Junc
- Outfall
- Subbasin
- NWI
- City Limits

N

0 1,000 2,000 4,000 Feet



City of RAMSEY

MMISS POND SUMMARY
100 YEAR PEAK ELEVATION

FIGURE NO. 36
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures

Pipe

Junc

Outfall

Subbasin

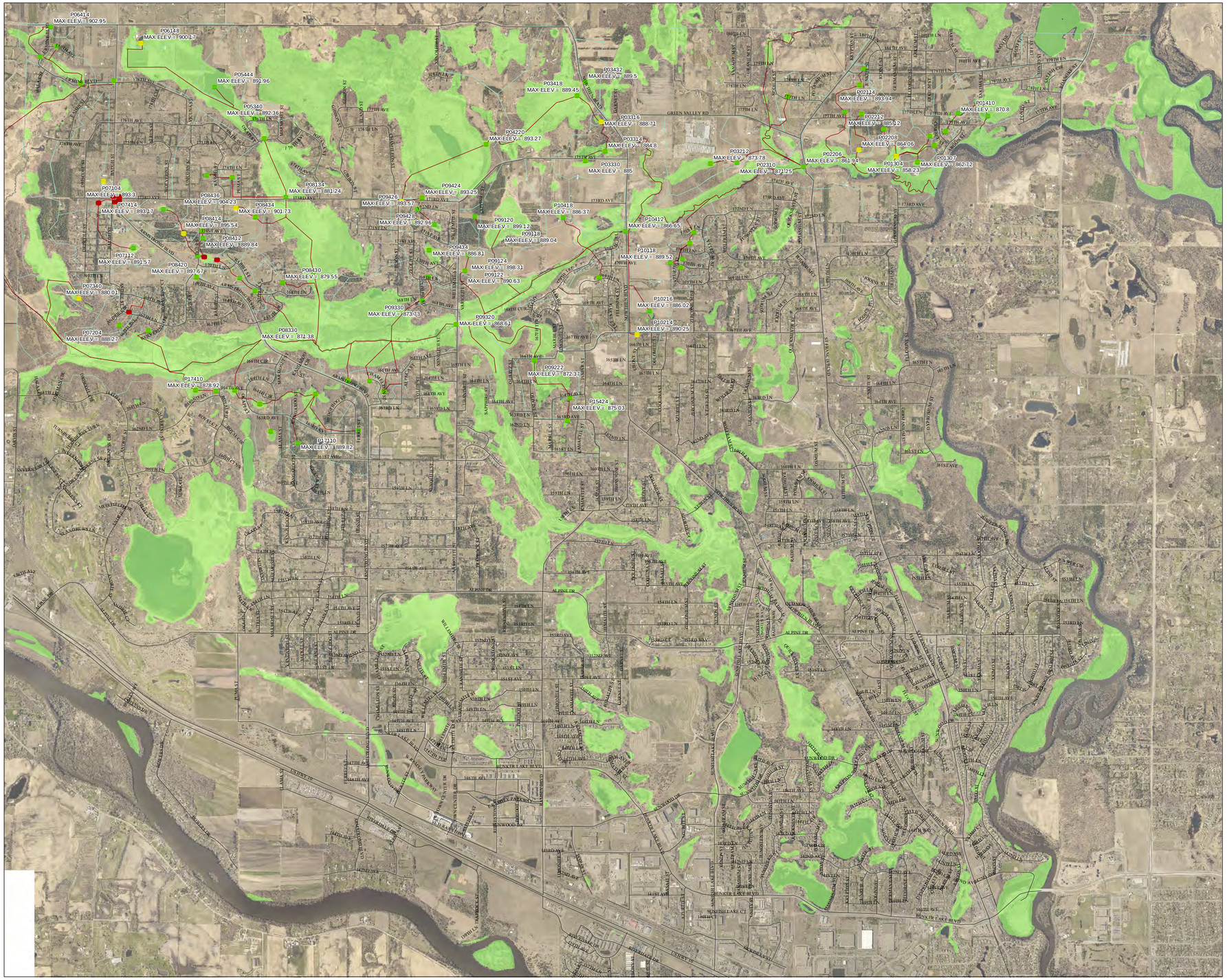
NWI

City Limits

N

Feet

0 500 1,000 2,000



TROTT POND SUMMARY
100 YEAR PEAK ELEVATION

FIGURE NO. 37
OCTOBER, 2015

Legend

Pond Flood Status

- Functioning Properly
- EOF Utilized
- Potential Threat to Structures

Channel

Pipe

Junc

Outfall

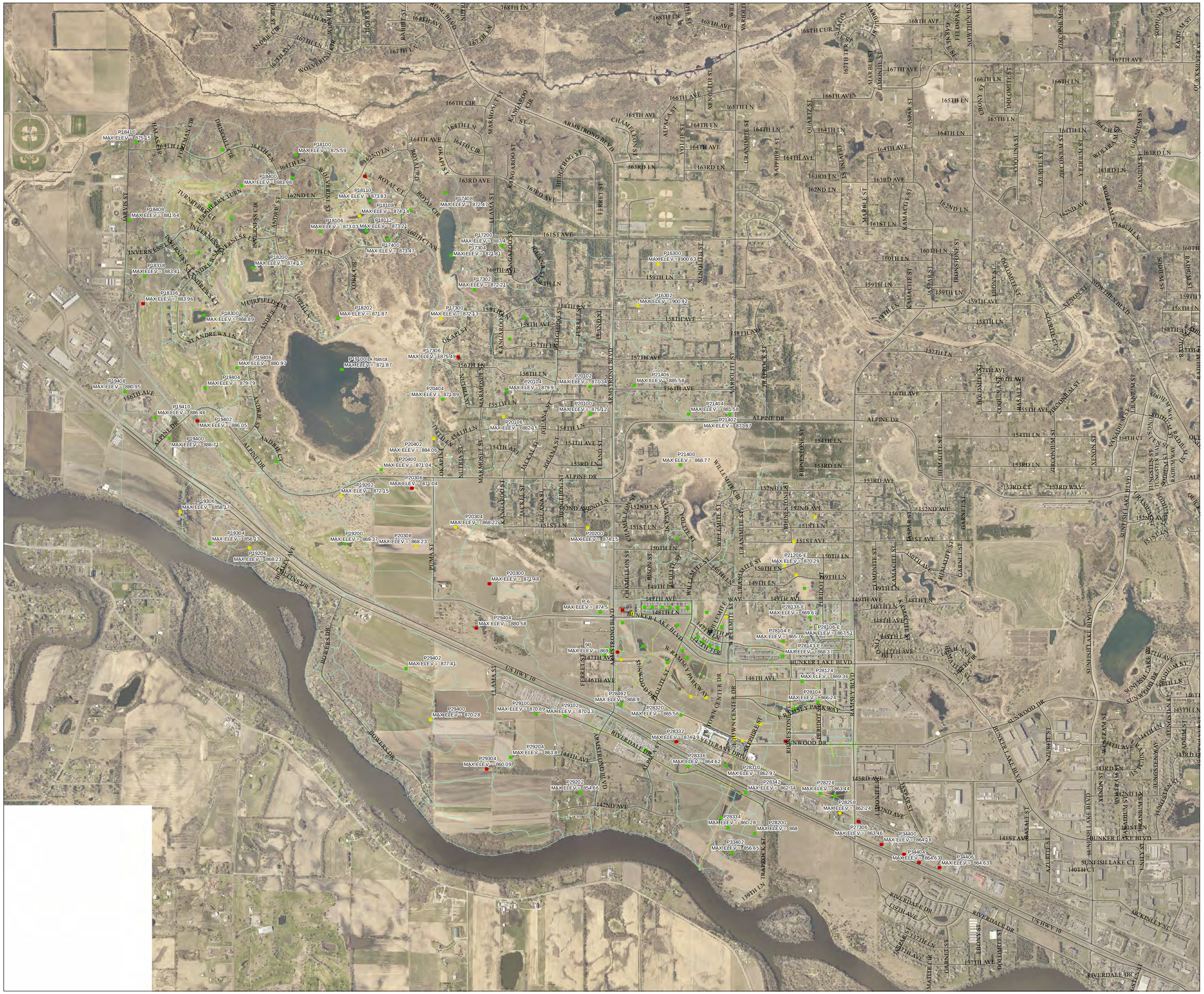
Subbasin

NWI

City Limits

N

0 3,000 6,000 12,000 Feet


P18410
MAX ELEV = 875.15
P18100
MAX ELEV = 875.59
P18400
MAX ELEV = 883.98
P18130
MAX ELEV = 873.83
P18108
MAX ELEV = 874.14
P18106
MAX ELEV = 873.03
P18112
MAX ELEV = 873.21
P17408
MAX ELEV = 872.47
P17200
MAX ELEV = 887.4
P17304
MAX ELEV = 871.81
P17400
MAX ELEV = 873.47
P18408
MAX ELEV = 881.64
P18200
MAX ELEV = 874.13
P18338
MAX ELEV = 883.41
P18336
MAX ELEV = 883.96
P18300
MAX ELEV = 868.89
P18202
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MAX ELEV = 872.13
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P16302
MAX ELEV = 900.92
P19408
MAX ELEV = 880.97
P19404
MAX ELEV = 879.79
P19410
MAX ELEV = 886.46
P19402
MAX ELEV = 886.05
P19400
MAX ELEV = 886.71
P21000 ix Itasca
MAX ELEV = 871.87
P17306
MAX ELEV = 875.49
P20102
MAX ELEV = 877.34
P20104
MAX ELEV = 879.97
P20404
MAX ELEV = 871.89
P21406
MAX ELEV = 885.58
P21404
MAX ELEV = 881.58
P21402
MAX ELEV = 877.87
P20100
MAX ELEV = 875.12
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P20400
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P20306
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P19206
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PP
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P28492
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P28200
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P27306
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P34406
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P28106-E
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P28124
MAX ELEV = 869.36
P28104
MAX ELEV = 866.24
P21206-E
MAX ELEV = 870.29
ARMSTRONG BLVD
ALPINE DR
RIVERDALE DR
US HWY 10
BUNKER LAKE BLVD
SUNFISH LAKE BLVD
SUNFISH LAKE CT
140TH CT
RUNNWOOD DR
W RAMSEY PARKWAY
E RAMSEY PARKWAY
TOWN CENTER DR
VETERANS DR
BOWERS DR
NAMESTOKO BLVD
SUNWOOD DR
MCKINLEY ST
RIVERDALE DR SE
ROYAL CIR
ROYAL CT
ROYAL RD
BEND LN
OKAPI ST
LLAMA ST
FERRET ST
HEDGEHOG ST
ARMADILLO CIR
ANDRE CIR
ANDRE ST
ANDREA CT
ANDREW CT
ANDREW LN
ANDREW ST
ANDREW WAY
ALPINE DR
ALPINE CT
ALPINE LN
ALPINE ST
ALPINE WAY
ALPACA ST
ARMADILLO ST
ARMSTRONG BLVD
BISON ST
BOWERS DR
CHAMELEON ST
CHAMELEON WAY
COATI ST
COYOTE ST
DRISCOLL CIR
DRISCOLL DR
DRISCOLL LN
DRISCOLL WAY
ELAND ST
FERRET ST
FOX ST
GLENNA ST
HEDGEHOG ST
HEDGEHOG WAY
HALASZ CIR
HALASZ ST
INVERNESS CIR
INVERNESS CT
INVERNESS LN
INVERNESS ST
INVERNESS WAY
JACKAL ST
JARVIS ST
JERSEY CIR
JERSEY ST
JERSEY WAY
KANGAROO CIR
KANGAROO ST
KANGAROO WAY
LLAMA ST
MARMOSET ST
MUIRFIELD CIR
MUIRFIELD DR
MUIRFIELD LN
MUIRFIELD ST
MUIRFIELD WAY
NUTRIA ST
OKAPI ST
PUMA ST
ROYAL CIR
ROYAL CT
ROYAL RD
SAINT ANDREWS LN
SAINT ANDREWS ST
TURNBERRY CIR
TURNBERRY LN
TURNBERRY ST
TURNBERRY WAY
WILLIAMS DR
WOLVERINE CIR
WOLVERINE DR
WOLVERINE LN
WOLVERINE ST
WOLVERINE WAY
YORK CIR
YORK ST
ZEBRA ST
ZEBRA WAY
ZEBU ST
ZEBU WAY
ZEBULON ST
ZEBULON WAY
ZEBRA CIR
ZEBRA CT
ZEBRA LN
ZEBRA WAY
ZEBU CIR
ZEBU CT
ZEBU LN
ZEBU WAY
ZEBULON CIR
ZEBULON CT
ZEBULON LN
ZEBULON WAY
ZEBRA ST
ZEBU ST
ZEBULON ST
ZEBRA WAY
ZEBU WAY
ZEBULON WAY
ZEBRA CIR
ZEBRA CT
ZEBRA LN
ZEBU CIR
ZEBU CT
ZEBU LN
ZEBULON CIR
ZEBULON CT
ZEBULON LN

Appendix A

Ramsey City-wide

Storm Water Pollution Prevention Plan

City of Ramsey, Minnesota

2006 Stormwater Pollution Prevention Program



Prepared

~~**May 31, 2006**~~
Revised February 4, 2009

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2-Public Participation/ Involvement....26
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Executive Summary

The City of Ramsey is required to apply for coverage under the National Pollutant Discharge Elimination System Phase II/ State Disposal System program as administered by the US Environmental Protection Agency and the Minnesota Pollution Control Agency. This document outlines the steps Ramsey will take during the next permit cycle of 5 years to reduce stormwater pollution and is commonly referred to as a Stormwater Pollution Prevention Plan (SWPPP).

The SWPPP must address six (6) major areas:

Public Education and Outreach
Public Participation/ Involvement
Illicit Discharge Detection and Elimination
Construction Site Stormwater Runoff Control
Post-Construction Stormwater Management in New Development and Redevelopment
Pollution Prevention/ Good Housekeeping

Detailed sheets have been developed addressing sub-topics in each of these areas. Goals and timelines have been established for each sheet. The City will prepare an annual report summarizing the activities for the past year. The report will be available for review at the annual meeting held for review of the SWPPP. Comments received will be evaluated and incorporated into the SWPPP and annual report as appropriate.

The City of Ramsey currently has systems in place for reviewing new construction plans and requiring installation of erosion control measures prior to construction. This includes notifications and corrective measures for sites found to be out of compliance with the requirements. The City participates in the Environmental Expo held every spring. Information is distributed on methods to reduce stormwater pollution. The new resident packet contains useful information on recycling, lawn care and is distributed to all who purchase new homes in the city.

The City has inspected all known outfalls where stormwater leaves the boundaries of the city annually since 2003. These inspections were during dry weather and flows were not observed during the inspections. This is a good indicator that sanitary sewer lines are not connected to the storm sewer system. The inspection program has been expanded to include inspecting 20% of the ponds annually.

The city will be improving the website content and establishing a collection of educational materials for various audiences as part of this new permit.

The City of Ramsey has programs in place for reducing stormwater pollution and this SWPPP is a guide for additional measures that will be implemented over the next 5 years to further improve the stormwater quality in Ramsey. The City has adopted a stormwater pollution control ordinance to guide plan reviews for new development and construction of those new developments.
7

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Introduction

The City of Ramsey is bordered by two natural flowing rivers, the Mississippi River and the Rum River and is therefore committed to protecting the quality of water and limiting the impacts of new developments on our watershed. Ramsey is required to apply for a permit from the National Pollutant Discharge and Elimination System Phase II/ State Disposal System program as administered by the United States Environmental Protection Agency (EPA) and the Minnesota Pollution Control Agency (MPCA). The permit requires preparation of a Stormwater Pollution Prevention Plan (SWPPP). This document is the SWPPP for Ramsey Minnesota. Portions of this document were prepared for the 2003 permit application. The 2003 permit were challenged in court and modifications were required as a result of the challenge.

Self-Assessment Description

Before beginning to select BMPs and Measurable Goals, city staff undertook a self-assessment of our city's stormwater system. This was an evaluation of our city's conditions, needs, and practices. The objective of this process was to provide a knowledge base upon which to structure our SWPPP in order to meet the Permit's Maximum Extent Practicable standard.

The self-assessment was guided by materials included in the League of Minnesota Cities NPDES Phase II MS4 Guide Plan. This self-assessment process had two major components:

- The first workshop session organized as part of the LMC Guide Plan project included a self-assessment component led by Pat Collins of AMEC Earth & Environmental. This included:
    - discussion of physical and socio-political watershed and organizational conditions and issues that should guide the selection of BMPs and Measurable Goals
    - review of two examples of cities with different characteristics to demonstrate how local conditions should shape the selection of BMPs and Measurable Goals
    - a series of exercises in which our city staff considered the local conditions for our community and how they should guide our selection of BMPs and Measurable Goals.
- After the workshop session, we worked with the NPDES Phase II Program Assessment Questionnaire that was included in the LMC Guide Plan notebook. This was a twelve-page document with a comprehensive list of questions that we used to guide us through a self-assessment activity, including consideration of a wide range of stormwater approaches.

The results of this process include:

- a set of understandings among city staff
- written notes of the self assessment meeting
- completed Program Assessment Questionnaires from key personnel

Together, these items represent our knowledge of our local stormwater system and the conditions that shape it. We have used the results of this self-assessment process to guide our selection of BMPs and Measurable Goals that make up the SWPPP for our Permit Application.

Based on this self-assessment process, our staff has considered the following factors in order to meet the Maximum Extent Practicable standard set forth in the Permit:

- sources of pollutants
- potentially polluting activities being conducted in the watershed
- sensitivity of receiving waters

- uses of receiving waters
- specific local concerns
- the size of our community
- climate
- implementation schedules
- current ability to finance stormwater programs
- hydrology
- geology
- capacity to perform operation & maintenance
- local land uses
- rate and type of development
- characteristics of our watershed
- organizational characteristics of our city.

In addition to the self-assessment process discussed above, our staff has also considered the following non-stormwater discharges to determine whether they should be identified as significant contributors of pollutants to our stormwater system:

- water line flushing
- landscape irrigation
- diverted stream flows
- rising ground waters
- uncontaminated ground water infiltration
- uncontaminated pumped ground water
- discharges from potable water sources
- foundation drains
- air conditioning condensation
- irrigation water
- springs
- water from crawl space pumps
- footing drains
- lawn watering
- individual residential car washing
- flows from riparian habitats and wetlands
- de-chlorinated swimming pool discharges
- street wash water
- discharge or flows from fire fighting activities.

During the self-assessment process, the City of Ramsey did not find any of the additional referenced non-stormwater discharges listed above to be significant contributors of pollutants to the stormwater system.

The Rum River and Mississippi River are classified as Outstanding Resource Value Waters and new discharges are prohibited or restricted. The rivers and Rogers Lake in the northeast corner of the City are classified as impaired waters, discharges will be required to meet Total Maximum Daily Load targets as they are established. An Impaired Waters BMP Summary sheet and a Protected Discharge Assessment BMP Summary Sheet have been added after the Minimum Control Measure 6 sheets.

Minimum Control Measure Summary

The Revised Permit requires developing goals in six (6) areas which are: Public Education and Outreach, Public Participation/ Involvement, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post Construction Stormwater Management in New Construction and Redevelopment and Pollution Prevention/ Good Housekeeping. This document contains the 34 Best Management Practice Summary Sheets (BMPs) required for a complete permit application. The Minimum control measures are as follows:

Public Education and Outreach

Key to Unique BMP ID Numbers	Required BMP Title	Permit Reference
1a-1	Distribute Educational Materials	**V.G.1.a**
1b-1	Implement an Education Program	**V.G.1.b**
1c-1	Education Program: Public Education and Outreach	**V.G.1.c**
1c-2	Education Program: Public Participation	**V.G.1.c**
1c-3	Education Program: Illicit Discharge Detection and Elimination	**V.G.1.c**
1c-4	Education Program: Construction Site Run-off Control	**V.G.1.c**
1c-5	Education Program: Post-Construction Stormwater Management in New Development and Redevelopment	**V.G.1.c**
1c-6	Education Program: Pollution Prevention/Good Housekeeping for Municipal Operations	**V.G.1.c**
1d-1	Coordination of Education Program	**V.G.1.d**
1e-1	Annual Public Meeting	**V.G.1.e**

Public Participation/ Involvement

Key to Unique BMP ID Numbers	Required BMP Title	Permit Reference
2a-1	Comply with Public Notice Requirements	**V.G.2.a**
2b-1	Solicit Public Input and opinion on the Adequacy of the SWPPP	**V.G.2.b**
2c-1	Consider Public Input	**V.G.2.c**

Illicit Discharge Detection and Elimination

Key to Unique BMP ID Numbers	Required BMP Title	Permit Reference
3a-1	Storm Sewer System Map	**V.G.3.a**
3b-1	Regulatory Control Program	**V.G.3.b**
3c-1	Illicit Discharge Detection and Elimination Plan	**V.G.3.c**
3d-1	Public and Employee Illicit Discharge Information Program	**V.G.3.d**
3e-1	Identification of Non Stormwater Discharges and Flows	**V.G.3.e**

Construction Site Stormwater Runoff Control

Key to Unique BMP ID Numbers	Required BMP Title	Permit Reference
4a-1	Ordinance or other Regulatory Mechanism	**V.G.4.a**
4b-1	Construction Site Implementation of Erosion and Sediment Control BMPs	**V.G.4.b**
4c-1	Waste Controls for Construction Site Operators	**V.G.4.c**
4d-1	Procedure for Site Plan Review	**V.G.4.d**
4e-1	Establishment of Procedures for the Receipt and Consideration of Reports of Stormwater Noncompliance	**V.G.4.e**
4f-1	Establishment of Procedures for Site Inspections and Enforcement	**V.G.4.f**

Post-Construction Stormwater Management In New Development And Redevelopment

Key to Unique BMP ID Numbers	Required BMP Title	Permit Reference
5a-1	Development and Implementation of Structural and/or Non-structural BMPs	**V.G.5.a**
5b-1	Regulatory Mechanism to Address Post Construction Runoff from New Development and Redevelopment	**V.G.5.b**
5c-1	Long-term Operation and Maintenance of BMPs	**V.G.5.c**
5d-1	Maintenance of Surface Water Protection Area	**IX.H**

Pollution Prevention/Good Housekeeping

Key to Unique BMP ID Numbers	Required BMP Title	Permit Reference
6a-1	Municipal Operations and Maintenance Program	**V.G.6.a**
6a-2	Street Sweeping**	
6b-2	Annual Inspection of All Structural Pollution Control Devices	**V.G.6.b.2**
6b-3	Inspection of a Minimum of 20 percent of the MS4 Outfalls, Sediment Basins and Ponds Each Year on a Rotating Basis	**V.G.6.b.3**
6b-4	Annual Inspection of All Exposed Stockpile, Storage and Material Handling Areas	**V.G.6.b.4**
6b-5	Inspection Follow-up Including the Determination of Whether Repair, Replacement, or Maintenance Measures are Necessary and the Implementation of the Corrective Measures	**V.G.6.b.5**
6b-6	Record Reporting and Retention of all Inspections and Responses to the Inspections	**V.G.6.b.6**
6b-7	Evaluation of Inspection Frequency	**V.G.6.b.7**

Summary of Ramsey Program

The City of Ramsey reviews all new subdivision plans at least 3 times prior to authorizing construction. The plan reviews look at stormwater ponding, rate control and erosion control. The plans for all developments over 1 acre are also reviewed by the Lower Rum River Water Management Organization (LRRWMO). The City has aligned its requirements with those of the LRRWMO to provide consistent guidelines for developers.

The City of Ramsey currently has a system in-place for issuing notices to contractors that do not properly maintain erosion control measures. The City adopted a Stormwater Pollution Control Ordinance which went into effect January 2007. It incorporated the conditions spelled out in the model ordinance provided by the MPCA. The city sweeps all streets in the spring to collect sand and prevent it from washing into the storm sewer system. The city also sweeps all streets in the fall to collect leaves. All outfalls where water leaves the MS4 boundaries have been inspected annually since 2003. These inspections were all during dry weather and discharges have not been detected during these inspections. The database of stormwater structures has been created listing the outfalls, ponds and structural water quality treatment structures. This list is used for scheduling inspections and tracking of repairs performed on the system.

The city will be improving the website content and establishing a collection of educational materials for various audiences as part of this new permit.

The City of Ramsey has programs in place for reducing stormwater pollution and this SWPPP is a guide for additional measures that will be implemented over the next 5 years to further improve the stormwater quality in Ramsey.

Ramsey is bounded by the Rum and Mississippi Rivers which are classified as restricted discharge waters. The area adjacent to the Rum River is mostly developed; redevelopment is not anticipated in the near future. The majority of the development is large lot single family residences with wells and septic systems. The bank area between the houses and the water's edge is natural vegetation; pipes have been pushed from the top to the bottom of the bank to provide an outlet for stormwater. Most of the pipes connect to vegetated ditches that provide drainage for the roadway areas. There is one development with urban lots served by municipal sewer, water and storm sewer. One development was approved within the last the 16 years; the remainder were constructed previous to that time. There are ponding areas immediately adjacent to the Rum River Outfalls. They are inspected when the outfalls are inspected each year. A water quality treatment structure was added to upstream of an outfall to the Rum River when drainage improvements were required in the area. This is the proposed course of action for adding additional water quality treatment structures along the Rum River.

The Mississippi River is also bounded by a combination of large lot single family residences and urban lots. The recent urban lots were developed with ponds to provide water quality treatment. The older developments may be retrofitted with water quality treatment structures when other work is required in the area. A county park occupies a significant portion of the undeveloped area along the Mississippi River, minimal development is proposed for this park. There are several large tracts under consideration by developers at this time. The schedule for development has not been established; however, these new developments will be within 2000 feet of the river and will require additional storm water measures under the Construction Permit Program prior to being approved.

The storm drainage for the City ultimately reaches the Rum or Mississippi Rivers except for some land locked basins. The land locked basins are connected to areas that drain to the rivers when feasibility studies indicate a benefit will be provided by the improvement. The rivers are the only available

outlets from stormwater discharge from the City of Ramsey and are listed as restricted discharges. The City will be incorporating volume reduction strategies into the Post Construction Stormwater Ordinance.

The 2008 Comprehensive report summarizes the land uses and projected changes through 2030. The data is tabulated below:

Land Use Classification	% City Land Area 2008	% City Land Area 2030	% Change
Agricultural/ Vacant	17		-*
Rural Developing		35	-*
Commercial/ Industrial/ Multifamily	6	10	4
Single Family Residential	38	15	-*
Park/ Quasi Public	7	9	2
Right-of-Way (State, County, Railroad, City)	11	11	0
Water/ Wetland	21	21	0

-* Classifications changed

The 2030 projections show a combination and re-division of the present Agricultural/ Vacant and Single Family Residential categories into Rural Developing and Single Family Residential categories. A slight increase is projected for the Commercial/ Industrial/ Multifamily The Parks and Right-of-Way will also increase as a result of the projected development.

All new developments are reviewed by the City and the LRRWMO prior to construction and must limit the rate of discharge from the site to pre-development rates and provide water quality treatment. Developments within the corridors adjacent to the rivers must meet density and open space standards along with preserving natural vegetation. The City adopted an updated Surface Water Management Plan in 2008 which will require all future developments to limit the rate of stormwater discharge to 75% of the existing discharge. This will be combined with the new Post Construction Discharge ordinance to address new or expanded discharges to the Rum and Mississippi rivers. Prohibiting all new stormwater discharges will deprive landowners of full use of their property and is contrary to the goals of the Metropolitan Council and the City of Ramsey Comprehensive Plan. The City of is Ramsey included in the 2030 Guide Plan for the Metropolitan Council which is looking at managing growth for the region. The new ordinance will be drafted to accommodate the required growth and limit discharges.

The City has modified construction plans to protect endangered species. The state list of endangered and threatened species is reviewed when developments are proposed near potential habitat. The City has a wetland buffer ordinance which also requires evaluation of potential impacts to endangered species habitat. Projects adjacent to potential habitat will be reviewed by the LRRWMO and with other agencies as appropriate.

The City is not aware of any properties eligible for listing in the National Register of Historic Places or Archeological sites. Environmental Assessment Worksheets have been completed for numerous projects in the city. These reports have not identified Historic or Archaeological sites within the boundaries of the city. We will continue to review all proposals for development and will require additional protection measures be implemented if sites of significance are identified in or adjacent to proposed developments.

The Drinking Water Supply Management Area has been mapped by the Minnesota Department of Health. The map is included in Appendix 2. The mapped area includes existing developments and the Ramsey Town Center Project. The Ramsey Town Center project utilizes regional ponds for stormwater rate control with additional water quality treatment practices required on each site in the development. Several of the regional ponds will have liners to maintain water levels for aesthetic purposes. The liners will prevent stormwater from entering the groundwater in the Drinking Water Supply Management Area.

Appendix 1

Best Management Practice Summary Sheets

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: **1-Public Education And Outreach**

Unique BMP Identification Number: 1a-1

***BMP Title:** Distribute Educational Materials

***BMP Description:**

The City of Ramsey will distribute educational materials to the general public including City residents, homeowners, business owners and school children.

Location(s) in SWPPP of detailed information relating to this BMP:

The specific materials and audiences are described in 1c-1 – 1c-6.

***Measurable Goals:**

The effectiveness of the BMP will be measured by :

- recording the number of calls received in response to the educational materials
- recording the number of stormwater management assistance requests
- conduct period surveys to assess the implementation of methods

***Timeline/Implementation Schedule:**

In the 2009 the City will compile an inventory of existing educational materials and identify distribution formats beyond the periodic City news letter.
On an ongoing basis the city shall publish materials a minimum of four times in the City periodic newsletter, The Ramsey Resident.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH

Unique BMP Identification Number: 1b-1

***BMP Title:** Implement an Education Program

***BMP Description:**

The education program will consist of brochures, handouts, web page content, posters, displays and community interaction. The program will explore placing public service announcements with local media outlets.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Record the distributions outlets and materials distributed to the public.

***Timeline/Implementation Schedule:**

Annually - Prepare report on the locations and numbers of the educational materials distributed.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey
Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH
Unique BMP Identification Number: 1c-1

***BMP Title:** Education Program: Public Education and Outreach

***Audience(s) Involved:**

General public including city residents, homeowners, business owners and school students (K-12)

***Educational Goals for Each Audience:**

Increase public awareness and understanding of stormwater runoff and pollution potentials with in the community.
Demonstrate correlation between stormwater runoff and water quality.

***Activities Used to Reach Educational Goals:**

1. Stormwater Hotline
2. Website pages with stormwater information and links
3. Participate in annual Environmental Expo
4. Place articles in the Ramsey Resident regarding stormwater

***Activity Implementation Plan:**

Annually - prepare report on activities conducted.
Ongoing -Stormwater Hotline
Semiannually Update -Website pages with stormwater information and links
Annually each spring - Participate in City sponsored Environmental Expo
Quarterly - Place articles in the Ramsey Resident regarding stormwater

***Performance Measures:**

Record hotline calls received and response to the calls.
Record website hits, number of participants at educational events, materials handed out and published articles.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey
Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH
Unique BMP Identification Number: 1c-2

***BMP Title:** Education Program: Public Participation

***Audience(s) Involved:**

General Public including City Residents, homeowners and business owners.

***Educational Goals for Each Audience:**

Increase public awareness and understanding of stormwater issues within the community.
Inform and educate the public about the impacts of stormwater runoff on water quality and what they can do to actively protect local lakes and streams from polluted stormwater runoff.
Inform and educate the public about how the City manages stormwater runoff through its' Stormwater Pollution Prevention Program (SWPPP).

***Activities Used to Reach Educational Goals:**

The City will report in the Ramsey Resident on activities related to managing stormwater and implementing the SWPPP. Topics for the newsletter may include information about the water quality of our City lakes and streams; events and programs the public can participate in to raise awareness about stormwater impacts; specific stormwater management activities the City is implementing; and the stormwater budget/ fees.
Displays and handouts will be available at the annual Environmental Expo.

***Activity Implementation Plan:**

Annually – Publish articles on stormwater management and the SWPPP in the Ramsey Resident, update web content.
Annually in spring – Participate in the Environmental Expo.
Ongoing – provide pet waste bags in city parks

***Performance Measures:**

Survey citizens to determine if stormwater articles were read and if their knowledge of stormwater issues was increased.
Track number of persons participating in Environmental Expo.
City will evaluate effectiveness of Education program after 2 years and make adjustments as needed to make program more effective.
Pet waste bag dispensers have been placed in parks. The public is using the bags, reducing the amount of waste before it can wash into ponds and wetlands.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH

Unique BMP Identification Number: 1c-3

***BMP Title:** Education Program: Illicit Discharge Detection and Elimination

***Audience(s) Involved:**

The City of Ramsey will distribute educational materials to the general public including City residents, homeowners, business owners and City Staff regarding Illicit Discharge Detection and Elimination.

***Educational Goals for Each Audience:**

Raise public awareness of illicit discharges within all groups.
Educate city staff on ways to detect potential illicit discharges.

***Activities Used to Reach Educational Goals:**

Insert brochures in new resident packet.
Provide information to business owners.
Educate Public Works staff during monthly meetings.
Provide display at environmental expo calling attention to potential for illicit discharge

***Activity Implementation Plan:**

Annually in December - Update brochures for new resident packet
Annually in Spring – Provide display at the environmental expo
Biannually in even numbered years - Send information to business owners
Biannually in even numbered years - review keys to recognition of illicit discharges with Public Works staff

***Performance Measures:**

Record training dates
Record contacts with business owners and training sessions
Prepare summary report of environmental expo

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey
Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH
Unique BMP Identification Number: 1c-4

***BMP Title:** Education Program: Construction Site Run-off Control

***Audience(s) Involved:**

Developers(including their Engineers and Contractors) and City Staff

***Educational Goals for Each Audience:**

Reinforce the need for use and maintenance of erosion control BMP's on construction sites.

***Activities Used to Reach Educational Goals:**

Publish Ramsey BMP construction activity guide
Comment on erosion control practices on site plan reviews
Review erosion control issues at preconstruction conferences with contractors

***Activity Implementation Plan:**

2009 - The codification of the BMPs will take place as noted in section 5 of City Code.
Ongoing as site plans, building permits and construction projects occur.

***Performance Measures:**

Record number of site plan, building permits and construction projects reviews.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH

Unique BMP Identification Number: 1c-5

***BMP Title:** Education Program: Post-Construction Stormwater Management in New Development and Redevelopment

***Audience(s) Involved:**

The City of Ramsey will distribute educational materials to the general public including City residents, homeowners, business owners and City Staff regarding Post-Construction Stormwater Management in New Development and Redevelopment.

***Educational Goals for Each Audience:**

Increase public awareness and understanding of stormwater runoff and pollution potentials with in the community. Demonstrate correlation between stormwater runoff and water quality.

***Activities Used to Reach Educational Goals:**

The materials developed in 1c-1 will be used in this BMP also.

***Activity Implementation Plan:**

The schedule will be the same as 1c-1.

***Performance Measures:**

See section 1c-1.

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH

Unique BMP Identification Number: 1c-6

***BMP Title:** Education Program: Pollution Prevention/Good Housekeeping for Municipal Operations

***Audience(s) Involved:**

City Public Works Staff

***Educational Goals for Each Audience:**

Review need for an increased awareness of Good Housekeeping practices in municipal operations within the Public Works Department.

***Activities Used to Reach Educational Goals:**

Brochures, handouts and training sessions.

***Activity Implementation Plan:**

Annually – at one of the monthly public works all staff meetings.

***Performance Measures:**

Annually – report on training session conducted

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH

Unique BMP Identification Number: 1d-1

***BMP Title:** Coordination of Education Program

***BMP Description:**

Annually review the content of programs and brochures being used within the program. Update materials were necessary and review related agency materials for consideration of new or improved materials.

Location(s) in SWPPP of detailed information relating to this BMP:

BMP 1

***Measurable Goals:**

Report on program content and material changes.

***Timeline/Implementation Schedule:**

Annually - prepare report on material and program modifications

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: PUBLIC EDUCATION AND OUTREACH

Unique BMP Identification Number: 1e-1

***BMP Title:** Annual Public Meeting

***BMP Description:**

Hold annual public meeting. Meeting will be scheduled to allow time for preparation of annual report for previous calendar year. Annual report will be available at the meeting for review. Comments received will be reviewed and incorporated in the annual report as appropriate.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Advertise and hold annual meeting.

***Timeline/Implementation Schedule:**

Annually – hold annual meeting.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: **2-Public Participation/ Involvement**

Unique BMP Identification Number: 2a-1

***BMP Title:** Comply with Public Notice Requirements

***BMP Description:**

The annual meeting will be advertised at least 30 days in advance. The paper used for all official notices of the city will be used. The meeting date will also be posted at City Hall and on the website.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Record notice of Publication of notice in annual report.

***Timeline/Implementation Schedule:**

Annually- publish meeting notice.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 2-PUBLIC PARTICIPATION/INVOLVEMENT

Unique BMP Identification Number: 2b-1

***BMP Title:** Solicit Public Input and opinion on the Adequacy of the SWPPP

***BMP Description:**

The SWPPP will be available at City Hall in the Engineering Department and on the Website. Instructions for providing written comments will be available. Contact information is provided to accommodate written and oral comment.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Recording the number of responses and comments on the SWWPPP
Record attendance at the annual meeting

***Timeline/Implementation Schedule:**

Annually – Hold public meeting

Annually- Submit comments provided by the public in the annual report..

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey
Minimum Control Measure: 2-PUBLIC PARTICIPATION/INVOLVEMENT
Unique BMP Identification Number: 2c-1

***BMP Title:** Consider Public Input

***BMP Description:**

Public input will be gathered from review of the SWPPP and at the Annual meeting. The information gathered will be reviewed and a response shall address the concern or comment. A summary of proposed changes to the SWPPP will be addressed in the annual report.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Hold public meeting
Record comments and responses on the SWPPP into the annual report.

***Timeline/Implementation Schedule:**

Annually – Prepare report, hold meeting and submit report to MPCA

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: **3-Illicit Discharge Detection And Elimination**

Unique BMP Identification Number: 3a-1

***BMP Title:** Storm Sewer System Map

***BMP Description:**

The City of Ramsey will develop a Storm Sewer System Map that will assist us in determining the presence of Illicit Discharges. The map will also aid in inspection of the storm sewer system and to prioritize the annual maintenance required to optimize the use of the storm sewer system to reduce pollution in disharges to the waters of the State.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Completed Storm Sewer System Map
Identification of needed maintenance

***Timeline/Implementation Schedule:**

December 2006 – Compilation of As-built information
December 2007 – Completion of Storm Sewer System Map
June 30, 2008 Storm Sewer System Map Completed
Annually – Update map with new projects and reconstruction

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 3-ILLICIT DISCHARGE DETECTION AND ELIMINATION

Unique BMP Identification Number: 3b-1

***BMP Title:** Regulatory Control Program

***BMP Description:**

The State of Minnesota has regulations prohibiting the connection of non-stormwater discharges into the storm sewer system. The City has adopted an Individual Sewage Treatment System Ordinance. The city will adopt an Illicit Discharge Detection and Elimination Ordinance.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Completed review of existing regulations
Adopt new ordinance

***Timeline/Implementation Schedule:**

December 2006 - Completed draft ordinance
December 2007 - Completed ordinance

Specific Components and Notes:

The city has inspected all known outfalls from the MS4 to the Rum and Mississippi Rivers annually since 2003. These were all dry weather inspections and flow was not observed in the pipes during these inspections.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 3-ILLICIT DISCHARGE DETECTION AND ELIMINATION

Unique BMP Identification Number: 3c-1

***BMP Title:** Illicit Discharge Detection and Elimination Plan

***BMP Description:**

The City of Ramsey currently offers a recycling program to the residents. The program includes curbside pickups and a semi-annual recycling day for electronics and larger items not accepted in the curbside program. The City of Ramsey has been recognized by Anoka County for exceeding participation goals in the recycling program.

The City has had a mandatory septic tank pumping ordinance in place since 2005.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Completed Recycling days
Quantity of materials recovered from solid waste stream
Number of septic systems reported pumped

***Timeline/Implementation Schedule:**

Annually – report number of septic systems pumped
Annually – inspect outfalls and act on dry weather flows observed

Specific Components and Notes:

Curbside recycling
"Recycling Day"
Maintenance vehicle liquid recycling
The city has inspected all known outfalls from the MS4 to the Rum and Mississippi Rivers annually since 2003. These were all dry weather inspections and flow was not observed in the pipes during these inspections.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 3-ILLICIT DISCHARGE DETECTION AND ELIMINATION

Unique BMP Identification Number: 3d-1

***BMP Title:** Public and Employee Illicit Discharge Information Program

***BMP Description:**

Education of Employees and Public on Illicit Discharge Program

Ramsey will develop a strategy to inform City Employees, property owners, local businesses and the public about the hazards associated with illicit discharges and improper waste disposal.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

City staff trained in Illicit Discharge Recognition.
Distribution of educational materials on Illicit Discharge Detection and Elimination.
Summarize recycling volume in annual report
Include summary of disseminated educational material with annual report

***Timeline/Implementation Schedule:**

Annually review shop procedures regarding vehicle fluids
June 2009 compile resources for Illicit Discharge Recognition training Program
January 2010 Complete staff Illicit Discharge Recognition Training
Annually IDDE refresher training, disseminate literature

Specific Components and Notes:

Use "Rubber Ducky" or similar public service announcements via local cable
Review maintenance vehicle fluid procedures at Employee meetings
Distribute recycling information to residents through newsletter, website and Environmental Expo

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 3-ILLICIT DISCHARGE DETECTION AND ELIMINATION

Unique BMP Identification Number: 3e-1

***BMP Title:** Identification of Non Stormwater Discharges and Flows

***BMP Description:**

The City is in the process of indentifying drainage areas and has completed a comprehensive stormwater model for all drainage areas in the City. The model will be used in conjunction with the Storm Sewer Map and field observations to determine areas where illicit discharges may exist.

The City will develop a process to determine whether any of the following categories of non-stormwater discharges or flows are significant contributors of pollutants to our MS4:

Waterline flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated groundwater infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, de-chlorinated swimming pool discharges, street wash water, and discharges or flows from fire fighting activities.

For any non-stormwater discharges or flows which the City finds to be a significant contributor of pollutants to the MS4 the City will develop an action plan to evaluate and address the impact the discharge is having on stormwater quality.

Location(s) in SWPPP of detailed information relating to this BMP:

MCM 3.C

***Measurable Goals:**

Completion of the study
Develop a process to investigate and evaluate the potential for the non-stormwater discharges identified above to be significant contributors of pollutants to our MS4.
Conduct investigation and evaluation of non-stormwater discharges and flows.
Develop an action plan for flows identified as significant contributors of pollutants to our MS4.
Implement action plan for significant non-stormwater discharges and flows.

***Timeline/Implementation Schedule:**

May 2007 – Selected Consultant to prepare comprehensive stormwater study
October 2008 – City Council accepted comprehensive stormwater study
August 2009 Complete ordinance modifications required in comprehensive stormwater study.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: **4-Construction Site Stormwater Runoff Control**

Unique BMP Identification Number: 4a-1

***BMP Title:** Ordinance or other Regulatory Mechanism

***BMP Description:**

Construction Site Stormwater Runoff Control and Enforcement is addressed in section 9.27 of City Code and went into effect on January 2, 2007.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Adoption of Ordinance

***Timeline/Implementation Schedule:**

June 2006 Adopt Ordinance
Ongoing - Work with builders to raise awareness of ordinance and enforce provisions of ordinance.

Specific Components and Notes:

Required Components in ordinance:

- Submittal of Erosion and Sediment Control plans by site Operators to MS4
- Site Plan Review and Approval before construction
- Site operators maintain records on rainfall and inspections
- Regular inspections by site operators
- Specify requirements for dewatering or basin draining at site
- Specify requirements for BMP maintenance
- Specify controls for managing solid and hazardous wastes
- Specify requirements for permanent stormwater controls
- Specify requirements for perennial vegetative cover on exposed soils
- Compliance includes Verbal warnings, written warnings, stop-work orders, fines, forfeit of security bond money and/or withholding of certificate of occupancy.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 4-CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Unique BMP Identification Number: 4b-1

***BMP Title:** Construction Site Implementation of Erosion and Sediment Control BMPs

***BMP Description:**

Installation and maintenance of erosion control measures on construction sites.

The City of Ramsey will continue to utilize the MPCA "Protecting Water Quality in Urban Areas" manual, BWSR "MN Construction Site Erosion and Sediment Control" handbook, Met Council's "Small Site BMP" manual and the MPCA " Minnesota Stormwater Manual" for BMP selection. Developers are directed to these manuals for preparation of their plans. City review of all development plans requires incorporation of the BMPS presented in these manuals.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Ongoing – Review and comment on erosion control measures on construction plans in conjunction with Preliminary and Final Plat Approvals

***Timeline/Implementation Schedule:**

Ongoing - The city currently reviews and comments on erosion control measures and BMP's on all construction plans. The process continues in the field, our construction observers monitor all construction sites and issue repair notices to sites where BMP's are not controlling erosion.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 4-CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Unique BMP Identification Number: 4c-1

***BMP Title:** Waste Controls for Construction Site Operators

***BMP Description:**

City Code requires dumpsters or debris containment areas on all construction sites. Inspections can be withheld if debris is not picked up.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Minimize complaints from residents about construction debris.

***Timeline/Implementation Schedule:**

Ongoing – review construction site waste controls, enforce existing regulations.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 4-CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Unique BMP Identification Number: 4d-1

***BMP Title:** Procedure for Site Plan Review

***BMP Description:**

The City development approval process includes three (3) phases, Sketch Plan, Preliminary Plat and Final Plat for subdivision of land. Site plans have 2 phases Preliminary Site plan and Final Site Plan. Staff reviews the plans at each phase and provides a review letter to the development team. Sites over 1 acre also require a permit from the Lower Rum River Water Management Organization (LRRWMO). The reviews from both agencies address erosion control, temporary sedimentation basins and final stormwater ponding requirements. The city has established a system of notices for construction site erosion control problems. The notices are provided to the contractor specifying the work to be done and the timeframe to complete the work. The system includes means for the City to perform the work if the contractor fails to act.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Continue plan review; implement changes in process if necessary.

***Timeline/Implementation Schedule:**

Ongoing – review development plans, require implementation of appropriate Construction Site BMPs for controlling stormwater runoff.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 4-CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Unique BMP Identification Number: 4e-1

***BMP Title:** Establishment of Procedures for the Receipt and Consideration of Reports of Stormwater Noncompliance

***BMP Description:**

The current system of erosion control notices addresses Stormwater Noncompliance. A Stormwater Hotline and website will be added to provide additional avenues for reporting stormwater violations. Currently, calls received on violations are routed to field staff for observation of the condition and preparation of a notice as necessary.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Record all calls received including corrective measures performed.
Record all notices issued for stormwater noncompliance.

***Timeline/Implementation Schedule:**

December 2006 – Implement Hotline and Website.
Ongoing - Observe construction sites and issue notices as needed; receive and follow-up on calls and web postings regarding stormwater noncompliance.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 4-CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Unique BMP Identification Number: 4f-1

***BMP Title:** Establishment of Procedures for Site Inspections and Enforcement

***BMP Description:**

Inspect construction sites for stormwater noncompliance. Issue notices for corrective actions, follow-up to ensure compliance. The City has established a system of notices that are issued for erosion control non-compliance as noted in 4d-1.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Log of completed inspections and notices issued.

***Timeline/Implementation Schedule:**

Ongoing – Continue site inspections, issuing notices and following up on notices.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: **5-Post-Construction Stormwater Management In New Development And Redevelopment**

Unique BMP Identification Number: 5a-1

***BMP Title:** Development and Implementation of Structural and/or Non-structural BMPs

***BMP Description:**

The City of Ramsey will evaluate and select the BMPs necessary to achieve the balance between water quality and water quantity to ensure that the waters of the community are clean and residents and property are not damaged.

The City of Ramsey has accepted innovative water quality treatment devices and will continue to evaluate new technologies for implementation in the City.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Selection of BMPs
Publication of accepted BMPs
Implementation of BMPs

***Timeline/Implementation Schedule:**

December 2007 – BMPs codified
December 2008 – BMPs published

Specific Components and Notes:

Construction erosion and sedimentation control ordinance
Evaluate and select BMPs

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 5-POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

Unique BMP Identification Number: 5b-1

***BMP Title:** Regulatory Mechanism to Address Post Construction Runoff from New Development and Redevelopment

***BMP Description:**

Adoption of Post Construction Runoff Ordinance
The City of Ramsey will have a Post Construction Runoff Ordinance in place within 6 months of extension of permit coverage.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Evaluation of existing ordinance
Adoption of Ordinance

***Timeline/Implementation Schedule:**

December 2008 – Evaluation of Ordinance
December 2009 – Adoption of Ordinance

Specific Components and Notes:

The City of Ramsey currently operates under a Subdivision Ordinance. The City will evaluate the BMPs and existing ordinance to see that the provisions of the SWPPP are being accomplished and develop a Post Construction Ordinance in the 5th year of the permit cycle.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 5-POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

Unique BMP Identification Number: 5c-1

***BMP Title:** Long-term Operation and Maintenance of BMPs

***BMP Description:**

The City of Ramsey will monitor and maintain BMPs installed in the City.

The City established a stormwater utility in 2000. The fund has been used to fund needed storm sewer improvements.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Update storm sewer system database with location of Structural BMPs.
Annual report on BMP maintenance.

***Timeline/Implementation Schedule:**

December 2007 – Update storm sewer system database with Structural BMPs
Annually – Prepare report on maintenance of structural BMPs

Specific Components and Notes:

The City has included a vacuum truck in the 5 year Capital Equipment Plan that can be used for maintenance of structural BMPs (oil/water separators, sump manholes, water quality treatment structures). Current needs are met by contracting for needed services.

The public works department monitors and repairs the current BMPs.

The City acquired a vacuum truck in December 2008 that will be used to maintain the structural BMP's.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 5-POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

Unique BMP Identification Number: 5d-1

***BMP Title:** Maintain Source Water Protection Area

***BMP Description:**

The map of the Source Water Protection Area (SWPA) is included in Appendix 2. The SWPA covers the Ramsey Town Center Area which is bounded on the east by Ramsey Boulevard, on the west by Armstrong Boulevard, on the South by the Burlington Northern Santa Fe Railroad. The northern boundary is approximately at 149th Avenue which is not continuous in this area. The Ramsey Town Center development included regional ponds for rate control, individual developments are required to provide additional treatment on site such as water quality treatment manholes, infiltration basins or pervious pavement. Each proposed BMP is evaluated as part of the plan review process. Several of the regional ponds are lined to maintain water levels and provide water features. These ponds are nearest to most of the municipal water supply wells. The remaining regional ponds are south of the municipal wells. The surface water aquifer flow is from north to south in this area.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Maintain ponds and BMPs in this area. Record work done.
Continue requirement for additional on-site measures as Ramsey Town Center develops.
Coordinate development reviews for this area with Well Head protection requirements to ensure protection of the Drinking Water Source Area.

***Timeline/Implementation Schedule:**

Ongoing – Monitor and maintain ponds and BMPs

Specific Components and Notes:

The City will incorporate the MDH Stormwater Guidance manual into plan reviews for projects in proximity to the wellhead protection areas.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: **6-Pollution Prevention/ Good Housekeeping**

Unique BMP Identification Number: 6a-1

***BMP Title:** Municipal Operations and Maintenance Program

***BMP Description:**

The City of Ramsey will develop a collection of training materials that will be used to educate staff about pollution prevention and good housekeeping. These resources will come from applicable external sources, such as the EPA and may be supplemented with materials developed by our own organization.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Completed training materials
Employee training

***Timeline/Implementation Schedule:**

December – 2006 Evaluation of outside agency materials
December – 2007 Compilation of training resource reference folder
Annual updates

Specific Components and Notes:

Equipment and Hazardous Material Storage
Information Management System
Employee training

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 6-POLLUTION PREVENTION/GOOD HOUSEKEEPING

Unique BMP Identification Number: 6a-2

***BMP Title:** Street Sweeping**

***BMP Description:**

The City of Ramsey will semi-annually sweep the streets of the City to remove potential pollution materials before they can enter the storm sewer system.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Number of lane miles swept

***Timeline/Implementation Schedule:**

Annually

Specific Components and Notes:

Sweeping schedule
Sweeper maintenance schedule.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 6-POLLUTION PREVENTION/GOOD HOUSEKEEPING

Unique BMP Identification Number: 6b-1

***BMP Title:** Annual Inspection of All Structural Pollution Control Devices

***BMP Description:**

Inspection of Structural Pollution Control Devices – the locations of these devices are being compiled as part of the Storm Sewer Mapping program.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Prepare annual report on inspection results

***Timeline/Implementation Schedule:**

December 2007 – Completion of Storm Sewer mapping, database of devices and first round of inspections of Structural Pollution Control Devices.

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 6-POLLUTION PREVENTION/GOOD HOUSEKEEPING

Unique BMP Identification Number: 6b-2

***BMP Title:** Inspection of a Minimum of 20 percent of the MS4 Outfalls, Sediment Basins and Ponds Each Year on a Rotating Basis

***BMP Description:**

Inspection of MS4 Outfalls, Sediment Basins and Ponds on a rotating basis, creating work orders for repairs as needed.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Inspection of 20 percent of the MS4 Outfalls, Sediment basins and Ponds Each Year
Preparation of annual inspection report

***Timeline/Implementation Schedule:**

December 2006 Complete Annual Inspection
Annually thereafter – Complete Inspection

Specific Components and Notes:

The city has identified all of the MS4 outfalls and is still adding ponds to the storm sewer map.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1440
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 6-POLLUTION PREVENTION/GOOD HOUSEKEEPING

Unique BMP Identification Number: 6b-3

***BMP Title:** Annual Inspection of All Exposed Stockpile, Storage and Material Handling Areas

***BMP Description:**

Inspect City owned Stockpile, Storage and Material Handling areas.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Completion of annual inspection report.

***Timeline/Implementation Schedule:**

December 2006 Complete Annual Inspection of exposed Stockpile, Storage and Material Handling Areas

Specific Components and Notes:

The City will be installing an enclosed Salt Storage building in 2006. The current Salt Storage covers the stockpile; however the loading operations are enclosed. This facility will provide room for loading inside. The other material stock piles are located away from storm inlets, ponds and ditches.

***Responsible Party for this BMP:**

Name: Leonard Linton

Department: Engineering

Phone: 763 421-1410

E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*

BMP Summary Sheet

MS4 Name: City of Ramsey

Minimum Control Measure: 6-POLLUTION PREVENTION/GOOD HOUSEKEEPING

Unique BMP Identification Number: 6b-4

***BMP Title:** Inspection Follow-up Including the Determination of Whether Repair, Replacement, or Maintenance Measures are Necessary and the Implementation of the Corrective Measures

***BMP Description:**

Review Inspection notes and schedule appropriate repair, replacement and maintenance measures noted in inspection reports.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Preparation of Inspection Follow-up Report

***Timeline/Implementation Schedule:**

December 2006 Prepare report
Annually thereafter prepare report

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey
Minimum Control Measure: 6-POLLUTION PREVENTION/GOOD HOUSEKEEPING
Unique BMP Identification Number: 6b-5

***BMP Title:** Record Reporting and Retention of All Inspections and Responses to the Inspections

***BMP Description:**

Establish record retention system for all MS4 related Inspections.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Establish and utilize record retention system

***Timeline/Implementation Schedule:**

December 2006 Establish record retention system

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey
Minimum Control Measure: 6-POLLUTION PREVENTION/GOOD HOUSEKEEPING
Unique BMP Identification Number: 6b-6

***BMP Title:** Evaluation of Inspection Frequency

***BMP Description:**

Evaluate Inspection Results and adjust frequency if needed.

Location(s) in SWPPP of detailed information relating to this BMP:

***Measurable Goals:**

Prepare report on evaluation of Inspection Results

***Timeline/Implementation Schedule:**

December 2008 Evaluate inspection results for first 3 years of program.
Annually incorporate latest inspections into evaluation

Specific Components and Notes:

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

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BMP Summary Sheet

MS4 Name: City of Ramsey
Permit Condition: IV.D Section 303(d) listings
Unique BMP Identification Number: IV.D – 1

BMP Title: Impaired Waters Review Process

BMP Description:

The City of Ramsey will review all discharges from our MS4 system to impaired waters, as defined by the current USEPA approved 303(d) list. Using the data from this review, we will determine if any changes to the existing stormwater system or BMPs are needed to minimize the impact of discharges from our MS4 to the impaired waters. If changes are needed the City of Ramsey will modify our SWPPP and submit these modifications to the MPCA with our current annual report.

Measurable Goals:

- The City of Ramsey has determined that discharges from our MS4 system enter the following impaired waters, as defined by the current USEPA approved 303(d) list: (Water Body, Impairment)
    - Mississippi River - Mercury in Fish Tissue, PCB in Fish Tissue
    - Rogers Lake - Aquatic Recreation
    - Rum River - Mercury in Fish Tissue
- This determination was made using the Storm Sewer Map and citywide stormwater model. The mercury TMDL is being addressed state wide and it is assumed the discharge from Ramsey is not a source of mercury. The PCB in fish tissue TMDL plan has not been approved as of June 2008. The TMDL for Rogers Lake is not scheduled to start until 2015.
- The Mississippi River and the Rum River are both classified as ORVW waters. A separate BMP Summary sheet has been prepared for Discharges to Waters with Prohibited or Restricted Discharges Assessment.
- The watersheds, hydrology and impacts will be developed simultaneously for the Impaired Waters and Prohibited Discharge Waters.

Timeline/Implementation Schedule:

December 2008	The City of Ramsey has identified the Rum River, Mississippi River and Rogers Lake as Impaired Waters receiving impacts from its MS4 discharges. A map has been prepared showing the Impaired Waters. A city wide stormwater model has been developed.
May 2009	The City will correlate the Impaired Waters watersheds with the stormwater model and will complete an evaluation of hydrology, land use and runoff. The City will evaluate changes to its storm sewer system to reduce the impacts to the Impaired Waters.
June 30 2009	The City of Ramsey will submit as an attachment to the Annual Report to the MPCA, the assessment, response to any public comments, plan for ongoing work elements and any proposed changes to the SWPPP that have been deemed necessary through this assessment process.
Ongoing	The City of Ramsey will review, evaluate and incorporate changes to the SWPPP as TMDL goals are established and published for these waters.

Specific Components and Notes:

This process is to be reassessed annually over the course of the permit cycle. As new 303(d) lists with additional impaired waters listed are published in the future, City of Ramsey will review changes to the list and conduct the necessary review of additional listed waters likely to be impacted by the MS4's stormwater discharges.

When an USEPA approved TMDL is finalized, the City of Ramsey intends to fully comply with all limits and requirements set forth in the TMDL in accordance with the schedule(s) outlined in the TMDL and the MS4 Permit.

Responsible Party for this BMP:

Name: Leonard Linton

Department: Engineering

Phone: 763 427-1410

E-mail: llinton@ci.ramsey.mn.us

BMP Summary Sheet

MS4 Name: City of Ramsey

Permit Condition: IX. Appendix C. Part A and/or Part B.

Unique BMP Identification Number: IX. A. and/or IX. B.

***BMP Title:** Discharges to Waters with Prohibited or Restricted Discharges Assessment

***BMP Description:** City of Ramsey Practices for discharges to ORVW waters

- This BMP includes establishment of a baseline of information– determine what processes are in place and what has already been accomplished that will help meet the permit conditions
- This BMP includes preparation of a written inventory of all stormwater discharges to the prohibited or restricted water(s) from within the jurisdictional boundaries of the MS4; compile necessary detail about the stormwater discharges to assess the impacts and alternatives
- Prepare a map that includes all the delineated sub-watershed(s) covering the MS4 that discharge to the ORVW, including the identified discharge points and routes to the ORVW waters that the MS4 discharge may impact.
- Evaluate past and future changes in the watersheds, projected out at least through the year 2020.
- Determine if a new or expanded discharge has or would occur and the magnitude of the potential changes.
- Evaluate alternatives to the discharge.
- Propose methods of eliminating the discharge.

Activity Implementation Plan

As an MS4 located within a watershed that discharges to ORVW waters, City of Ramsey will submit an assessment and other documentation required in Appendix C of permit MNR040000 of which the following are major components:

1. The City of Ramsey topography generally slopes from northwest to southeast. The eastern boundary is the Rum River and the southern boundary is the Mississippi River. Both Rivers are designated ORVW's. Many of the developments in the City, especially along the rivers, were in place prior to designation of the rivers as ORVW's. Development has continued since the designation and the level of storm water treatment has increased with time. Development is anticipated to continue in the future.

2. The City has prepared a stormwater model for the entire city based on the existing storm sewer system. The model has identified areas that are landlocked and do not discharge to the rivers, excluding these areas all runoff reaches either the Rum River or the Mississippi River.

3. The City has prepared a map showing when plats were approved for determination of where discharges have occurred since the ORVW was designated. It appears that new or expanded discharges have occurred since the ORVW was designated. The City has prepared a stormwater model for the entire city that will be used in conjunction with the plat date map to evaluate changes to the discharges.
4. The City adopted an updated Surface Water Management Plan in 2008. The plan calls for all new developments to incorporate infiltration practices and to limit discharge rates to 75% of the existing runoff rates. The city will evaluate Low Impact Development, infiltration and volume reduction strategies and will adopt ordinances requiring the practices that are best suited for the unique conditions in Ramsey.

***Timeline/Implementation Schedule:**

December 2008	The City of Ramsey has identified the Rum River and Mississippi River as ORVW waters receiving impacts from its MS4 discharges. A map has been prepared showing developments approved after the ORVWs were designated. A city wide stormwater model has been developed.
May 2009	The City will correlate the post ORVW development watersheds with the stormwater model and will complete an evaluation of hydrology, land use and runoff. The City will evaluate volume reduction strategies and will adopt an ordinance requiring the use of volume reduction strategies in future development/ redevelopment projects.
June 30 2009	The City of Ramsey will submit as an attachment to the Annual Report to the MPCA, the assessment, response to any public comments, plan for ongoing work elements and any proposed changes to the SWPPP that have been deemed necessary through this assessment process.

Specific Components and Notes: Provide any clarification or other work related to this action here.

***Responsible Party for this BMP:**

Name: Leonard Linton
Department: Engineering
Phone: 763 427-1410
E-mail: llinton@ci.ramsey.mn.us

**Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness*

Appendix 2

MPCA/ DNR Exhibits

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ATTACHMENT
LIST OF SPECIAL WATERS
(MPCA)

Excerpt from MPCA Special Waters List

County	Waterbody	Designation	Location
…			
Anoka	Mississippi River	Scenic/ Rec River	State Aid Highway 7 bridge in St. Cloud to NW Anoka City Limits
Anoka	Rum River	Scenic/ Rec River	Highway 27 Bridge in Onamia to Rice and Madison Streets in Anoka
….			

Ramsey City MS4
Impaired Waters 8/1/2006



Legend

- Impaired Streams
- Impaired Lakes
- Your MS4
- Cities/Townships
- Lakes
- Rivers

Roads

- Interstate
- US Highway
- MN Highway
- CSAH
- County Road

0 1,600 3,200 6,400
Meters

Ramsey City MS4
Waters of Interest 8/1/2006



Legend

- ORVW Streams
- Your MS4
- Cities/Townships
- Lakes
- Rivers

Roads

- Interstate
- US Highway
- MN Highway
- CSAH
- County Road

0 1,600 3,200 6,400
Meters

Ramsey City MS4 DSW 8/1/2006



Legend

Drinking Source Waters
- Low Vulnerability
- Vulnerable
- Your MS4
- Cities/Townships
- Lakes
- Rivers

Roads
- Interstate
- US Highway
- MN Highway
- CSAH
- County Road

0 1,650 3,300 6,600 Meters

Appendix B

Comment Letters

June 22, 2015

Mr. Bruce Westby
City Engineer
City of Ramsey
7550 Sunwood Drive NW
Ramsey, MN 55303

RE: City of Ramsey Surface Water Management Plan (plan)
Metropolitan Council Review File No. 21414-1

Dear Mr. Westby:

The Metropolitan Council (Council) has completed its review of the above plan, dated May 12, 2015. The plan is consistent with Council policies and the Council's *Water Resources Policy Plan*. The Council finds the plan fulfills the requirements for a local water management plan, and provides an excellent framework for managing storm water in the city.

We do have several minor comments on the plan:

- Page 1 of the plan refers to the Council's 2030 Water Resources Management Policy Plan; the Metropolitan Council adopted its *2040 Water Resources Policy Plan* on May 20, 2015.
- In *Section X, C. Recommendations* and in some of the policies, actions are referred to as things that "should" be done. The plan needs to have specific language as to what will be done and by whom.
- In *Section X, E. Model Results*, the text refers to figures in the plan, however the figure numbers given appear to be incorrect. For example, the text heading says, "*Figures 15 &16 EMISS Watershed.*" However Figure 16 is actually the Golf watershed 100 year pond summary.

Thank you for considering our comments on the city's plan. Again, the Council believes Ramsey's Surface Water Management Plan provides an excellent framework for managing storm water in the city and protecting water quality and quantity. If you have any questions regarding these comments, please contact Joe Mulcahy, at 651-602-1104.

Sincerely,

Leisa Thompson
General Manager, Environmental Services Division

cc: Todd Hass, Chair, Lower Rum River Watershed Management Organization
Edward Reynolds, Metropolitan Council District 9
Sam Paske, Assistant General Manager, Environmental Quality Assurance Department
Annalee Garletz, Metropolitan Council Sector Representative
Reya Ismacili, Metropolitan Council Referrals Coordinator
Joe Mulcahy, Water Resources Assessment Section

390 Robert Street North Saint Paul, MN 55101-1805
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METROPOLITAN COUNCIL

Anoka Conservation District
1318 McKay Drive NE, Suite 300
Ham Lake, Minnesota 55304
Ph: 763-434-2030 Fx: 763-434-2094
www.AnokaSWCD.org

July 2, 2015

Bruce Westby, City Engineer
City of Ramsey
7550 Sunwood Drive NW
Ramsey, MN 55303

Mr. Westby,

The Anoka Conservation District is reviewing the City of Ramsey's draft Local Surface Water Management Plan (received 5-12-2015) on behalf of the Lower Rum River Watershed Management Organization. City local water plans (LWP) must be consistent with the WMO plan. Please consider the comments on the following pages.

Barr Engineering is also conducting a review of regulatory elements of the plan on behalf of the WMO which you will receive under separate cover. I have reviewed those comments and agree with them, however they are generally not re-stated in this letter.

After revision of this plan, please resubmit it to the LRRWMO. A letter summarizing actions taken to address our concerns would be appreciated to expedite our review.

The City is reminded that local controls and ordinances must be amended to be in conformance with state and WMO standards within 180 days after LWP approval. (MN Statutes 103B.235 subd. 4).

Respectfully,

Jamie Schurbon

Water Resource Specialist

LRRWMO Plan Requirement	WMO Page	Comments/Suggested Actions
Education		
Local plans must include education. An education program must be part of local plan development.	53	Reference the SWPPP where a more detailed education plan is already in place for the City.
Wetlands		
"Wetland excavation for the enhancement of wildlife habitat will only be allowed if the project proposer applies for a LRRWMO approval and the excavation is in conformance with the WCA as well as guidance from the BWSR, DNR, and USACOE"	57	The city must develop wetland buffer standards consistent with LRRWMO standards. Please see Barr Engineering's review.
City must have wetland standards consistent with the LRRWMO standards.	Appendix G	DOES IT APPLY TO CONST. OF IND. HOME
Stormwater		
"New or expanded stormwater discharges to the Rum River are not allowed" because it is classified as an Outstanding Resource Value Water by the DNR.	46	Add corresponding language.
City must have stormwater standards consistent with the LRRWMO standards.	Appendix E	Add a summary of LRRWMO standards.
WMO encourages stormwater pond design to include habitat enhancement and aesthetic features.	54	Add a similar policy, perhaps under goal 3.
Anoka Dam		
An ownership /responsibility plan for the Anoka Dam will be developed with the member cities.	61	Add discussion of Anoka Dam management planning, including any collaborative work with Anoka and Andover.
Water Quality		
The LRRWMO will "work cooperatively with other agencies and communities on TMDLs…" Cities should recognize impaired waters in their local plan and provide plan for addressing.	43, 55	The MPCA is in the process of announcing new impaired waters designations. Trott Brook is being listed as impaired for macroinvertebrates, fish, dissolved oxygen and E. coli. Update the plan with this information.
Other		
"Municipalities will apply for grants through the LRRWMO with the municipalities providing match funds required"	49	The city is strongly encouraged to use their stormwater utility fund in partnership with LRRWMO. State grants can be pursued if local matching dollars are provided; this will make local dollars go much farther.
		Consider mentioning new state buffer laws.

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engineering and environmental consultants

BARR

June 19, 2015

Mr. Bruce Westby
City Engineer
City of Ramsey
7550 Sunwood Drive NW
Ramsey, MN 55303

Re: Local Surface Water Management Plan: City of Ramsey

Dear Mr. Westby:

The Lower Rum River Watershed Management Organization's (LRRWMO) *Third Generation Watershed Management Plan* (LRRWMO WMP) was approved by the Board of Water and Soil Resources (BWSR) on December 11, 2011. MN Rules 8410.016 requires that local municipal storm water plans shall be adopted within 2 years of the BWSR board's approval of the last organization plan (Watershed District or Water Management Organization) that affects local units of government. The city of Ramsey, lying totally within the LRRWMO, has submitted their *Local Surface Water Management Plan* (Ramsey Plan) to the LRRWMO on May 12, 2015. The Plan must, at a minimum, meet the requirements for local plans as outlined in Minnesota Statutes 103B.235, except as provided by the LRRWMO WMP under Minnesota Rule 8410.0110, subpart 3.

Barr Engineering Co. (Barr) and the Anoka Conservation District (ACD) are reviewing the Ramsey Plan and are submitting comments to the LRRWMO on compliance and conformance with the LRRWMO WMP. Barr's review and comments are primarily on the storm water management component of the Ramsey Plan. The ACD's comments, submitted under separate cover, are on the goals and policies component of the Ramsey Plan. State Statute requires the LRRWMO complete its review and provide comments by July 11, 2015, 60 days of the submittal of the Ramsey Plan. E-mail correspondence from the City has stated that the review period can be extended to July 16, 2015, the next regularly scheduled meeting of the LRRWMO.

Review Comments of the Storm Water Management Plan

1. The storm water requirements (Appendix E of the LRRWMO WMP) of the LRRWMO need to be stated in the Ramsey Plan and at a minimum adopted by the City. This includes rate control, volume retention, water quality management, and flood control/management. The LRRWMO criteria are stated frequently throughout the text of the Ramsey Plan. However in addition, if in one statement in one location within the Ramsey Plan it is stated that the City adopts/references the requirements of Appendix E, this would provide greater clarity to the Ramsey Plan user of the applicable storm water requirements.

2. Page 6, Item 7 of the Ramsey Plan states; *The wetland buffers recommended in the Wetland Function assessment were approved by City Council when the 2008 SWMP was approved. Further review of the buffers by the City Council resulted in a policy to delay the implementation of the wetland buffer recommendations.*

   - This statement is also mentioned in several places throughout the Ramsey Plan. Wetland Protection Standards for the LRRWMO are outlined in Appendix G of the LRRWMO WMP. The Ramsey Plan must specifically identify these standards, how the City will be implementing these standards and any wetland requirements, such as buffers, that the City will be implementing through ordinance.

3. Page 14, Item B of the Ramsey Plan states; *Figure 4 shows the 10-year capture zone (Well Head protection Area, WHPA) as well as the Drinking Water Supply Management Area (DWSMA) for the seven municipal drinking water wells in Ramsey. Storm water infiltration will not be allowed inside these zones.*

   Page 34, Item D of the Ramsey Plan states (last sentence); *City Policy adopted in conjunction with infiltration requirements of the LRRWMO Third Generation Plan permits infiltration in areas within the Drinking Water Supply Area (DWSMA), so long as it is not also within the 10-year capture zone.*

   - These two statement appear to somewhat be in conflict with each other.
   - The Ramsey Plan needs to address how volume retention requirement is to be complied with in areas such as the DWSMA or in areas that are non-conducive for infiltration.

4. Page 16, Item #2 of the Ramsey Plan states; *The bounce from the normal water level to the high water level does not exceed two feet.*

   - It is recommended that this comment be replaced with, The impacts of storm water from new development discharging into a wetland will be determined through a Minnesota Routine Assessment Methodology (MnRAM) assessment of the wetland.

     A MnRAM provides a quantitative and qualitative assessment of the impacts that storm water has and will have on a wetland.

5. Page 18, Table 16; of the Ramsey Plan. It is recommended that the Design Infiltration Rates in the Minnesota Storm Water Manual, as amended, be used and referenced rather than the information from Urban Hydrology for Small Watersheds, (SCS, 1986).

6. Page 19, Item #11 of the Ramsey Plan - Unique Features and Scenic Areas; The City Codes referenced, Chapter/Section 177, must comply with the revised MDNR's Wild and Scenic River Management requirements.

7. Page 20 of the Ramsey Plan: The highlighted text states NEED TO ADD WEB PAGE, the web page needs to be provided.

8. Page 31 of the Ramsey Plan, last paragraph states; *Elevation of **the lowest opening** of a structure shall be a minimum of 1 foot above the Emergency Overflow, or 2 feet above the HWL of the nearby pond or waterbody, whichever is higher.*

   - The LRRWMO WMP criteria states; The **low floor** elevation of all development, including basements, must be at least 3 feet above the highest anticipated groundwater table, 2 feet above the designated or designed 100-year flood elevation, or 1 foot above the emergency overflow, whichever is higher. The statement in the Ramsey Plan must be corrected.

9. Page 35, Item 4 of the Ramsey Plan – Pond and Pipe Design Criteria: The Peak Flow Rate Control criteria described on page E-5 of the LRRWMO WMP should be included in the discussion.

10. Page 37 of the Ramsey Plan, Group C states; *Includes soils that are low in organic content and made-up of clay loams and soils high in clay.*

    - The Minnesota Storm Water Manual identifies a Hydrologic Soil Group C as a sandy-loam, ML, silts, very fine sand, silty or clayey fine sands. Please verify the description in the SWMP or consider using the description in the Minnesota Storm Water Manual.

11. Page 41, Policy 2.1 of the Ramsey Plan: The policy should be modified to read, *The City will adopt best management practices for development that will result in an annual removal efficiency of 60% total phosphorus and 90% total suspended solids.*

12. Page 41, Policy 3 of the Ramsey Plan should be Policy 3.4. See previous comments regarding wetland protection standards, Item 2. Also, it appears that the last sentence of this policy statement beginning with Policy 3.5 should either be modified or be a standalone Policy.

13. Page 42, Goal 4 of the Ramsey Plan; A policy needs to be added that the City's newsletter or web site will provide information regarding water resource management and a summary of the on-going activities of the LRRWMO (page 53, Policy 1, Education of the LRRWMO WMP).

14. Page 42, Policy 6.3 of the Ramsey Plan; Hydraulic Soil Types A and B are most conducive to infiltration but infiltration is/should not be limited to these two soil types.

15. Page 43, Policy 6.5 of the Ramsey Plan states; *The use of grassed waterways shall be encouraged to maximize infiltration. Proper grades shall be maintained or underdrain systems installed as part of an overall site plan to insure positive drainage.*

    - The use of an underdrain system does not provide for infiltration but rather filtration of storm water.

16. Page 43, Goal 7 – Wetlands of the Ramsey Plan; A policy should be provided that the LRRWMO is the Local Governmental Unit (LGU) administering the requirements of the Wetland Conservation Act (WCA) in Ramsey.

17. Page 43, Policy 7.1 of the Ramsey Plan states; *Use and Function of all wetlands greater than ¼ acre in size has been determined as part of the 2008 SWMP preparation.*

    - In other Sections of the Ramsey Plan it has been stated that the Use and Function of the wetland has been prepared but will not be used at this time. This needs to be clarified and describe how the requirements of Appendix G – Wetland Protection Standards in the LRRWMO WMP are to be complied with.

18. Page 46, Policy 12.7 of the Ramsey Plan states; *The City will perform regular wet storage volume surveys of its storm water quality ponds on a 10-year rotating basis.*

    - Is this consistent with the requirements of the City MS4 permit requirements?

General Comments

1. The figures for the various Study Areas show "Potential Threat to Structures" designation. A table or some form of reference to the structure location (address), low floor elevation and flood elevation would be useful information in the Ramsey Plan.
2. The flood elevations and discharges shown in the tables are listed to the hundredth (0.01) of a foot and hundredth (0.01) of a cubic foot per second (c.f.s.), respectively. Because of the numerous assumptions and variables used in these calculations, it is recommended that flood elevations be shown to the whole foot (no less than a tenth of a foot – 0.1) and discharges be shown to the whole c.f.s (no less than a tenth of a c.f.s. – 0.1).

Thank-you for the opportunity of providing our review comments regarding the *Local Surface Water Management Plan* for the city of Ramsey submitted to the LRRWMO in accordance with MN Rule 8410.016.

If you have any questions or request further clarification of our comments, please contact Todd Haas, LRRWMO Board Chairman or me at 952-832-2857, bobermeyer@barr.com.

Sincerely,

Robert C. Obermeyer P.E.
Lower Rum River Watershed Management Organization Engineer

C: Lower Rum River Watershed Management Organization Members
Jamie Schurbon; ACD
Leonard Linton; city of Ramsey

BCO/ymh

BOLTON & MENK

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City of RAMSEY

COMPREHENSIVE WATER SYSTEM STUDY UPDATE

IN COORDINATION WITH 2040 COMPREHENSIVE PLAN UPDATE

CITY OF RAMSEY, MN

SEPTEMBER 2017

Submitted by:
Bolton & Menk, Inc.
7533 Sunwood Drive NW
Suite 206
Ramsey, MN 55303
P: 763-433-2851
F: 763-427-0833

COMPREHENSIVE WATER PLAN UPDATE
IN COORDINATION WITH
2040 COMPREHENSIVE PLAN UPDATE

CITY OF RAMSEY, MINNESOTA

A. PURPOSE

The purpose for this report is to update the City's 2012 Comprehensive Water Plan based on current (2017) population and land use projections. The 2012 Comprehensive Water Plan included a plan for meeting the City's needs based on development projected within the City's 2030 Comprehensive Plan. The 2012 Comprehensive Water Plan outlined infrastructure needs and included an implementation schedule based on the anticipated development.

City staff has identified development which has occurred since the 2012 study was completed and has provided projections for development which is likely to occur in the next 23 years (Year 2040). This report evaluates the impact of the recent and projected development on the proposed schedule for water infrastructure implementation.

Typically water system improvements are funded through a combination of Water Availability Charges, trunk charges, and water usage fees. We have prepared one option for funding the water system which should be reviewed and discussed with the City's financial advisor prior to setting or adjusting any charges or fees.

B. SUMMARY OF INFRASTRUCTURE REVISIONS TO 2012 COMPREHENSIVE PLAN

Infrastructure expenditures were based on the City's Capital Improvement Plan for the years 2017 to 2020. We also identified several capital improvement projects which will need to be implemented between 2021 and 2040.

1. Water Distribution System

The water distribution system is depicted on Figure 1. Water wells, towers and existing and proposed water mains are shown on the graphic. A summary of revisions (when compared to the 2012 map) is as follows:

1. Removed both alternative Water Treatment Facility locations and related surface water pipes.
2. Updated the existing water main locations to match the current City water map.
3. Loop #1
    a. Revised to reflect the Bowers Drive water main as a lateral main rather than a trunk facility.
    b. Added a loop along Puma Street and Alpine Drive.
    c. Added a water main on Riverdale Drive, west of Armstrong Boulevard to complete the loop in that area.
    d. Removed the small loop east of Armstrong Boulevard on 142nd Avenue.
    e. Revised the segment east of Armstrong Boulevard, on Riverdale Drive, from proposed to existing.
4. Loop #4 was revised to connect from one existing 12" main to another. The southern existing 12" pipe appears to have been installed since the 2012 report.

5. Loop #6 was added to the map. This is proposed work to be completed next summer.

We have included a table depicting the costs of the improvements in the areas described at the back of this report.

2. Water Supply Wells and Storage

Development projections from 2012 indicated a new water supply capacity would be required by 2019. With the updated development data, new water supply is now projected to be required by 2022.

Construction of new wells in 2023 and 2028 will provide adequate capacity to the year 2040 based upon projected growth rates.

In order to determine a viable location for a new well, and potential for additional water supply options utilizing groundwater sources, a well location study should be undertaken beginning in 2017.

The following capital costs, presented in 2017 dollars, should be expected for the water system:

- A new water supply well and pumphouse in 2023 at $1,500,000,
- A new water supply well and pumphouse in 2028 at $1,500,000, and
- Water tower rehabilitation in 2030 at $2,000,000.

Additionally, $100,000 per year for the years 2021 through 2028 should be allocated for well service and pump maintenance.

Water tower 3 is anticipated to need rehabilitation in approximately 2030. Approximately $2,000,000 will be required for this work.

3. Water Treatment Facility

In the 2012 report, a water treatment facility was identified as a means of water supply. This was intended to be a surface water treatment facility that drew raw water from the Mississippi River. Based on current discussions with regulatory agencies, there is the potential to provide more water to the system through the addition of wells. In the 2017 report, the treatment facility was removed.

A new treatment facility was added to the 2017 report to provide greater water quality than exists from the untreated well water current used in the City. The construction of the facility will depend on several factors, including: needs of business and industrial users, and acceptability of the water by residents of the community. The water treatment facility is depicted as being constructed in 2027 and 2028 at a cost of $24,000,000. The actual timing of the construction of the facility is undetermined at this time.

C. TRUNK WATER MAIN COSTS

Attached are updated cost estimates related to the water distribution system improvements, totaling $6,574,097. These costs include 25% indirect costs such as administration, engineering, legal and financing. Additionally, we have included a 20% contingency for unforeseen improvements which may be required during the study period, for a total cost of $7,888,916 in 2017 dollars.

The City's current Capital Improvement Plan was used to determine expenditures for the years 2017 to 2020. For the years 2021 to 2040, the above costs were spread evenly over the 20 year period, while being inflated at a rate of 3% per year.

D. DEVELOPMENTAL IMPACT ON COMPREHENSIVE WATER PLAN

Population and Growth

Actual and projected development within the City of Ramsey since the 2012 Comprehensive Water Plan was developed are summarized as follows:

- Connections from 2012-2015 are as follows:
  - 2012: 295
  - 2013: 164
  - 2014: 66
  - 2015: 258
  - Avg: 196

- Projected development is as follows:
  - 160 Residential Units/Year, (50% High Density)
  - 10 Commercial/Industrial Acres/Year
  - 567 Residential Units in NE Expansion Area

The development projections above are projected to occur from 2016 to 2040. The total projected number of new units to be served by the water system, after a high density unit adjustment of 0.7 per high density unit, is 3831 units. This represents an average of 160 units per year will be developed. The attached Table 1 provides a summary of both the 2012 comprehensive Water Plan population and water demand projected, and the updated projections based on new development information.

E. ANALYSIS

Our detailed analysis (depicted on a spreadsheet at the back of this report) provides an evaluation of the impact of development and proposed improvements on the current rate structure. The following assumptions were made for the analysis:

- Capital expenditures for 2017 to 2020 were taken from the City's current Capital Improvement Plan.
- Capital expenditures for the years 2021 to 2040 were based on assumptions described in Sections B and C above.
- Operating expenses of $836,662 were used for 2017 and then inflated at a rate of 4% per year for the duration of the analysis period.
- Treatment facility operating expenses were assumed to begin in 2029 at an annual rate of $1,000,000 per year and then inflated at 3% per year each year after 2029.
- Water usage rates of $2.57/1,000 gallons for 2017 were used and then inflated at a rate of 2% per year after 2017.
- Water Availability Charges of $1,236 were used for 2017 and then inflated at a rate of 2.5% per year after 2017.
- Trunk charges of $1,720 were used for 2017 and then inflated at a rate of 2.5% per year after 2017.

Table 1
Population and Water Demand Projections
Ramsey, Minnesota
9/15/2017

2012 Comprehensive Water Plan

Year	2012	2016	2020	2025	2030	2035	2040
Service Area Population	11,434	14,961	18,669	22,519	26,029		
New Residential Customer Accounts	260	323	323	260	260		
People/Household	2.87	2.87	2.7	2.7	2.7		
Added Population	746	927	872	702	702		
End of Year Service Area Population	12,180	15,888	19,541	23,221	26,731		
Average Daily Water Demand (gpd)	1,827,030	2,383,236	2,931,206	3,483,221	4,009,721		
Maximum Day Water Demand (gpd)	5,481,090	7,149,708	8,793,617	10,449,662	12,029,162		

Update

Year	2012	2016	2020	2025	2030	2035	2040
Service Area Population	11,434	13,681	15,409	17,569	19,729	21,889	24,049
New Residential Customer Accounts	295	160	160	160	160	160	160
People/Household	2.87	2.70	2.70	2.70	2.70	2.70	2.70
Added Population	847	432	432	432	432	432	432
End of Year Service Area Population	12,281	14,113	15,841	18,001	20,161	22,321	24,481
Average Daily Water Demand	1,842,098	2,116,982	2,376,182	2,700,182	3,024,182	3,348,182	3,672,182
Maximum Day Water Demand	5,526,293	6,350,945	7,128,545	8,100,545	9,072,545	10,044,545	11,016,545

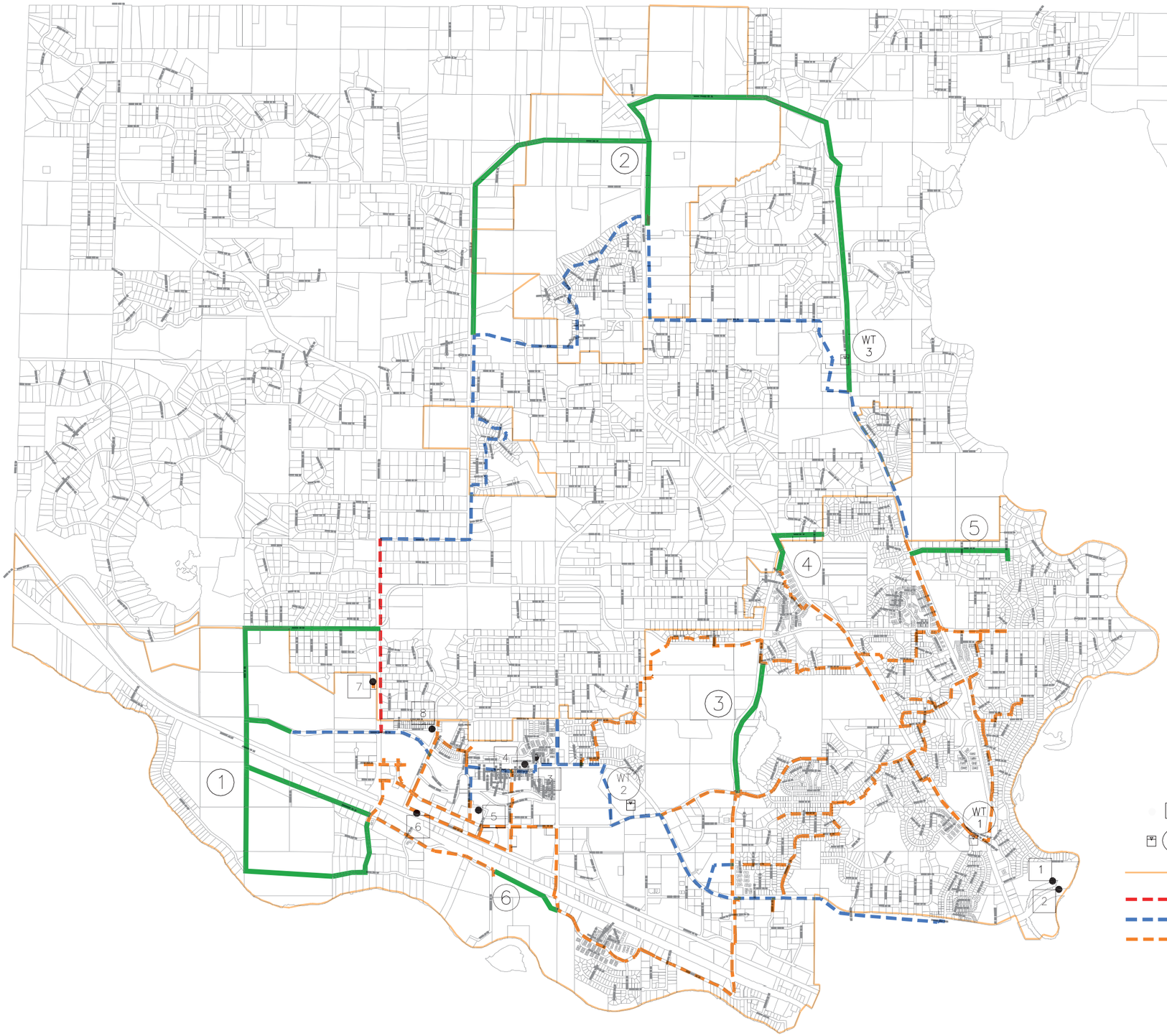
2040 MUSA - Water System Loop Improvements (2021-2040)

Loop	LOCATION	SIZE (IN.)	LENGTH (FT.)	COST PER FOOT*	COST
1	Southwest Loop	12"	19,000	$124	$2,352,313
		3,000 LF Constructed in 2017			
				TOTAL LOOP 1	**$2,352,313**
2	North Central Loop	12"	28,000	$124	$3,466,567
				TOTAL LOOP 2	**$3,466,567**
3	County Road 57	12"	4,100	**INCLUDED IN YEAR 2020 OF CIP**	
4	CSAH 5/157TH AVE NW	12"	2,700	$124	$334,276
				TOTAL LOOP 4	**$334,276**
5	158TH LANE NW	12"	3,400	$124	$420,940
				TOTAL LOOP 5	**$420,940**
6	RIVERDALE BOULEVARD	12"	2,300	**INCLUDED IN YEAR 2017 OF CIP**	
				SUB-TOTAL	**$6,574,097**
				20% CONTINGENCIES FOR UNFORSEEN IMPROVEMENTS	**$1,314,819**
				TOTAL IMPROVEMENT COSTS	**$7,888,916**
				AVERAGE YEAR FOR 20 YEARS (2017 DOLLARS)	**$394,446**
				INFLATED AT 3% PER YEAR TO YEAR 2021	**$443,952**

* INCLUDES 25% INDIRECT COST

Table 2
Water Utility Rate Impact Summary
City of Ramsey, Minnesota
9/15/2017

	Actual 2016	Projected / Actual 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026	Projected 2027	Projected 2028	Projected 2029	Projected 2030	Projected 2035	Projected 2040
Beginning Balance		**$ 18,440,114**	**$ 18,249,021**	**$ 17,702,048**	**$ 19,553,332**	**$ 20,635,777**	**$ 22,190,135**	**$ 23,779,713**	**$ 23,704,661**	**$ 25,339,597**	**$ 27,009,720**	**$ 28,876,172**	**$ 18,784,291**	**$ 6,426,591**	**$ 7,126,392**	**$ 7,072,941**	**$ 9,587,285**
Water System Revenue																	
New Customers		160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
Annual Water Sales (gallons/year)		994,500,000	1,006,500,000	1,018,500,000	1,030,500,000	1,042,500,000	1,054,500,000	1,066,500,000	1,078,500,000	1,090,500,000	1,102,500,000	1,114,500,000	1,126,500,000	1,138,500,000	1,150,500,000	1,210,500,000	1,270,500,000
Water Rates ($/1000 gallons) (Inflated at 2% per year)		**$ 2.57**	2.62	2.67	2.73	2.78	2.84	2.89	2.95	3.01	3.07	3.13	3.20	3.26	3.32	3.67	4.05
Water Availability Charge (WAC) ($/connection) (Inflated at 2.5% per year)		**$ 1,236**	$ 1,267	$ 1,299	$ 1,331	$ 1,364	$ 1,398	$ 1,433	$ 1,469	$ 1,506	$ 1,544	$ 1,582	$ 1,622	$ 1,662	$ 1,704	$ 1,928	$ 2,181
Connection/Trunk Charge ($/connection) (Inflated at 2.5% per year)		**$ 1,720**	$ 1,763	$ 1,807	$ 1,852	$ 1,899	$ 1,946	$ 1,995	$ 2,045	$ 2,096	$ 2,148	$ 2,202	$ 2,257	$ 2,313	$ 2,371	$ 2,683	$ 3,035
Water Rate Revenue (Inflated at 2.5% per year)		$ 2,087,443	$ 2,139,629	$ 2,193,120	$ 2,247,948	$ 2,304,146	$ 2,361,750	$ 2,420,794	$ 2,481,314	$ 2,543,347	$ 2,606,930	$ 2,672,104	$ 2,738,906	$ 2,807,379	$ 2,877,563	$ 3,255,699	$ 3,683,524
WAC Revenue		$ 197,760	$ 202,704	$ 207,772	$ 212,966	$ 218,290	$ 223,747	$ 229,341	$ 235,074	$ 240,951	$ 246,975	$ 253,150	$ 259,478	$ 265,965	$ 272,614	$ 308,438	$ 348,969
Trunk Revenue		$ 290,575	$ 294,230	$ 297,976	$ 301,816	$ 305,752	$ 309,787	$ 313,922	$ 318,161	$ 322,506	$ 343,687	$ 352,279	$ 361,086	$ 370,113	$ 379,366	$ 429,218	$ 485,621
Interest Earnings		$ 184,401	$ 273,735	$ 265,531	$ 293,300	$ 309,537	$ 332,852	$ 356,696	$ 355,570	$ 380,094	$ 405,146	$ 433,143	$ 281,764	$ 96,399	$ 106,896	$ 106,094	$ 143,809
Total Water System Revenue		$ 2,760,179	$ 2,910,298	$ 2,964,398	$ 3,056,030	$ 3,137,726	$ 3,228,136	$ 3,320,753	$ 3,390,119	$ 3,486,897	$ 3,602,738	$ 3,710,675	$ 3,641,235	$ 3,539,856	$ 3,636,440	$ 4,099,449	$ 4,661,924
Water Utility Expenses - Capital Improvement Projects																	
Miscellaneous Projects																	
Fire Station #1 Extension of Water					$ 55,000												
County Radio Station (3 -Year Funding)		$ 1,700															
Public Works Campus			$ 1,715,750														
3/4 Ton Truck				$ 43,000													
Utility Truck		$ 25,000	$ 23,500														
Water Supply & Treatment Improvements																	
Renovate Pump House #3			$ 60,000														
Construct Well & Pumphouse #9					$ 75,000			$ 1,700,000									
Well #1 Rehabilitation		$ 38,000	$ 41,000	$ 44,000	$ 47,000												
Emergency Supply for Well #3		$ 115,000															
Well Location Study		$ 75,000															
Water Treatment Facility - 10 MGD Groundwater												$ 12,000,000	$ 12,000,000				
Water Storage Improvements																	
Refurbish Water Tower #1		$ 1,300,000															
Refurbish Water Tower #2			$ 700,000														
Maintain Water Tower #3				$ 75,000													
Distribution System Improvements																	
River Pines Lift Station Water Connection					$ 20,000												
Distribution System Maintenance Improvements																	
Watermain Looping Bunker Lake Blvd.					$ 340,000												
Watermain Looping Sunfish Lake Blvd.					$ 450,000												
Watermain Looping Ramsey Blvd to Traprock		$ 129,250															
Watermain Bunker Lake Boulevard - Business Park		$ 162,842															
Watermain Puma Street - Business Park		$ 220,226															
2021 through 2040 Projected Improvements																	
Distribution System						$ 443,952	$ 457,271	$ 470,989	$ 485,118	$ 499,672	$ 514,662	$ 530,102	$ 546,005	$ 562,385	$ 579,257	$ 671,517	$ 778,473
Construct Well & Pumphouse #10													$ 2,138,641				
Storage Tower 3 Rehabilitation															$ 3,025,179		
Well Service and Pump Maintenance (8 wells)						$ 115,927	$ 119,405	$ 122,987	$ 126,677	$ 130,477	$ 134,391	$ 138,423	$ 142,576				
Subtotal- Capital Expenses		**$ 2,067,018**	**$ 2,540,250**	**$ 162,000**	**$ 987,000**	**$ 559,879**	**$ 576,675**	**$ 2,293,976**	**$ 611,795**	**$ 630,149**	**$ 649,053**	**$ 12,668,525**	**$ 14,827,222**	**$ 562,385**	**$ 3,604,436**	**$ 671,517**	**$ 778,473**
Operational Expenses																	
Operating Expense- Distribution and Administration (Inflated at 4% per year)		$ 836,662	$ 870,128	$ 904,934	$ 941,131	$ 978,776	$ 1,017,927	$ 1,058,644	$ 1,100,990	$ 1,145,030	$ 1,190,831	$ 1,238,464	$ 1,288,003	$ 1,339,523	$ 1,393,104	$ 1,694,924	$ 2,062,134
Operating Expense- Treatment (Inflated at 3% per year)														$ 1,000,000	$ 1,030,000	$ 1,194,052	$ 1,384,234
Subtotal- Operating Expense		$ 836,662	$ 870,128	$ 904,934	$ 941,131	$ 978,776	$ 1,017,927	$ 1,058,644	$ 1,100,990	$ 1,145,030	$ 1,190,831	$ 1,238,464	$ 1,288,003	$ 2,339,523	$ 2,423,104	$ 2,888,976	$ 3,446,368
Total Annual Expenses		**$ 2,903,680**	**$ 3,410,378**	**$ 1,066,934**	**$ 1,928,131**	**$ 1,538,655**	**$ 1,594,603**	**$ 3,352,620**	**$ 1,712,785**	**$ 1,775,178**	**$ 1,839,884**	**$ 13,906,989**	**$ 16,115,224**	**$ 2,901,908**	**$ 6,027,539**	**$ 3,560,493**	**$ 4,224,840**
Finance Adjustments																	
Trunk Charges Returend per John Peterson's agreement (thru 2025)		$ (144,375)	$ (144,375)	$ (144,375)	$ (144,375)	$ (144,375)	$ (144,375)	$ (144,375)	$ (144,375)	$ (144,375)							
PW Land/Building - Internal Loan 2009-2028 @2%		$ 34,930	$ 35,629	$ 36,341	$ 37,068	$ 37,810	$ 38,566	$ 39,337	$ 40,124	$ 40,926	$ 41,745	$ 42,580	$ 54,436				
Internal Loan to offset Muni Center Debt beginning year 2011-2030@2%		$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853	$ 61,853		
Internal Loan for RTC Land Purchase- 10 yr@2% when land sold																	
Net Finance Adjustments		$ (47,592)	$ (46,893)	$ (46,181)	$ (45,454)	$ (44,712)	$ (43,956)	$ (43,185)	$ (42,398)	$ (41,596)	$ 103,598	$ 104,433	$ 116,289	$ 61,853	$ 61,853		
Water System Working Capital Balance																	
Total Annual Expenses		$ 2,903,680	$ 3,410,378	$ 1,066,934	$ 1,928,131	$ 1,538,655	$ 1,594,603	$ 3,352,620	$ 1,712,785	$ 1,775,178	$ 1,839,884	$ 13,906,989	$ 16,115,224	$ 2,901,908	$ 6,027,539	$ 3,560,493	$ 4,224,840
Total System revenue		$ 2,712,587	$ 2,863,405	$ 2,918,217	$ 3,010,576	$ 3,093,014	$ 3,184,180	$ 3,277,568	$ 3,347,721	$ 3,445,301	$ 3,706,336	$ 3,815,108	$ 3,757,524	$ 3,601,709	$ 3,698,293	$ 4,099,449	$ 4,661,924
Net Income (loss)		$ (191,093)	$ (546,973)	$ 1,851,284	$ 1,082,445	$ 1,554,358	$ 1,589,578	$ (75,052)	$ 1,634,936	$ 1,670,123	$ 1,866,452	$ (10,091,881)	$ (12,357,700)	$ 699,801	$ (2,329,247)	$ 538,956	$ 437,084
Beginning Water Working Capital Balance		$ 18,440,114	$ 18,249,021	$ 17,702,048	$ 19,553,332	$ 20,635,777	$ 22,190,135	$ 23,779,713	$ 23,704,661	$ 25,339,597	$ 27,009,720	$ 28,876,172	$ 18,784,291	$ 6,426,591	$ 7,126,392	$ 7,072,941	$ 9,587,285
Remaining Working Capital Balance	**$ 18,440,114**	**$ 18,249,021**	**$ 17,702,048**	**$ 19,553,332**	**$ 20,635,777**	**$ 22,190,135**	**$ 23,779,713**	**$ 23,704,661**	**$ 25,339,597**	**$ 27,009,720**	**$ 28,876,172**	**$ 18,784,291**	**$ 6,426,591**	**$ 7,126,392**	**$ 4,797,145**	**$ 7,611,896**	**$ 10,024,369**





CITY OF RAMSEY
MINNESOTA

FIGURE 1

PROPOSED WATER SYSTEM IMPROVEMENTS
COMPREHENSIVE WATER PLAN
SEPTEMBER 2017

LEGEND

- # — EXISTING WELL
- WT 2 — WATER TOWER
- SERVICE AREA BOUNDARIES
- EXISTING 24" TRUNK MAIN
- EXISTING 16" TRUNK MAIN
- EXISTING 12" TRUNK MAIN
- 12" PROPOSED WATERMAIN

LOOP	LOCATION
1	SOUTHWEST LOOP
2	NORTH CENTRAL LOOP
3	COUNTY ROAD 57
4	CSAH 5/157th AVE NW
5	158th LANE NW
6	RIVERDALE BOULEVARD

NOTE:
The information for this map was obtained from various sources of existing maps, construction plans, and City records, some of which were prepared by others. While this information is believed to be reliable Bolton & Menk, Inc. is not respon- sible for its accuracy nor for errors or omissions which may have been incorporated into this document as a result.

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H:\RAMS\R16110056\CAD\2040 Proposed Water Treatment - 2016 Update.dwg 10/19/16 12:19 pm

Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

CC Regular Session **7. 3.**

Meeting Date: 03/27/2018

By: Chris Anderson, Community Development

Information

Title:

Update on Zoning Verification for Baker White at 6111 Highway 10 NW

Purpose/Background:

In January of this year, a Building Permit Application for an interior remodel was received for the building located at 6111 Highway 10 NW (the "Subject Property"). As the permit was reviewed, questions were raised regarding whether the intended use was permitted within the H-1 Highway 10 Business District. After multiple consultations with the City Attorney's office, it was determined that the use was neither a permitted, conditional, or accessory use in this zoning district and therefore, Planning Division Staff did not approve the Building Permit. Since that time, Staff has continued to explore potential remedies and has also met with both the Business Owner and the Property Owner to discuss this matter and gather additional information.

Notification:

Notification is not required as this is only intended as an update for City Council.

Observations/Alternatives:

Baker White (the "Business") currently utilizes four (4) of the existing six (6) suites within the multi-tenant building on the Subject Property. The suites occupied by the Business include an E-Cig retail operation (permitted use), Baker White offices (permitted use), a warehousing space (accessory use), and a clean room/mixing lab (warehouse), which would be classified as light manufacturing (not permitted in this zoning district). It was the City's understanding that this existing warehouse space was directly related to the adjacent eCig retail suite, and not a separate light manufacturing and distribution use.

The Building Permit Application was to create new space where 'sample sticks' (www.samplesticks.com) could be made for vape customers to taste test various flavors prior to purchase. The production of the 'sample sticks' essentially includes melting a hard gel in a microwave, dipping small sticks in the liquid, and letting the liquid cool till it is hard again. This too would be classified as light manufacturing, after consultation with the City Attorney.

Records indicate that this Business has been operating on the Subject Property since 2013 (that was the first record of a Business Registration Certificate) with no apparent issues. However, as a result of a Fire Safety Inspection in 2017, the Business was informed that fire suppression was required for the clean room/mixing lab suite. It appears that those improvements have been made (permits were issued retroactively for the work in 2017). It also appears that other interior improvements were occurring at that time without the necessary permits (removing and/or moving a mezzanine as well as modifying the fire suppression system). In order to correct an immediate public safety concern, the fire suppression system was updated. This process did not include a request for Zoning Verification. Sidebar: as a result of this scenario, which does occur from time to time, Staff is in the process of including a Zoning Verification and Building Code Verification with each permit and license that is issued by the

City.

Options

At this time, there are several potential options to consider to address the apparent zoning code violation(s) that exist on the Subject Property. Staff is seeking some direction from the City Council on what the preferably option(s) is.

1. The Business Owner/Property Owner could apply for a Zoning Amendment to identify light manufacturing as a permitted use in the H-1 Highway 10 Business District. What is being proposed and what is already occurring on site seems to be compatible with other permitted uses in this district (been in operation for 4-5 years with no complaints). However, Staff would have to examine what, if any, impact this could have on the rest of the zoning district. A good example of a blended retail/industrial type of district can be viewed on the Highway 169 corridor in Champlin. Considering the traffic concerns of Highway 10 and some of the safety concerns with accessing the Subject Property, less retail based uses may even be desirable. But, the Business Owner has indicated that any further delay (potentially about a 60-day process) will have serious impacts on his potential contracts for production and distribution of the 'sample sticks'.
2. Staff could assist the Business Owner in finding an appropriately zoned property for this type of use. This offer has already been extended to the Business Owner. Staff has offered this solution.
3. An evaluation of both permitted and conditional uses is needed within the H-1 Highway 10 Business District. This district was established with limited permitted/conditional uses, as it was intended to preserve what was identified as being needed for future highway right-of-way and therefore lessen the future cost of acquisition. The vision for the Highway 10 corridor has changed with the current Highway 10 Access Planning Study and not as many properties are needed for right-of-way (including the Subject Property). This is a much longer process.
4. Establish a timeframe in which the light manufacturing use occurring on the Subject Property be terminated. This is the least desirable option available in Staff's opinion. The Subject Property is well maintained and there have not been any serious blight or zoning code violations.

Staff has been in communication with the City Attorney's office multiple times for legal interpretations on various elements of this review. Ultimately, it is the City Attorney's opinion that a Zoning Amendment would need to be processed before permitting the tenant improvements proposed with the Building Permit Application. Furthermore, a Zoning Amendment could also assist with addressing the clean room/mixing lab that already exists on the Subject Property.

Funding Source:

This case is being handled as part of Staff's normal duties.

Recommendation:

Staff does not have a specific recommendation at this time. The purpose of the case was to provide an update to City Council and get feedback and direction on how the Council would like to proceed.

Action:

Provide direction to Staff on how best to proceed with addressing this matter.

Attachments

Site Location Map
Building Layout
Memorandum from City Attorney's Office

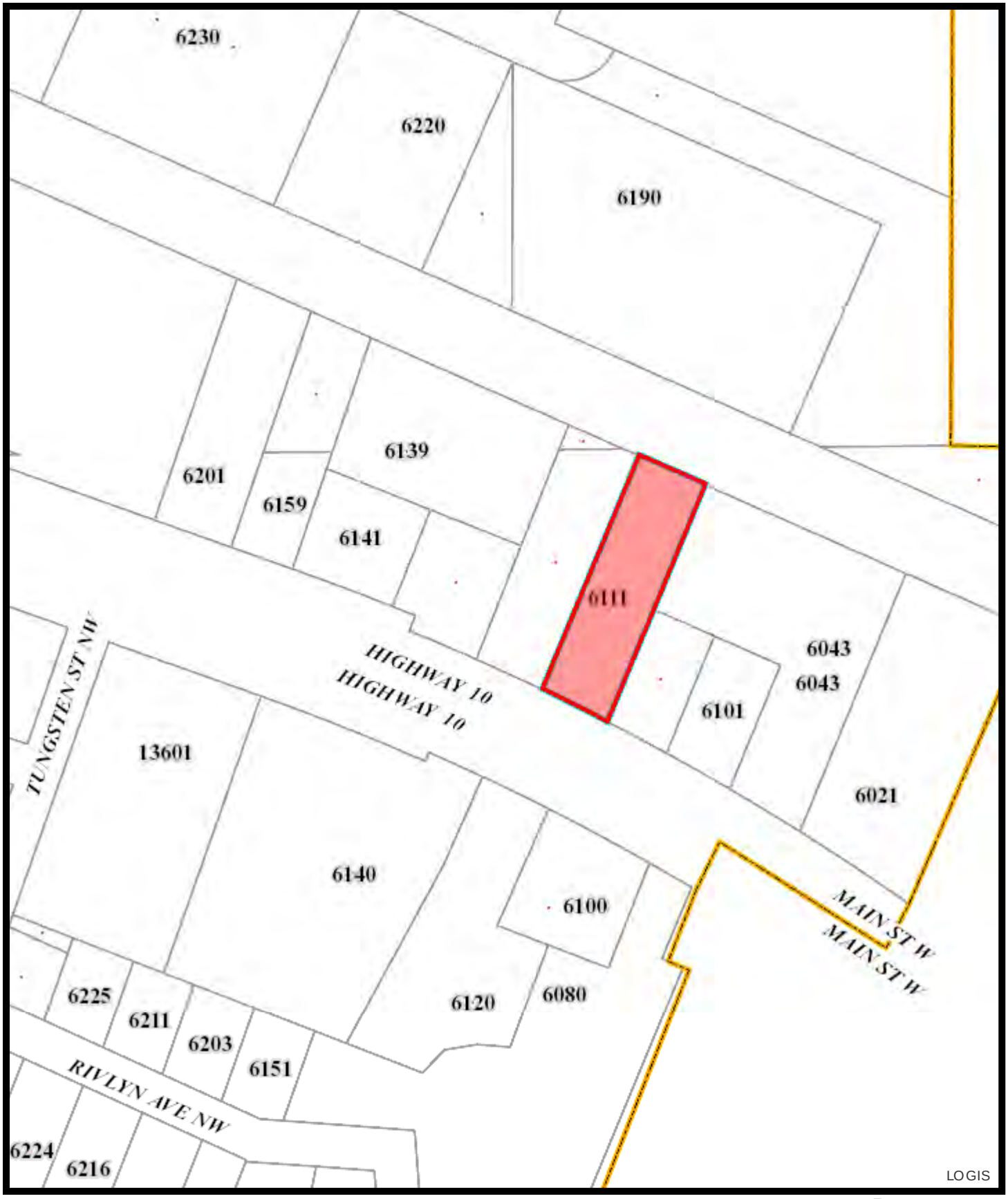
Form Review

Inbox	Reviewed By	Date
Tim Gladhill	Tim Gladhill	03/22/2018 04:06 PM
Kurt Ulrich	Kurt Ulrich	03/22/2018 04:09 PM

Form Started By: Chris Anderson Started On: 03/20/2018 08:44 AM
Final Approval Date: 03/22/2018

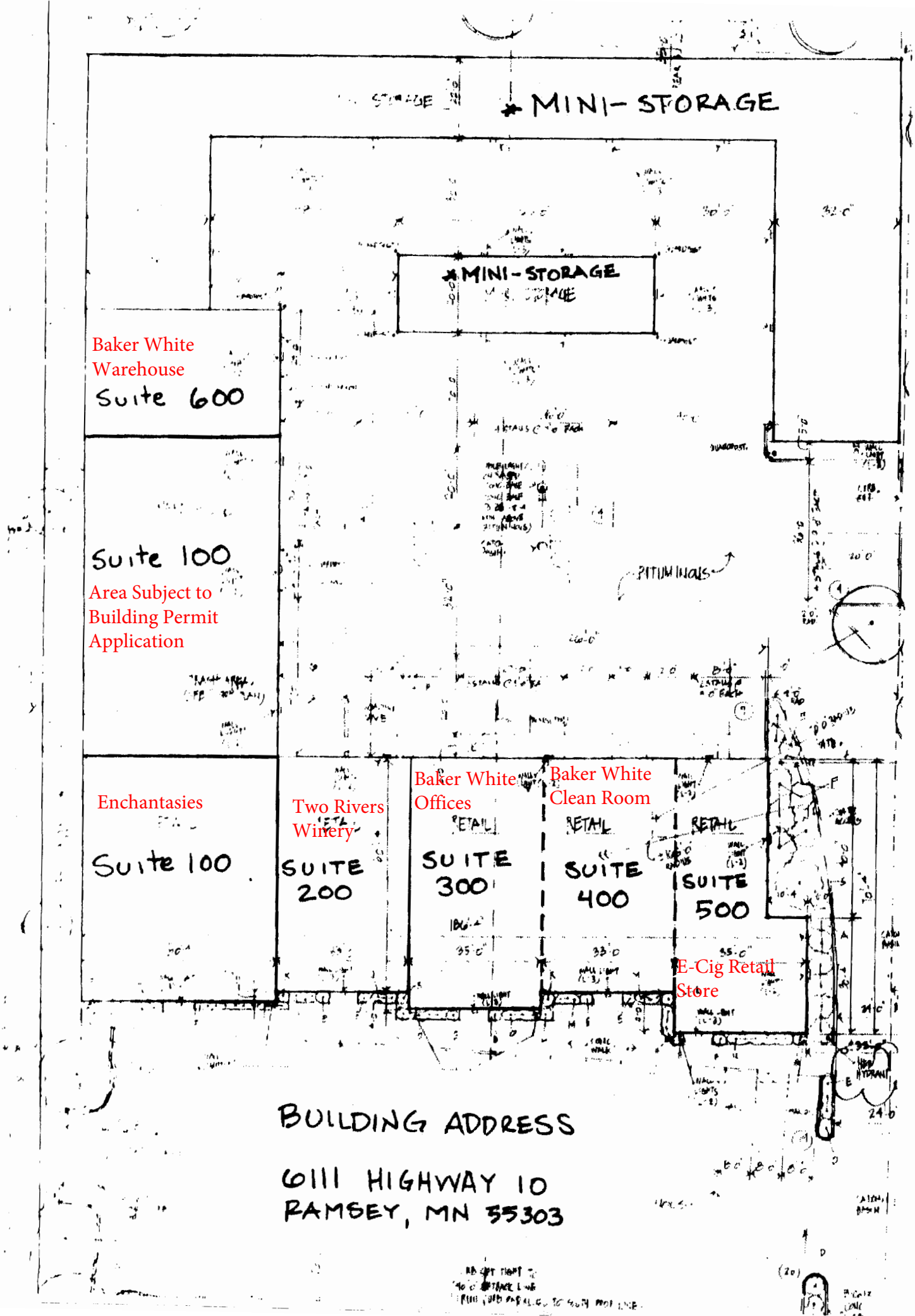
35-32-25-31-0026
6111 HIGHWAY 10 NW

6111 Highway 10 NW



Feet
0 50100 200 300 400

Print Date: March 21, 2018


MINI-STORAGE
MINI-STORAGE
Baker White
Warehouse
Suite 600
Suite 100
Area Subject to
Building Permit
Application
PITCH PANS
Enchantasies
Suite 100
Two Rivers
Winery
SUITE
200
Baker White
Offices
RETAIL
SUITE
300
Baker White
Clean Room
RETAIL
SUITE
400
RETAIL
SUITE
500
E-Cig Retail
Store
BUILDING ADDRESS
6111 HIGHWAY 10
RAMSEY, MN 55303

MEMORANDUM

TO: **Chris Anderson, City Planner**

FROM: Joseph J. Langel & Timothy A. Sullivan

DATE: February 20, 2018

SUBJECT: E-cig Accessory Use Issue
File No. 4033-0182

You asked our office for an opinion regarding the following:

FACTS

The subject property is located in the H-1 Highway 10 Business District. Baker White currently operates two separate businesses in a multi-tenant building located at 6111 Highway 10: an e-cigarette retail store and, next door, a related business that, at least in part, produces and packages e-cigarette liquid to be sold at the E-cigarette store.

The owners of Baker White submitted a building permit to convert a separate 1,600 square foot unit in the building into a facility for manufacturing "tasting sticks" for the various flavors of e-cigarette liquid they produce. This unit is not adjacent to the other two units currently occupied by Baker White. These "tasting sticks" are not intended to be sold via retail, but rather would be provided to the businesses who sell their e-cigarette liquid, including the e-cigarette store in the building, as a means of permitting customers to taste the product prior to purchase.

Looking at the Baker White website (bakerwhite.com), it lists their address as 6111 Highway 10 NW, Suite 300, Ramsey, MN 55303. Their website indicates they have been producing "premium e-liquid" since 2013. The website lists a number of Baker White's accomplishments, including: "Building an ISO 14644-1:1999 Class 6 clean room equipped with laboratory grade manufacturing equipment," and "Building an analytical laboratory to rest raw materials like PG, VG, Nicotine, and flavoring compounds to ensure they meet our strict manufacturing tolerances." It is unclear whether these clean room and laboratory facilities are located at the subject property or elsewhere.

The website also lists a "store," which contains links to other locations where their e-liquids can be purchased. These include stores in Illinois, Minnesota, Missouri, Ohio, and South Dakota. It also includes information for businesses interested in carrying their brands, and directs inquires for wholesale information to the 6111 Highway 10 address.

ISSUE

Is the proposed use of the new space a permitted "accessory use" under the Zoning Ordinance?

ANALYSIS

A. Zoning Standards for the H-1 Highway 10 Business District

The H-1 Highway 10 Business District lists the following nine permitted uses:

(1) Indoor/Outdoor commercial recreation areas;
(2) Governmental and public utility buildings and structures;
(3) Animal clinics;
(4) Adult uses – principal and adult uses – accessory;
(5) Enclosed retail sales and rental activity;
(6) Offices, personal and professional services;
(7) Commercial carwashes (drive through and mechanical);
(8) Motor vehicle repair; and
(9) Bands, on and off sale liquor, and restaurants housed within a multitenant building.

The H-1 Highway 10 Business District lists only one permitted conditional use: Motor vehicle, implement, and recreation equipment sales and service.

The H-1 Highway 10 Business District lists the following six permitted accessory uses:

(1) Commercial or business buildings and structures for a use accessory to the principal use but such use shall not exceed 30 percent of the gross floor space of the principal use unless otherwise approved by the city council;
(2) Open and outdoor areas for display of goods and rental;
(3) Temporary seasonal sales;
(4) Motor vehicle implement and recreational indoor storage when accessory to sales and service;
(5) Additional accessory use: Outdoor storage for materials and equipment accessory to the principal use under certain delineated conditions; and
(6) Seasonal outdoor storage of marine boats under certain delineated conditions.

B. Application of Zoning Standards to Baker White Businesses.

The e-cigarette store is a permitted enclosed retail use.

The use of the adjacent unit by Baker White is less clear. If they are merely using it as company headquarters, then it would likely be a permitted office use. If they are using it as a clean room and laboratory to manufacture and wholesale e-liquid, then it is not a permitted use. More facts are needed, specifically whether the clean room and laboratory are located in this facility, whether the wholesale operation occurs in the building, and what other specific business activities are being conducted in the unit.

The proposed use of the third unit for the manufacture of "tasting sticks" does not appear to be a permitted use. This use is likely best classified as light manufacturing, which the Zoning Code defines as meaning "the processing and fabrication of certain materials and products where no process involved will produce noise, vibrations, air pollution, fire hazard or noxious emissions which will disturb or endanger neighboring properties." Light manufacturing is not a permitted primary, conditional, or accessory use in the H-1 Highway 10 Business District. Notably, light manufacturing is also likely the best way to classify the production of e-liquids in the clean room and laboratory described on the Baker White website.

Further, even if the "tasting stick" operation could somehow be classified as an accessory use to their other primary uses, the Zoning Code requires accessory commercial buildings or structures to occupy no less than 30% of the gross floor space of the principal use. It is unclear whether the proposed 1,600 sq. foot facility would fall within these guidelines, as the total floor space of the principal use would need to exceed 5,300 sq. ft.

CONCLUSION

There is a lot of information that will be needed to fully analyze whether the existing and proposed uses by Baker White are in conformity with the zoning code. Based upon the information we have reviewed, it does not appear that the proposed "tasting stick" manufacturing use is permitted, either as a principal, conditional, or accessory use, within the H-1 Highway 10 Business District. There are also questions as to whether Baker White's current use of the property adjacent to the e-cigarette store is permitted in the zoning district. If they are engaging in wholesale or light manufacturing, such are not be permitted.

RRM: 284882

Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

CC Regular Session **7. 4.**

Meeting Date: 03/27/2018

By: Bruce Westby, Engineering/Public Works

Information

Title:

Adopt Resolution #18-057 Approving Plans and Specifications and Authorizing Advertisements for Bids for 2018 Street Overlay Improvements, Improvement Project #18-03

Purpose/Background:

Purpose:
The purpose of this case is to adopt Resolution #18-057 approving plans and specifications and authorizing advertisements for bids for 2018 Street Overlay Improvements, Improvement Project #18-03.

Background:
Numerous public street segments were identified in eight residential developments throughout the City having Pavement and Surface Evaluation Rating (PASER) values between 3 and 5, indicating they are good candidates for pavement overlay improvements in 2018. Overlaying these streets in 2018 will allow the City to maintain the pavement in the most cost-effective manner throughout the serviceable life of the streets.

Attached is a figure showing the specific street segments proposed to receive bituminous pavement overlay improvements in 2018. These street segments are located in the following residential developments:

- Northfork
- Northfork Oaks
- Northfork 2nd Addition
- Northfork 3rd Addition
- Northfork Itasca Shores
- The North Forty 2nd Addition
- The North Forty 3rd Addition
- Woodland Green

As outlined in attached Resolution #18-057, a Feasibility Report was ordered for the proposed 2018 Street Overlay Improvements, and on January 9, 2018, the City Council conducted a Public Hearing, approved the Feasibility Report, adopted preliminary assessments, and ordered the preparation of plans and specifications.

Special assessments are eligible as a funding source for these improvements per requirements of Minnesota Statute Chapter 429, Chapter 8 of the City Charter, and the City's Special Assessment Policy.

The proposed improvements are designated as City Improvement Project #18-03, 2018 Street Overlay Improvements.

Notification:

If Council approves plans and specifications and authorizes advertising for bids, bids will be advertised on Friday, March 30, and again on Friday, April 6, both in the City's official newspaper, the Anoka Union Herald, and in Finance & Commerce.

Observations/Alternatives:

Observations:

While preparing plans and specifications, Staff reviewed existing pavement conditions in detail and discovered several areas of severely damaged pavement in three project areas. Staff proposes to complete bituminous pavement patching work in these areas prior to overlaying the streets so the overlay improvements can achieve its design life of 15 to 20 years. The proposed bituminous patching work involves removing the existing damaged pavement, shaping and compacting the existing aggregate base, and placing and compacting new bituminous pavement to the same elevation of the existing pavement.

Attached is a copy of the plans prepared by Staff. The proposed pavement patching work is shown on plan sheets 20, 21, and 22. Staff estimates this bituminous patching work will increase project costs by $33,000. Also attached are copies of plan sheets 20, 21, and 22 with the areas proposed to receive bituminous patching work highlighted in yellow.

The City's adopted Special Assessments Policy allows up to 25-percent of eligible overlay project costs to be assessed against benefiting properties. Staff proposed to assess 25% of eligible project costs when calculating preliminary assessments, which were then adopted by Council. Unless bids come in significantly less than the engineer's estimate based on the attached plans, it is likely the proposed bituminous patching work would result in increased special assessment amounts in three project areas, unless patching costs were to be paid by the City and not assessed to property owners.

Staff discussed this with the Public Works Committee on March 20th and presented the four following options to address the increased project costs and potential impacts to special assessments.

- Overlay damaged areas as is – This option would likely result in the overlay improvements failing prematurely over areas of severely damaged pavement. Staff does not support this option.
- Overlay damaged areas after patching with new pavement – This option should allow the overlay improvements to achieve their design life of 15 to 20 years. Staff supports this option.
- Reconstruct affected street segments in 2019 – This option is viable since these improvements are listed in the 5-year Street Reconstruction Overlay Plan. However, street reconstruction costs are typically several times higher than overlay costs meaning special assessments are also typically several times higher. Multiple overlays can therefore typically be performed for the same cost as a reconstruction. It is also important to understand that one of Staff's goals while maintaining streets is to ultimately allow all streets within a neighborhood to be maintained using the same treatment on the same schedule to minimize maintenance costs and impacts to residents. Staff therefore recommends patching the damaged pavement areas in an effort to extend the life of the existing pavement as much as possible before reconstructing.
- Do nothing – Staff does not generally support this option.

After discussing the patching issue in detail, including the four options outlined above, the Committee unanimously recommended City Council approval of including the proposed bituminous patching improvements with the 2018 Street Overlay Improvements, with all costs for the patching to be paid by the City.

Alternatives:

Alternative #1 – Motion to adopt Resolution #18-057 approving plans and specifications and authorizing advertisements for bids for 2018 Street Overlay Improvements, Improvement Project #18-03, and to approve of the City paying for all bituminous patching costs.

Alternative #2 – Motion to adopt Resolution #18-057 approving plans and specifications and authorizing advertisements for bids for 2018 Street Overlay Improvements, Improvement Project #18-03, and to approve of assessing 25% of the bituminous patching costs to benefiting properties.

Alternative #3 – Motion of other.

Funding Source:

The estimated project cost based on final plans and specifications is $662,900.88.

The City's 5-year Street Reconstruction and Overlay Program includes the streets listed above as proposed 2018 overlay improvements, allowing the City to utilize street reconstruction bonds to fund the improvements up front. The City's current 10-year Capital Improvement Plan (CIP) includes the proposed 2018 overlay improvements. Copies of each are attached for reference.

Special assessments are proposed to fund 25% of eligible project costs, which excludes bituminous patching costs. This amount totals $157,465.92. Proposed special assessment amounts vary by project area. To be consistent with past practice, special assessments are proposed to be equal across all properties in each project area since each property generally receives the same benefit based on similar property values. This is consistent with the "per lot" method of assessment defined within the City's Special Assessments Policy. Final assessment amounts may be more or less based on final construction costs.

Storm water funds will fund all storm sewer project costs, which total $27,930.

Street reconstruction bonds will ultimately fund all remaining project costs in the estimated amount of $477,504.96, which includes bituminous patching costs.

Recommendation:

Staff recommends approval of Alternative #1 for the following reasons:

- The bituminous patching work was not identified in the Feasibility Report, nor was it addressed at the Public Hearing.
- Assessing 25% of the bituminous patching costs would significantly increase assessments in two of the project areas.
- Staff believes the areas of severely damaged pavement correlate to areas of poor subgrade soils.
- Subgrade soil corrections are ineligible project costs for street reconstruction projects per the City's adopted Special Assessments Policy.

Action:

Motion to adopt Resolution #18-057 approving plans and specifications and authorizing advertisements for bids for 2018 Street Overlay Improvements, Improvement Project #18-03, and to approve of the City paying for all bituminous patching costs.

Attachments

Resolution 18-057
IP 18-03 Plans
Plan Sheet 20 PatchHL
Plan Sheet 21 PatchHL
Plan Sheet 22 PatchHL
2015-2019 SROP
IP 18-03 CIP Sheet

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:42 PM
Form Started By: Bruce Westby		Started On: 03/12/2018 01:12 PM
Final Approval Date: 03/22/2018		

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

RESOLUTION #18-057

RESOLUTION APPROVING PLANS AND SPECIFICATIONS AND AUTHORIZING ADVERTISEMENTS FOR BIDS FOR 2018 STREET OVERLAY IMPROVEMENTS, IMPROVEMENT PROJECT #18-03

WHEREAS, the City of Ramsey proposes to overlay numerous street segments in 2018 for the purpose of maintaining these streets as cost-effectively as possible; and

WHEREAS, pursuant to Ramsey City Council resolution #17-10-270, adopted October 24, 2017, the City Engineer was ordered to prepare a Feasibility Report to study the feasibility of completing pavement overlay improvements to approximately 3.5 miles of bituminous pavement on numerous street segments in eight residential developments throughout the City, and other appurtenant work; and

WHEREAS, pursuant to Ramsey City Council resolution #17-12-315, adopted December 12, 2017, the City Council received and accepted the Feasibility Report, and a Public Hearing was ordered for January 9, 2018, to consider the proposed improvements for said streets in accordance with the Feasibility Report; and

WHEREAS, benefiting properties are proposed to be assessed for 25-percent of the cost of eligible improvements, pursuant to Minnesota Statutes Chapter 429, Chapter 8 of the City Charter, and the City's Special Assessments Policy; and

WHEREAS, the City Clerk gave mailed and published notice of such hearing and improvements as required by law; and

WHEREAS, pursuant to Ramsey City Council resolution #18-012, adopted January 9, 2018, the Feasibility Report was approved following a Public Hearing, and the City Engineer was designated as the engineer for this improvement and was ordered to prepare plans and specifications for the making of such improvements; and

WHEREAS, the City Engineer has completed plans and specifications for the purpose of advertising for bids for the same improvements.

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

The Ramsey City Council hereby approves the final plans and specifications prepared by the City Engineer for the making of such improvements, and authorizes the advertisement of bids for the same improvements.

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:

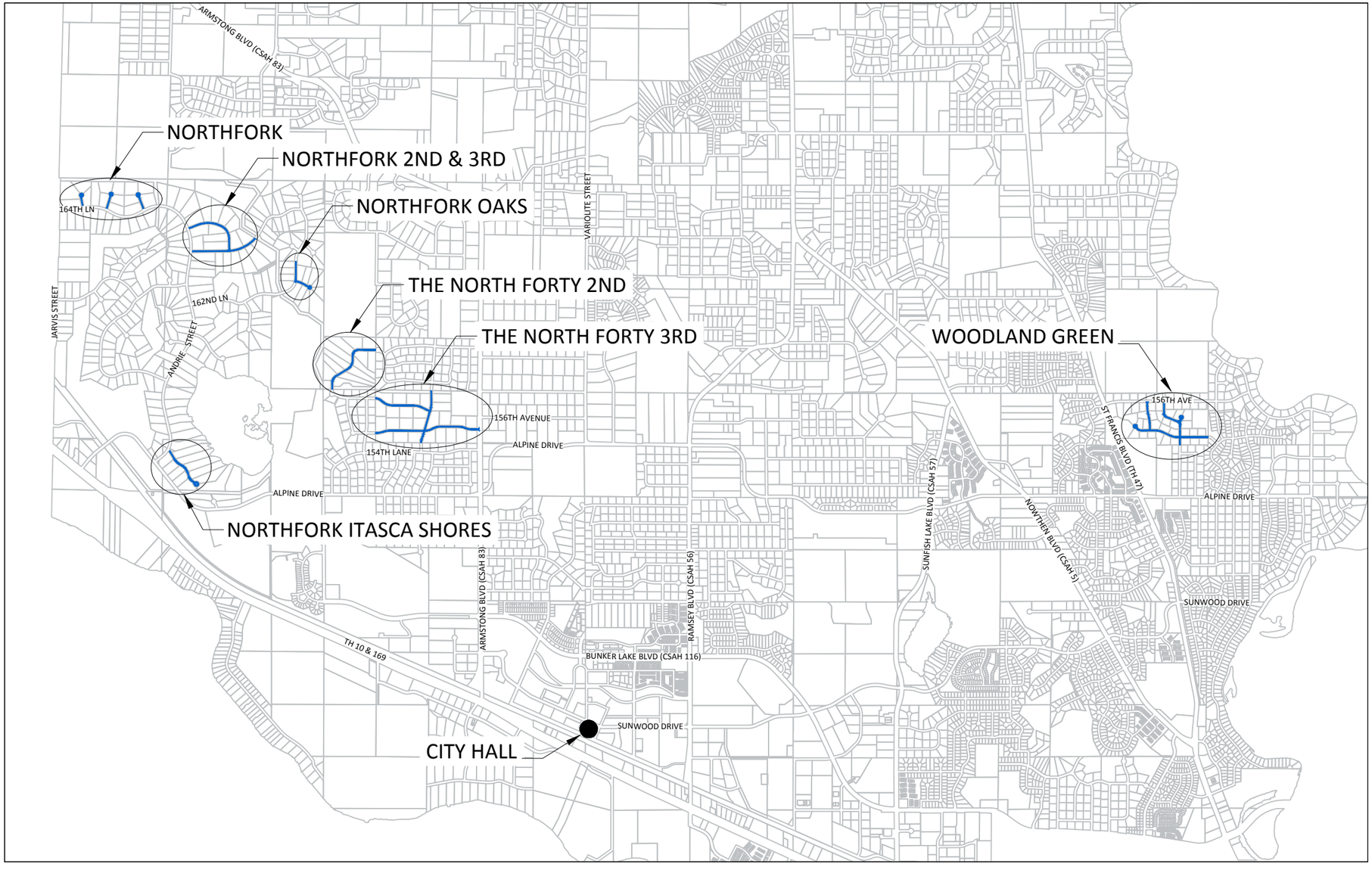
Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 27th day of March, 2018.

_____
Mayor

ATTEST:

_____
City Clerk

CITY OF RAMSEY
2018 STREET OVERLAY IMPROVEMENTS
CITY IMPROVEMENT PROJECT NO. 18-03



0 1455 2910 4365
SCALE (FEET)

N

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL 1-800-252-1166 OR 651-454-0002

Call before you dig
811
651 454-0002 Metro
800 252-1166 Outstate
www.gopherstateonecall.org

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

SHEET INDEX

THIS PLAN CONTAINS 22 SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	CITY DETAILS
4	PEDESTRIAN RAMP LAYOUTS
5 - 10	MNDOT PED RAMP DETAILS
11 - 12	WOODLAND GREEN OVERLAY
13 - 14	THE NORTH FORTY 2ND OVERLAY
15 - 18	THE NORTH FORTY 3RD OVERLAY
19	NORTHFORK ITASCA SHORES OVERLAY
20	NORTHFORK OVERLAY
21	NORTHFORK 2ND & 3RD OVERLAY
22	NORTHFORK OAKS OVERLAY

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

BRUCE R WESTBY, P.E.
RAMSEY CITY ENGINEER

40116 LIC. NO.

DATE 3/22/18

DATE	REVISION

Mar. 22, 2018 - 9:34am
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18-03 2018 OVERLAY IMPROVEMENTS
STATEMENT OF ESTIMATED QUANTITIES

PAGE No.	NOTE	MNDOT No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
		2021.501	MOBILIZATION	LS	1
4	1	2104.503	REMOVE CONCRETE PAVEMENT	SF	66
11 - 22	1	2104.505	REMOVE BITUMINOUS PAVEMENT	SY	113
19 - 22		2104.509	REMOVE CASTING	EA	10
11 - 22	1	2104.513	SAWING BITUMINOUS PAVEMENT	LF	1,325
19 - 22	2	2211.503	AGGREGATE BASE CLASS 5 MODIFIED (CV)	CY	8
20 - 22	1	2231.604	BITUMINOUS PATCH	SY	1,932
11 - 12	1	2232.501	EDGE MILL BITUMINOUS PAVEMENT 7' X (0" - 2")	SY	6,600
11 - 22	1	2232.501	MILL BITUMINOUS PAVEMENT	SY	170
11 - 22	3	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	4,423
11 - 22	4	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (2.0")	TON	6,947
19 - 22		2506.516	CASTING ASSEMBLY	EA	10
19 - 22	6	2506.521	INSTALL CASTING	EA	10
11 - 12	6	2506.602	RESET CATCH BASIN / MANHOLE CASTING	EA	10
4		2521.501	6" CONCRETE WALK	SF	120
19 - 22		2531.501	CONCRETE CURB & GUTTER DESIGN SURMOUNTABLE	LF	100
4		2531.618	TRUNCATED DOMES	SF	32
	5	2563.601	TRAFFIC CONTROL	LS	1
19 - 22	2	2574.525	COMMON TOPSOIL BORROW (LV)	CY	20
19 - 22		2575.505	SODDING TYPE LAWN	SY	141

PAY ITEM NOTES:

1. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
2. EV TO CV CONVERSION FACTOR = 1.2.
3. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
4. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 110 LB/SY-IN.
5. LUMP SUM QUANTITY SHALL INCLUDE ALL COST REQUIRED FOR MAINTAINING ALL FLAGGING OPERATIONS AS NECESSARY, MAINTAINING PEDESTRIAN ACCESS ROUTES, ANY SIGNAGE AND BARRICADES AS NECESSARY.
6. PAY ITEM INCLUDES ALL REQUIRED ADJUSTMENTS TO CASTINGS AS WELL AS THE ADDITION AND/OR REPLACEMENT OF ADJUSTMENT RINGS, GROUTING OF THE INSIDE OF THE ADJUSTMENT RINGS AND DOGHOUSES TO A SMOOTH FINISH.

GENERAL NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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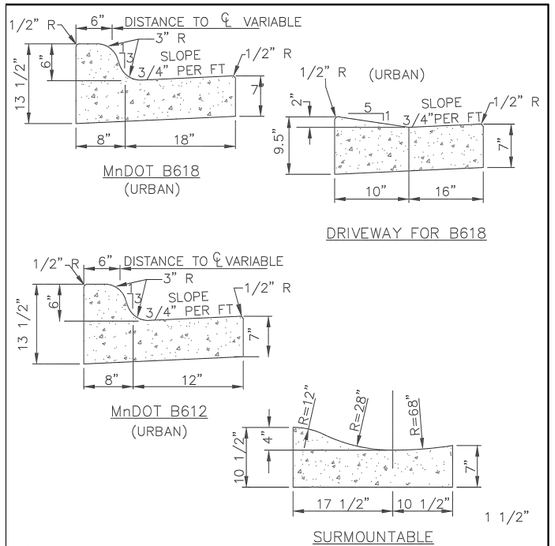
Bruce Westby
Date 3/22/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	3/22/18
CHECKED BY:	BRW	FILE No.	18-03

City of RAMSEY
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STATEMENT OF ESTIMATED QUANTITIES

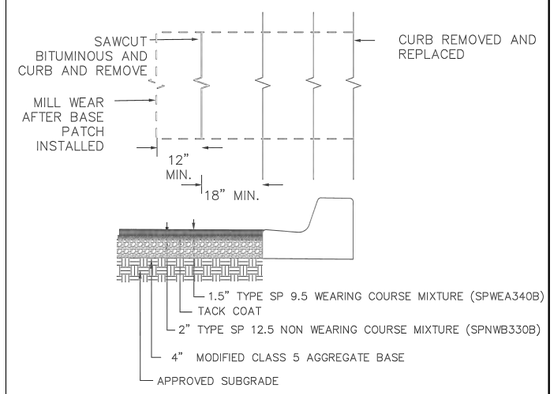
2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA



NOTES:

1. ON WEAR COURSE MILL THE EXISTING BITUMINOUS 1.5" BY 24" IN FRONT OF THE REPLACEMENT CURB.
2. ON BASE COURSE SAW CUT AND REMOVE EXISTING BITUMINOUS 18" IN FRONT OF THE REPLACEMENT CURB.

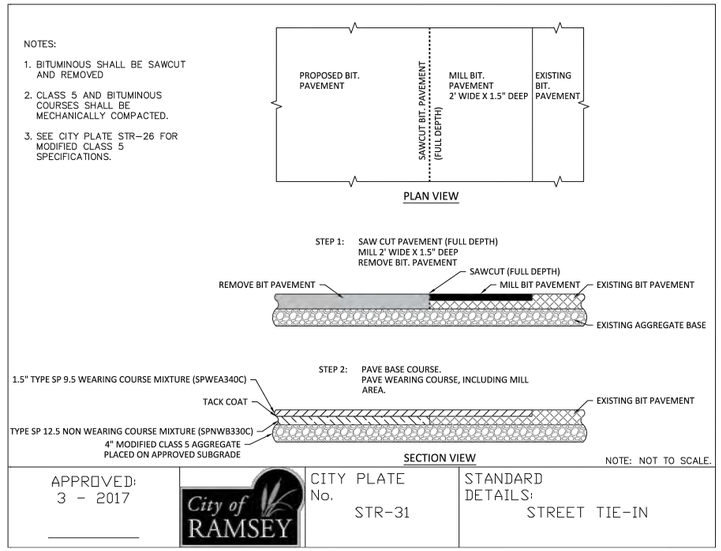
APPROVED: 1 - 2016	City of RAMSEY	STANDARD DETAILS: CURB AND GUTTER
		CITY PLATE No. STR-1



NOTES:

1. BITUMNOUS SHALL BE SAWCUT AND REMOVED AFTER CURB IS REPLACED.
2. CLASS 5 AND BITUMINOUS COURSES SHALL BE MECHNICALLY COMPACTED.
3. SEE CITY PLATE STR-26 FOR MODIFIED CLASS 5 SPECIFICATIONS.

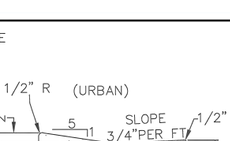
APPROVED: 6 - 2016	City of RAMSEY	STANDARD DETAILS: STREET PATCHING STANDARDS
		CITY PLATE No. STR-25



APPROVED: 3 - 2017	City of RAMSEY	CITY PLATE No. STR-31	STANDARD DETAILS: STREET TIE-IN

NOTE: SURMOUNTABLE CURB & GUTTER

1. CATCH BASIN CASTING SHALL BE NEENAH R-3067 WITH GRATED BACK (BICYLE SAFE) OR APPROVED EQUAL.
2. FOR CATCH BASINS ADJACENT TO RADIUS, USE NEENAH R-3246R OR APPOVED EQUAL.



NOTE: B 618 CURB & GUTTER

1. CATCH BASIN CASTING SHALL BE NEENAH R-3246R OR APPROVED EQUAL.

STANDARD CATCHBASIN CASTING

APPROVED: 7 - 2016	City of RAMSEY	STANDARD DETAILS: STORMWATER CASTING
		CITY PLATE No. STO-4

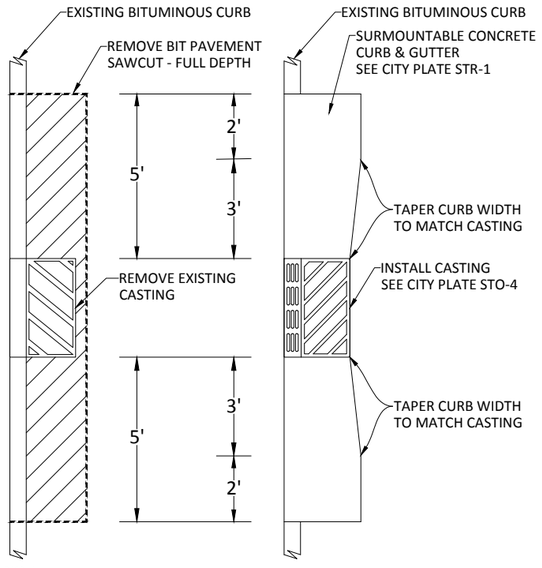
TABLE A
MODIFIED CLASS 5 SPECIFICATIONS
% PASSING

1"	100
3/4"	90 - 100
3/8"	50 - 80
No.4	35 - 70
No.10	20 - 60
No.40	10 - 35
No.200	5 - 10

NOTES:
1. THE AGGREGATE BASE CONSTRUCTION WILL BE ACCEPTED FOR PAYMENT IN ACCORDANCE WITH THE PROVISIONS IN TABLE A.
2. IF THE AGGREGATE BASE FAILS TO MEET THE REQUIREMENTS OF TABLE A THE MATERIAL CAN BE CORRECTED IN PLACE OR REMOVED AND REPLACED WITH MATERIAL THAT MEET THE REQUIREMENTS OF TABLE A.
3. IN THE EVENT THAT RECYCLED MATERIAL IS USE IT MUST MEET MNDOT REQUIREMENTS FOR RECYCLED BASE.

APPROVED: 2 - 2003	City of RAMSEY	STANDARD DETAILS: MODIFIED CLASS 5 SPECIFICATIONS
		CITY PLATE No. STR-26

CITY DETAIL: REPLACE STORM SEWER CASTING



NOTE:
1. REMOVAL OF BITUMINOUS PAVEMENT, BITUMINOUS CURB, AGGREGATE BASE IS INCIDENTAL TO THE REMOVE BIT PAVEMENT PAY ITEM.
2. CLASS 5 AND BITUMINOUS COURSES SHALL BE MECHANICALLY COMPACTED.
3. SEE CITY PLATE STR-25 FOR STREET PATCHING.
4. SEE CITY PLATE STR-26 FOR MODIFIED CLASS 5 SPECIFICATIONS.

MNDOT 2016 SPEC

MNDOT 2016 SPEC TABLE 3877-1 COMMON TOPSOIL BORROW		
REQUIREMENT	RANGE	TEST METHOD
MATERIAL PASSING THE 3/4 IN [19MM]	100%	ASTM D 422
MATERIAL PASSING NO. 4 [4.75MM]	>85%	-
CLAY	5% -35%	ASTM D 422
SILT	5% - 70%	ASTM D 422
SAND	10% - 75%	ASTM D 422
ORGANIC MATTER	3% - 15%	ASTM D 2974
pH	6.1-7.8	ASTM G 51

NOTE:
1. INSTALLATION OF 4" OF TOPSOIL MEETING MNDOT SPECIFICATION 3877A COMMON TOPSOIL BORROW, MAY BE REQUIRED ACROSS ALL DISTURBED AREAS.
2. A SOIL CERTIFICATION FROM A GEOTECHNICAL FIRM MUST BE PROVIDED VERIFYING THE TOPSOIL MEETS SPECIFICATION ALONG WITH LOAD TICKETS TO VERIFY THE SOURCE OF MATERIAL AND QUANTITY.
3. TOPSOIL MUST COME FROM A CITY APPROVED SOURCE.

APPROVED: 1 - 2016	City of RAMSEY	CITY PLATE No. ERO-6	STANDARD DETAILS: TOPSOIL REQUIREMENTS

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Bruce Westby
Date 3/22/18 Lic. No. 40116

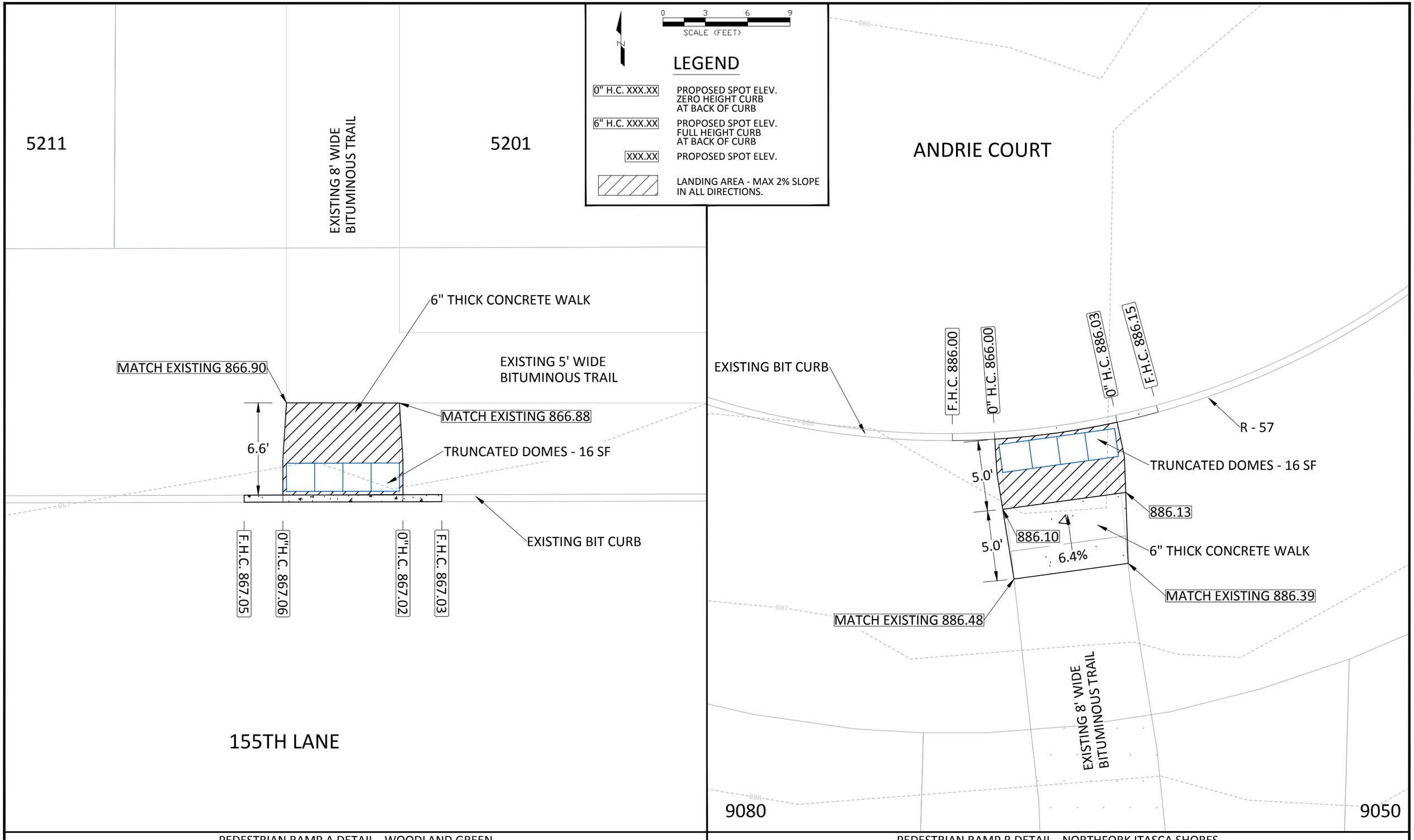
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CHECKED BY:	BRW	FILE No. 18-03

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CITY DETAILS

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 3 OF 22 SHEETS



PEDESTRIAN RAMP A DETAIL - WOODLAND GREEN

PEDESTRIAN RAMP B DETAIL - NORTHFORK ITASCA SHORES

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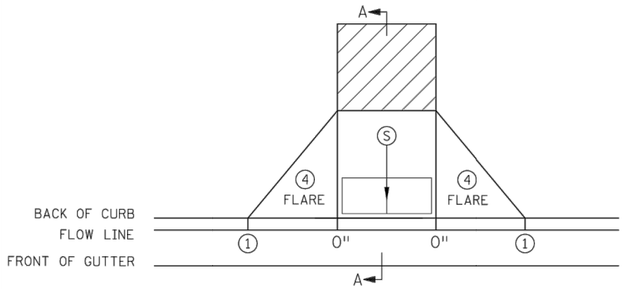
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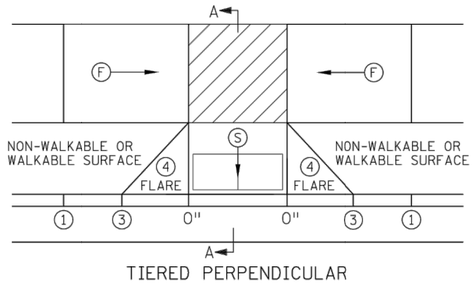
PEDESTRIAN RAMP LAYOUTS

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

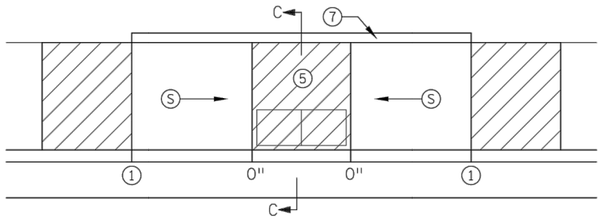
SHEET 4 OF 22 SHEETS



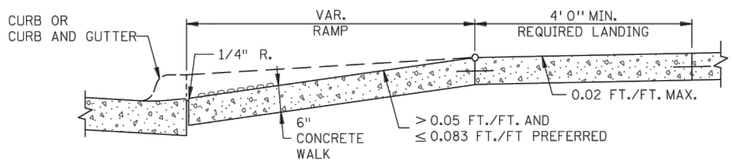
PERPENDICULAR



TIERED PERPENDICULAR

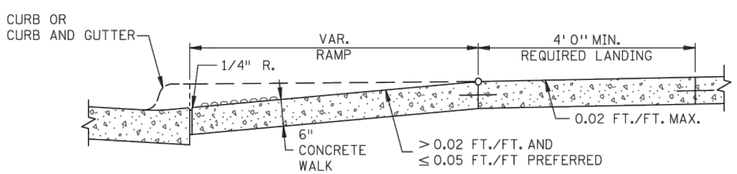


PARALLEL



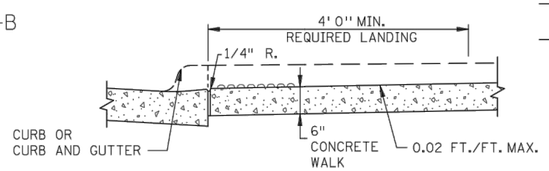
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



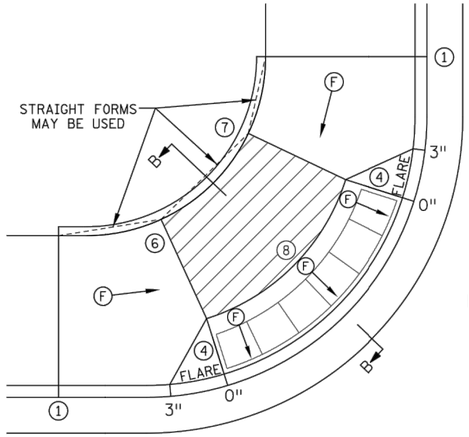
SECTION B-B

FAN

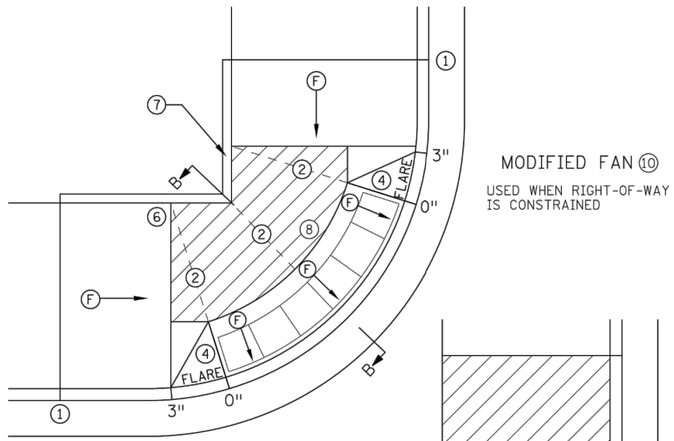


SECTION C-C

PARALLEL/DEPRESSED CORNER

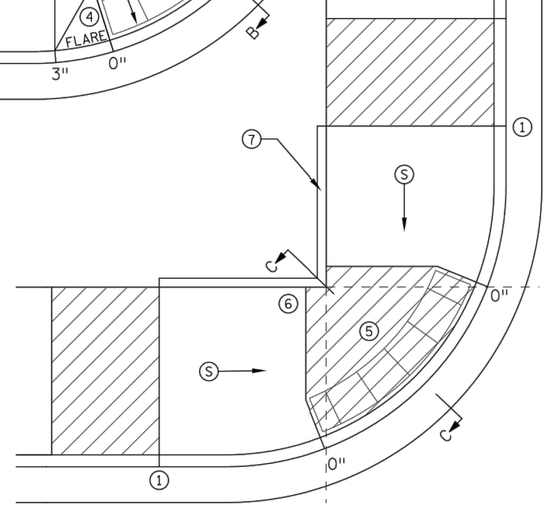


FAN⑩

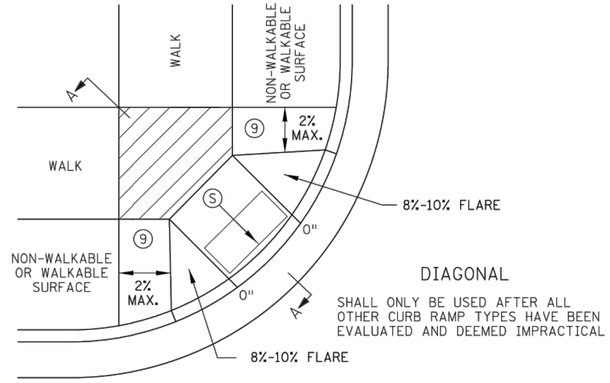


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

① MATCH FULL HEIGHT CURB.
② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
⑧ A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
⑨ PAVE FULL WALK WIDTH.
⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- X" CURB HEIGHT

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 1 OF 6

DATE	REVISION

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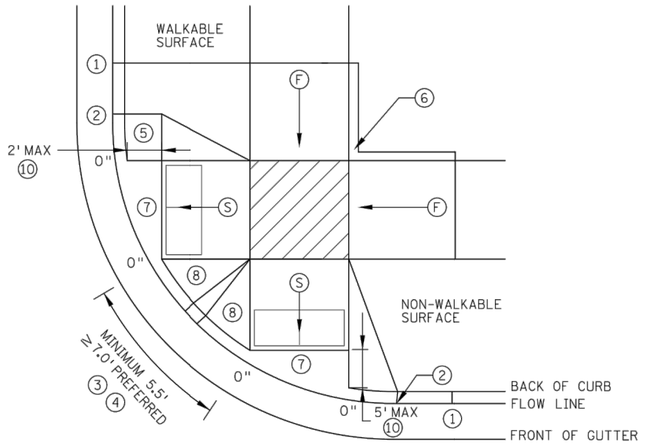
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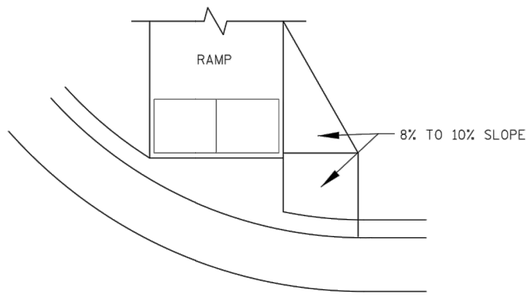
MNDOT PED RAMP DETAILS

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CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 5 OF 22 SHEETS



COMBINED DIRECTIONAL ⑨



DIRECTIONAL RAMP WALKABLE FLARE

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.

② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.

③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).

④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.

⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.

⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

⑧ 8% TO 10% WALKABLE FLARE.

⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

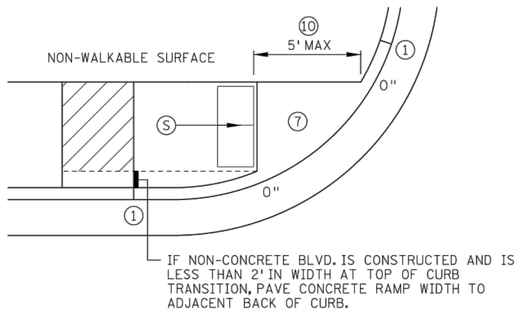
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

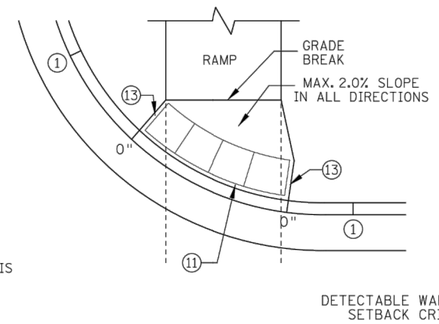
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

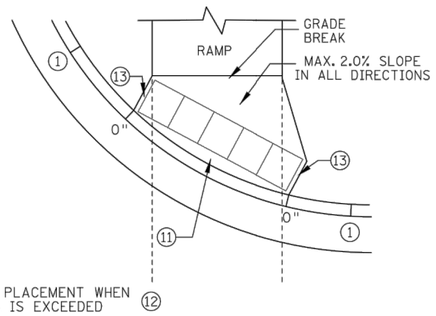
⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

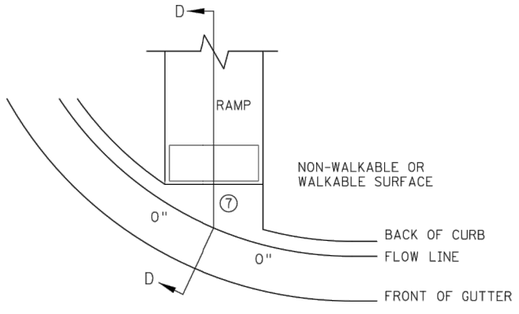


STANDARD ONE-WAY DIRECTIONAL ⑨

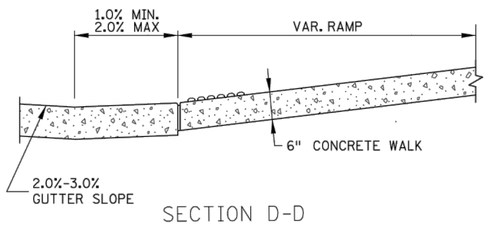


ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

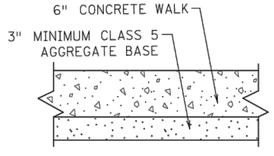




CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

LEGEND
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X" CURB HEIGHT

REVISION:

APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 2 OF 6

DATE	REVISION

Mar 22, 2018 - 9:36am
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Bruce Westby
Date 3/22/18 Lic. No. 40116

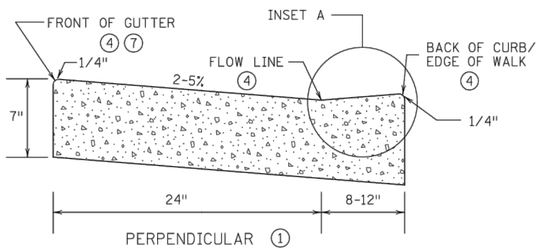
DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 3/22/18
CHECKED BY:	BRW	FILE No. 18-03

CITY OF RAMSEY
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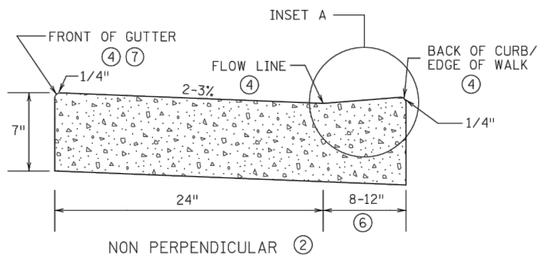
MNDOT PED RAMP DETAILS

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 6 OF 22 SHEETS

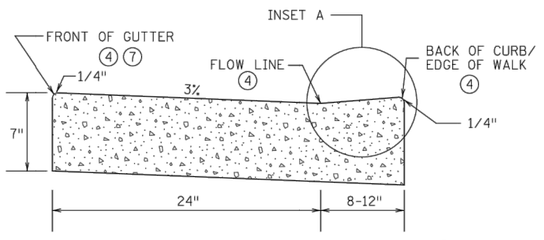


PERPENDICULAR ①

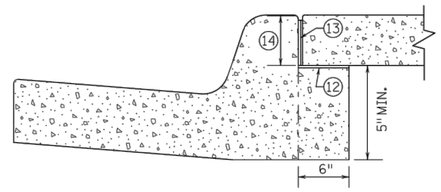


NON PERPENDICULAR ②

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

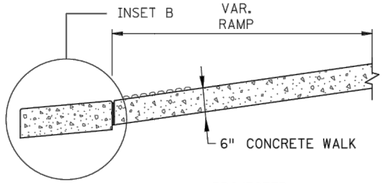


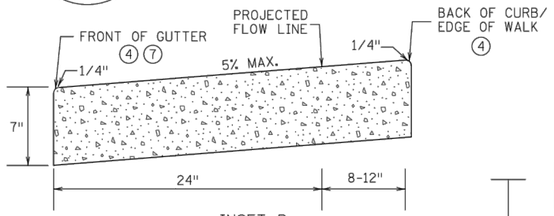
FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)



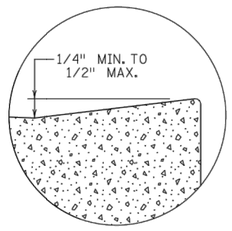
OPTIONAL SILL CURB WHEN SIDEWALK
IS AT BACK OF CURB

CONCRETE SILL TO BE USED ONLY WHEN
SPECIFIED IN THE PLAN.

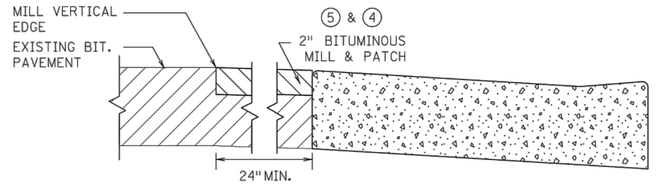


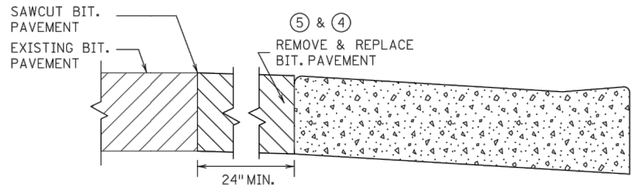


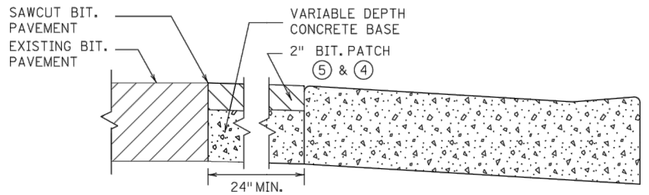
INSET B
OUTFLOW GUTTER ⑧



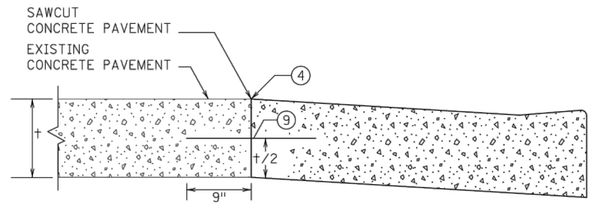
INSET A





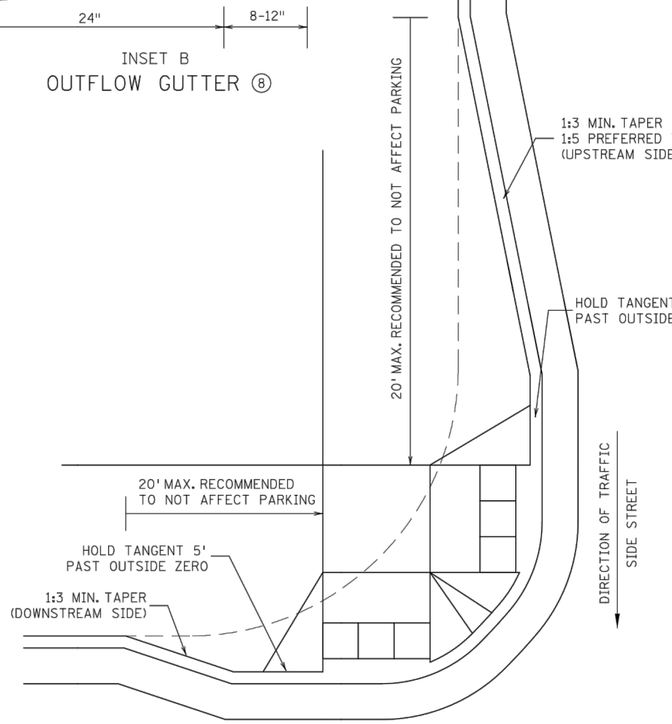


ONLY ALLOWED PER ENGINEER'S APPROVAL

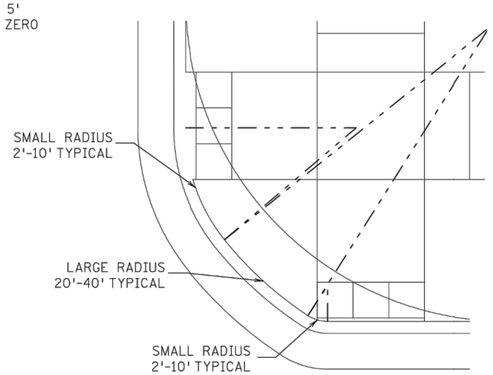


PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.

③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.

④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.

⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.

⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 3 OF 6

DATE	REVISION

Mar 22, 2018 - 9:37am
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Bruce Westby
Date 3/22/18 Lic. No. 40116

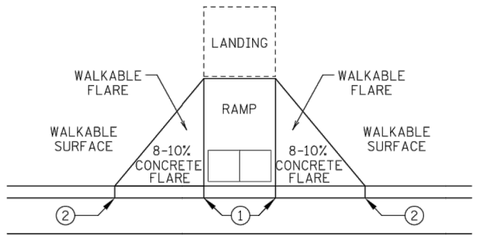
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DRAWN BY:	JJF	DATE:	3/22/18
CHECKED BY:	BRW	FILE No.	18-03

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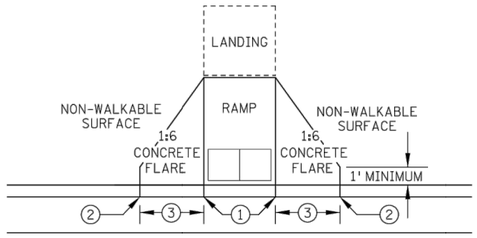
MNDOT PED RAMP DETAILS

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

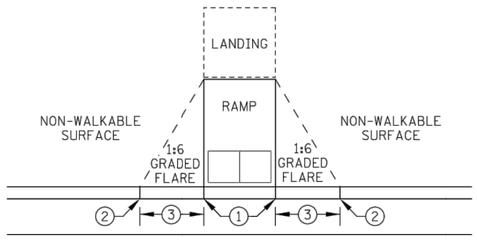
SHEET 7 OF 22 SHEETS



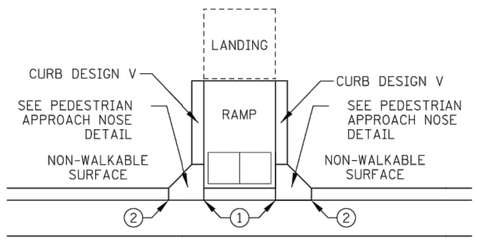
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

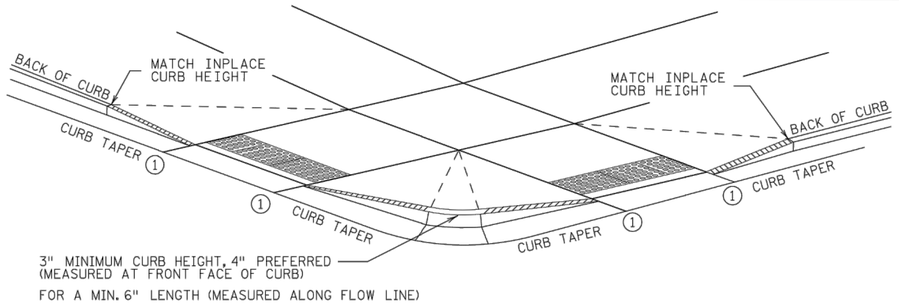


GRADED FLARES

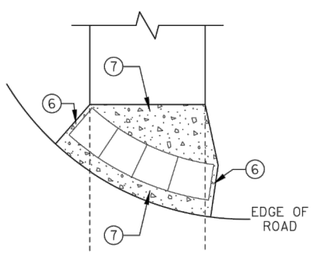


RETURNED CURB ⑤

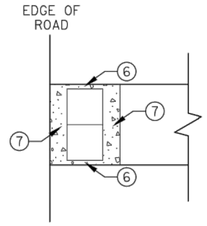
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

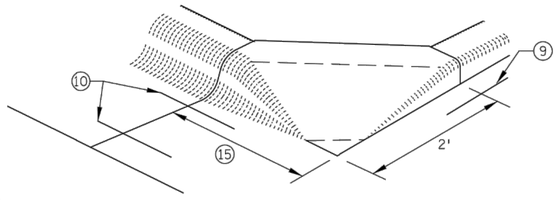


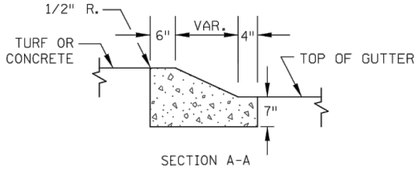
RADIAL DETECTABLE WARNING



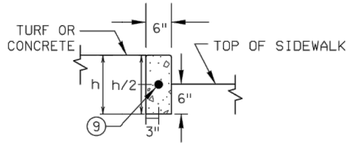
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

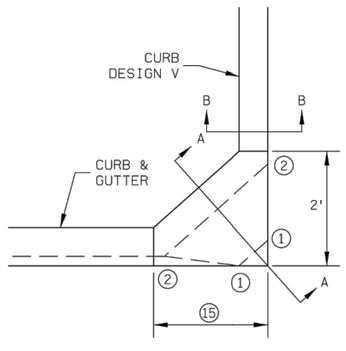




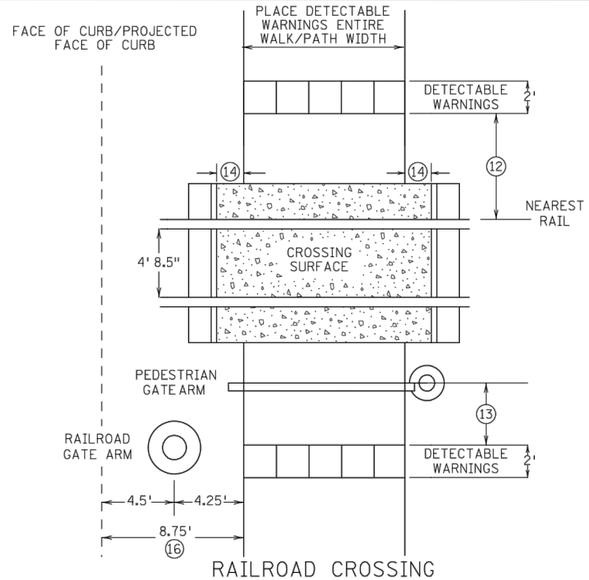
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.

④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑩ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.

⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.

⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 4 OF 6

DATE	REVISION

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Bruce Westby
Date 3/22/18 Lic. No. 40116

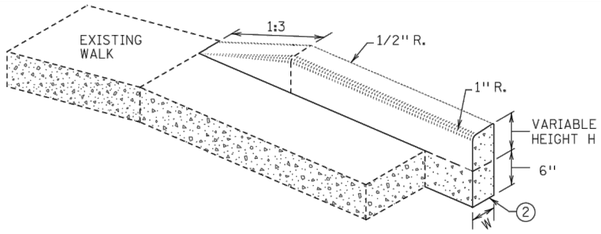
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DRAWN BY:	JJF	DATE: 3/22/18
CHECKED BY:	BRW	FILE No. 18-03

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MNDOT PED RAMP DETAILS

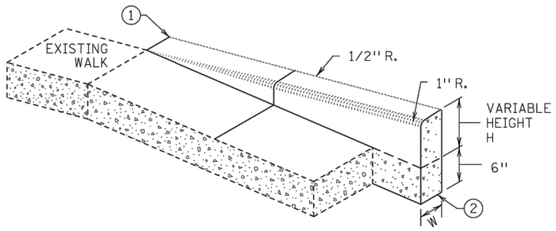
2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 8 OF 22 SHEETS



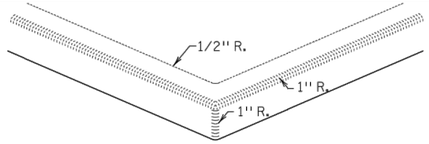
V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS

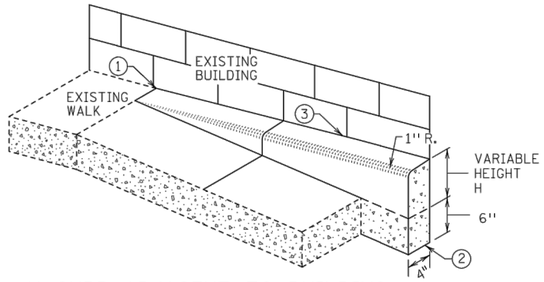


V CURB ADJACENT TO LANDSCAPE

CURB OUTSIDE SIDEWALK LIMITS

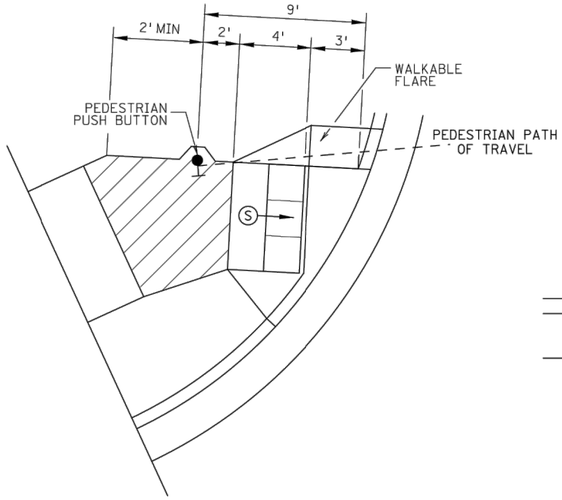


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING OR BARRIER

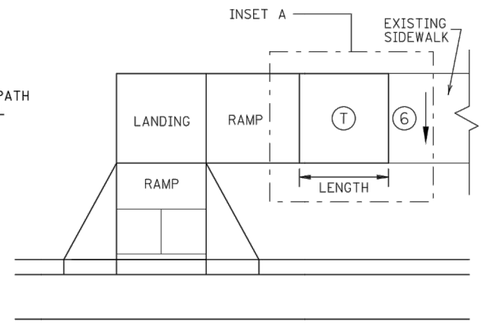
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
<6"	4"
≥6"	6"

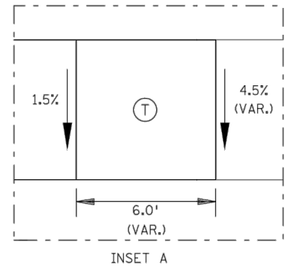


SEMI-DIRECTIONAL RAMP (3,4,9)

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)





TRANSITION PANEL ④⑤

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

(1) END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

(2) ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

(3) EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

(4) THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.

(5) TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).

(6) EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

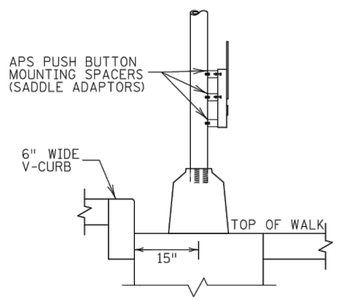
(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

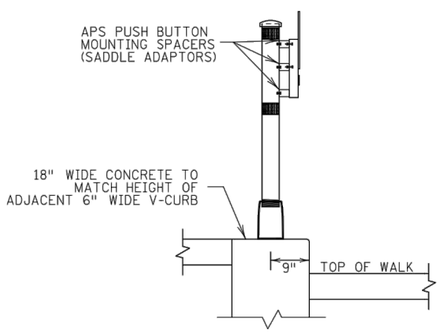
(T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

PLAN VIEW

PLAN VIEW



SECTION B-B



SECTION A-A

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)

PUSH BUTTON STATION (V-CURB)

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 5 OF 6

DATE	REVISION

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Bruce Westby
Date 3/22/18 Lic. No. 40116

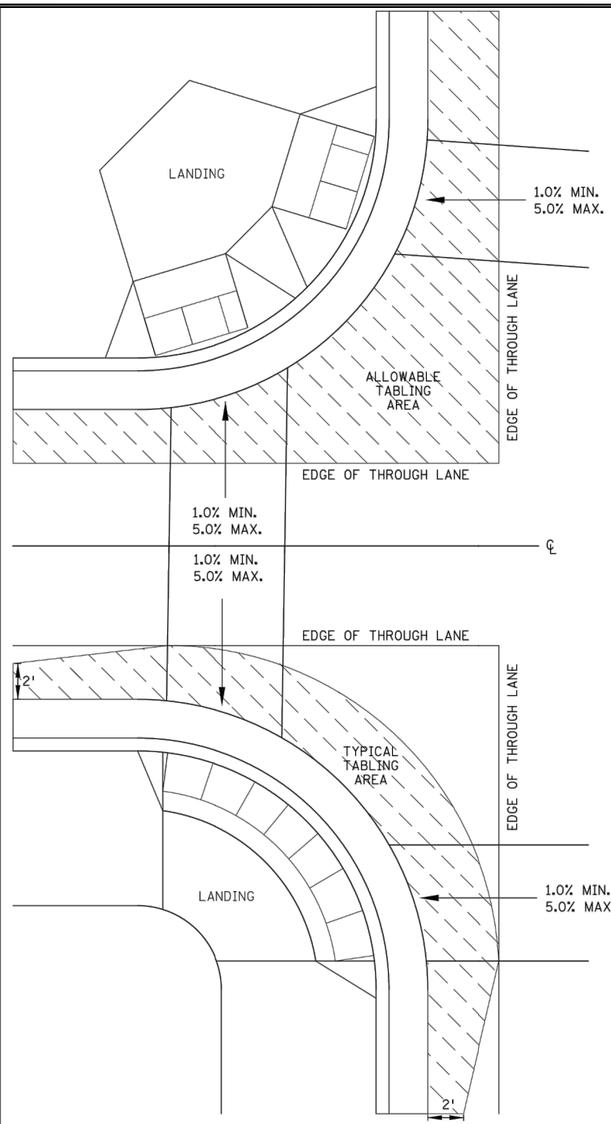
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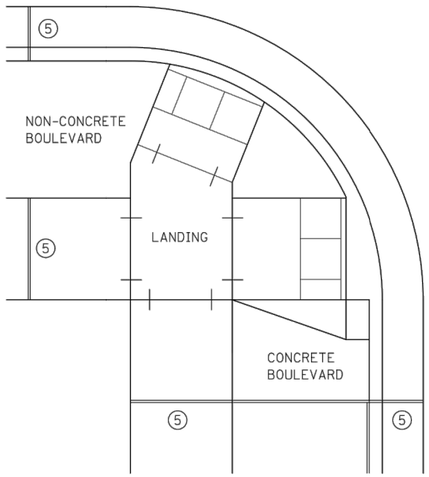
MNDOT PED RAMP DETAILS

2018 STREET OVERLAY IMPROVEMENTS
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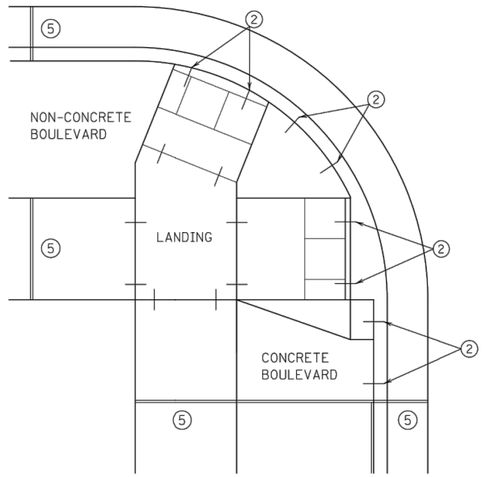
SHEET 9 OF 22 SHEETS



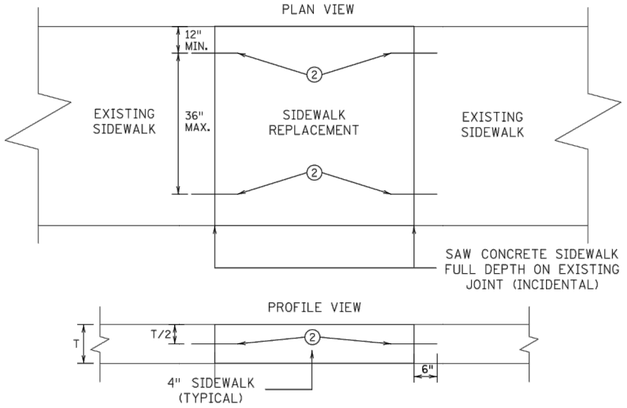
CURB LINE AND ROAD CROSSING ADJUSTMENTS



EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS

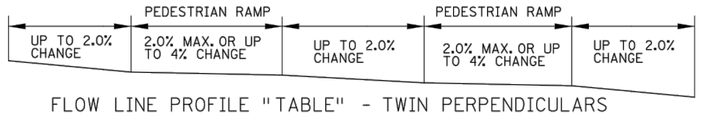


OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④

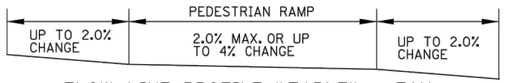


OPTIONAL SIDEWALK REINFORCEMENT

SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



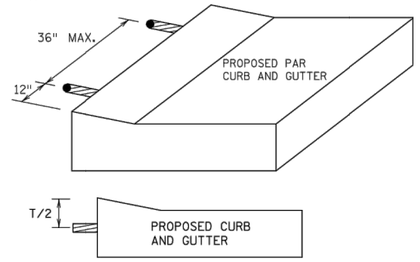
FLOW LINE PROFILE "TABLE" - FAN

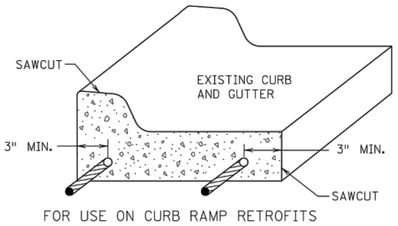


FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



FLOW LINE PROFILE RAISE - FAN

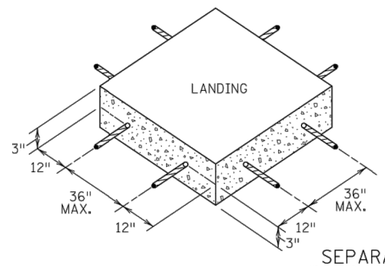


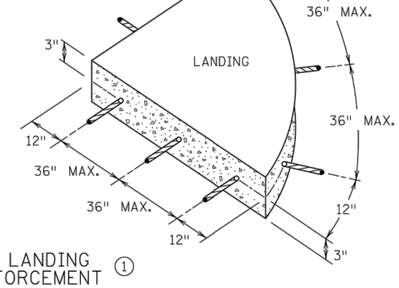


FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER REINFORCEMENT ③

OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④





SEPARATE LANDING POUR REINFORCEMENT ①

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

1. TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
2. DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
3. DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
4. THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
5. 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 6 OF 6

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Bruce Westby
Date 3/22/18 Lic. No. 40116

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MNDOT PED RAMP DETAILS

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 10 OF 22 SHEETS

LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2' X 2.0"
- EDGE MILL - 7' X (0"-2")
- 6" THICK CONCRETE WALK
- SAWCUT PAVEMENT - FULL DEPTH
- RESET CATCH BASIN / MANHOLE

NOTE: RESET CATCH BASIN / MANHOLE INCLUDES GROUTING THE STRUCTURE AND ANY ADJUSTS REQUIRED PRIOR TO MILLING AND/OR AFTER PAVING OPERATIONS. GROUTING OF THE STRUCTURE SHALL NOT OCCUR UNTIL AFTER PAVING OPERATIONS.

0 40 80 120
SCALE (FEET)

156TH AVENUE
SAWCUT - FULL DEPTH
2' WIDE X 1.5" DEEP MILL
MATCH INTO 156TH AVENUE STA. 7+29

SAWCUT - FULL DEPTH
2' WIDE X 1.5" DEEP MILL
MATCH INTO 156TH AVENUE STA. 13+43

R - 20'
31' B-B
2" THICK OVERLAY
FULL WIDTH
7' EDGE MILL (TYP.)
2" - 0"
COBALT STREET
ERKIUM STREET
BARIUM STREET
R - 50'
R - 60'
R - 75'
R - 100'
RESET MANHOLE
RESET CATCH BASIN
RESET CATCH BASIN (2)
155TH LANE
30' B-B
MATCH TO SHEET 12 STA 7+00
MATCH TO SHEET 12 STA 4+00

15630
15621
15611
15610
15601
15620
15600
15550
15561
15530
5501
5491
5500
5490
5460
5430
5381

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Date 3/22/18 Lic. No. 40116

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City of RAMSEY

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7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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WOODLAND GREEN OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2' X 2.0"
- EDGE MILL - 7' X (0"-2")
- 6" THICK CONCRETE WALK
- SAWCUT PAVEMENT - FULL DEPTH
- RESET CATCH BASIN / MANHOLE

NOTE: RESET CATCH BASIN / MANHOLE INCLUDES GROUTING THE STRUCTURE AND ANY ADJUSTS REQUIRED PRIOR TO MILLING AND/OR AFTER PAVING OPERATIONS. GROUTING OF THE STRUCTURE SHALL NOT OCCUR UNTIL AFTER PAVING OPERATIONS.

0 40 80 120
SCALE (FEET)

15611

PID 243225210031

R - 50'
R - 60'
R - 100'
R - 75'

15551

15600

5381

MATCH TO SHEET 11 STA 7+00

5390

15530

MATCH TO SHEET 11 STA 4+00

30' B-B

5251

5221

5211

7' EDGE MILL (TYP.)
2" - 0"

2" THICK OVERLAY
FULL WIDTH

31' B-B

PEDESTRIAN RAMP A
SEE DETAIL A SHEET 4.

R - 20'
R - 20'
R - 20'
R - 20'

7' EDGE MILL (TYP.)
2" - 0"

155TH LANE

SAWCUT - FULL DEPTH
MATCH EXISTING 155TH LANE STA. 19+24

5370

RESET CATCH BASIN (2)

BARIUM STREET

15500

5240

5220

5200

SAWCUT - FULL DEPTH
MATCH EXISTING BARIUM STREET STA. 0+00

DATE	REVISION

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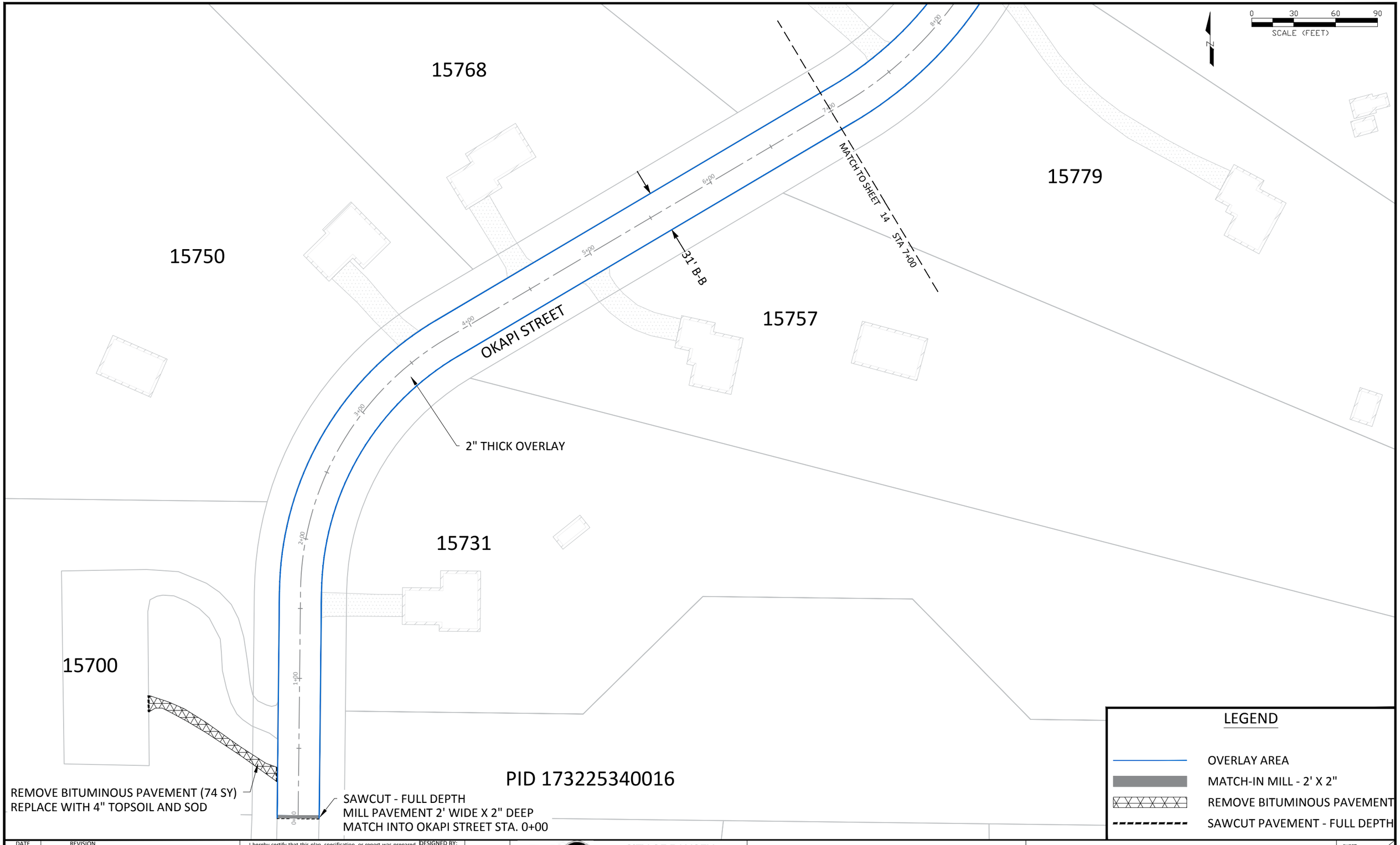
Bruce Westby
Date 3/22/18 Lic. No. 40116

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DRAWN BY:	JJF	DATE:	3/22/18
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WOODLAND GREEN OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA



LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2' X 2"
- REMOVE BITUMINOUS PAVEMENT
- SAWCUT PAVEMENT - FULL DEPTH

DATE	REVISION

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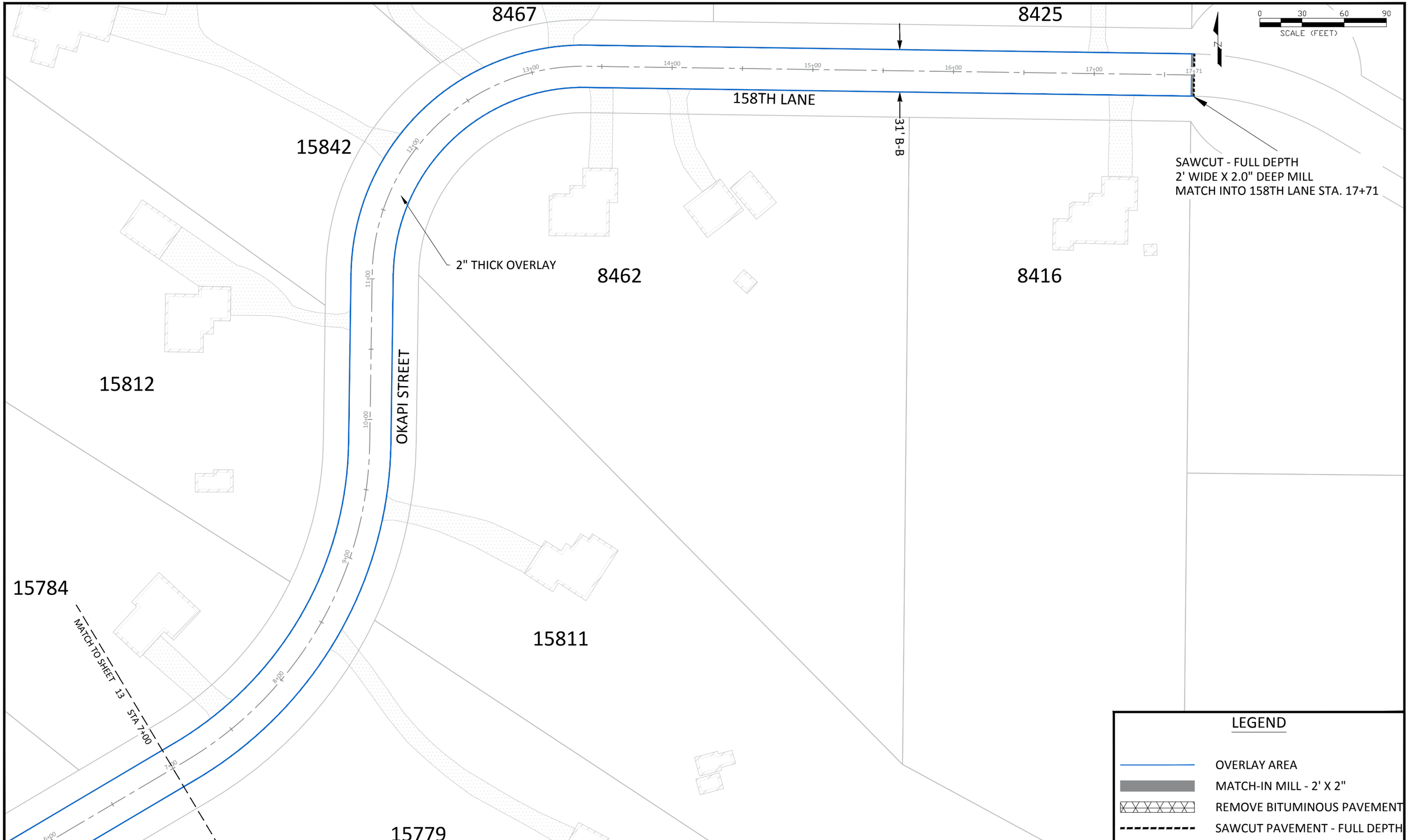
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THE NORTH FORTY 2ND OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA



LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2' X 2"
- REMOVE BITUMINOUS PAVEMENT
- SAWCUT PAVEMENT - FULL DEPTH

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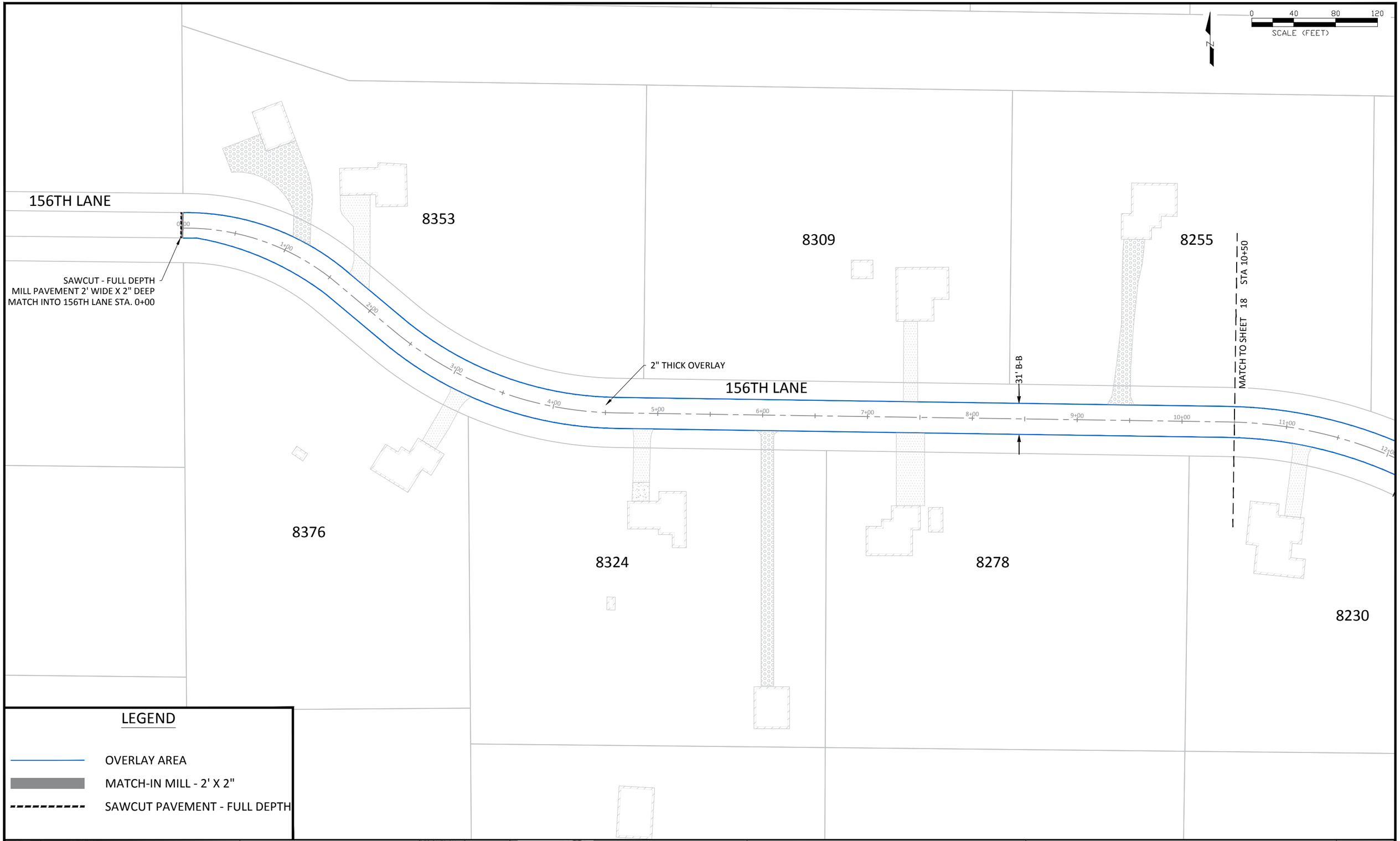
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2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA



LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2' X 2"
- SAWCUT PAVEMENT - FULL DEPTH

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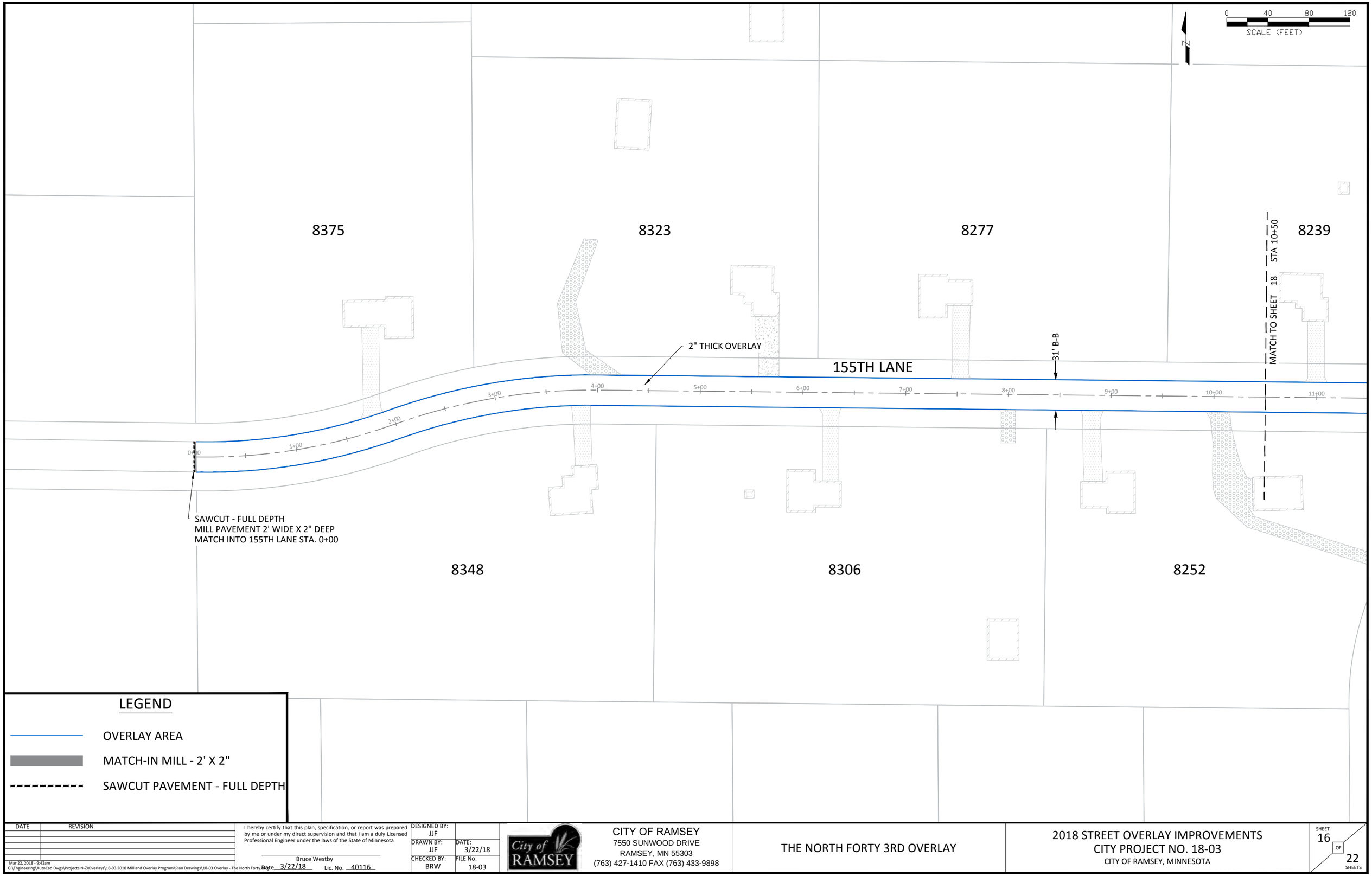
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CITY OF RAMSEY, MINNESOTA



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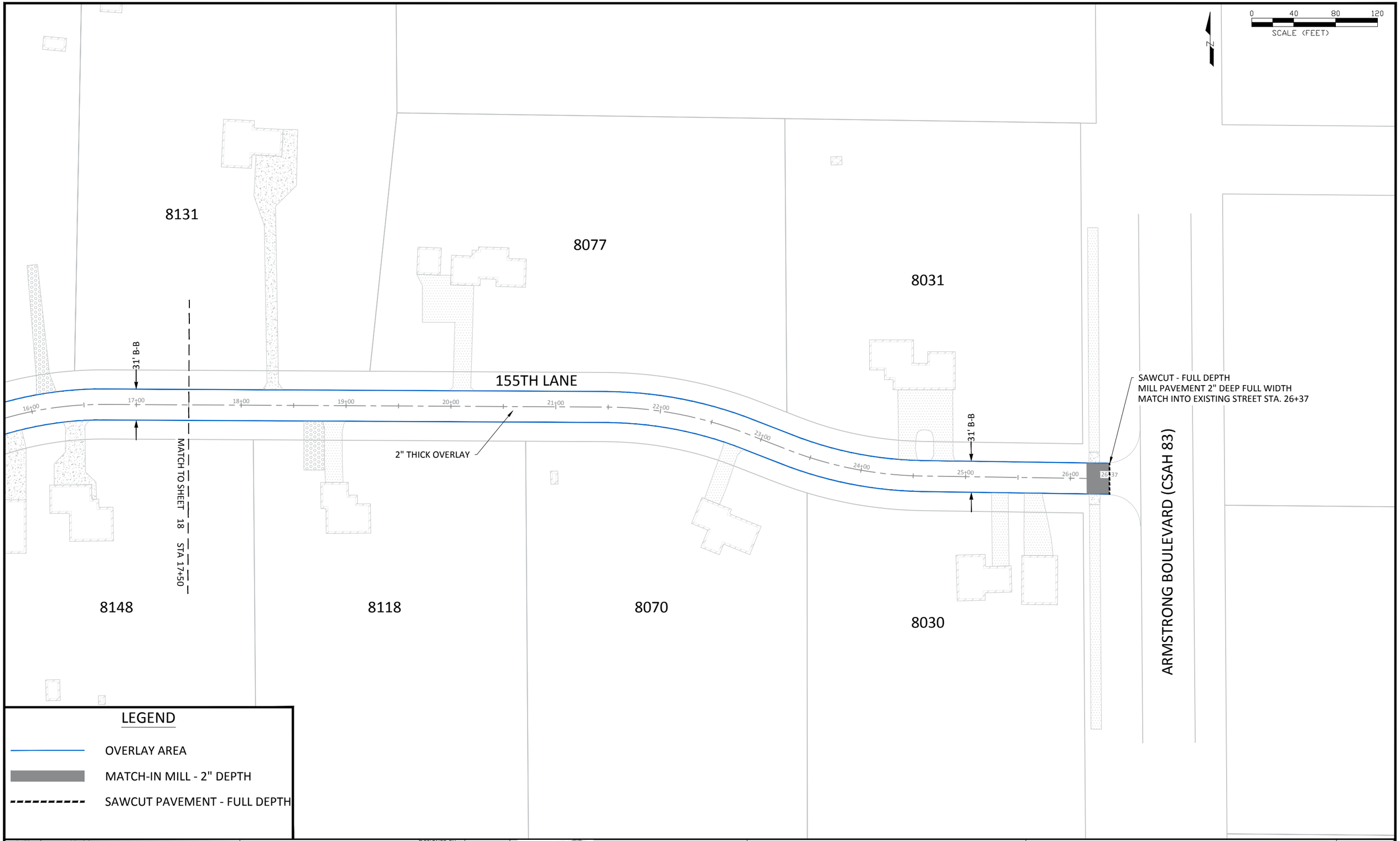
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THE NORTH FORTY 3RD OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA



LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2" DEPTH
- SAWCUT PAVEMENT - FULL DEPTH

DATE	REVISION

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THE NORTH FORTY 3RD OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SAWCUT - FULL DEPTH
MILL PAVEMENT 2' WIDE X 2" DEEP
MATCH INTO HEDGEHOG STREET STA 0+00

MATCH TO SHEET 16 STA 10+50

MATCH TO SHEET 15 STA 10+50

158TH LANE

HEDGEHOG STREET

155TH LANE

156TH LANE

R - 20'

31' B-B

2" THICK OVERLAY

SAWCUT - FULL DEPTH
MILL PAVEMENT 2' WIDE X 2" DEEP
MATCH INTO HEDGEHOG STREET STA 13+66

MATCH TO SHEET 17 STA 17+50

8184
8239
8230
8255
8211
15599
8148
15639
8131

0 40 80 120
SCALE (FEET)

N

LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2' X 2"
- SAWCUT PAVEMENT - FULL DEPTH

DATE	REVISION

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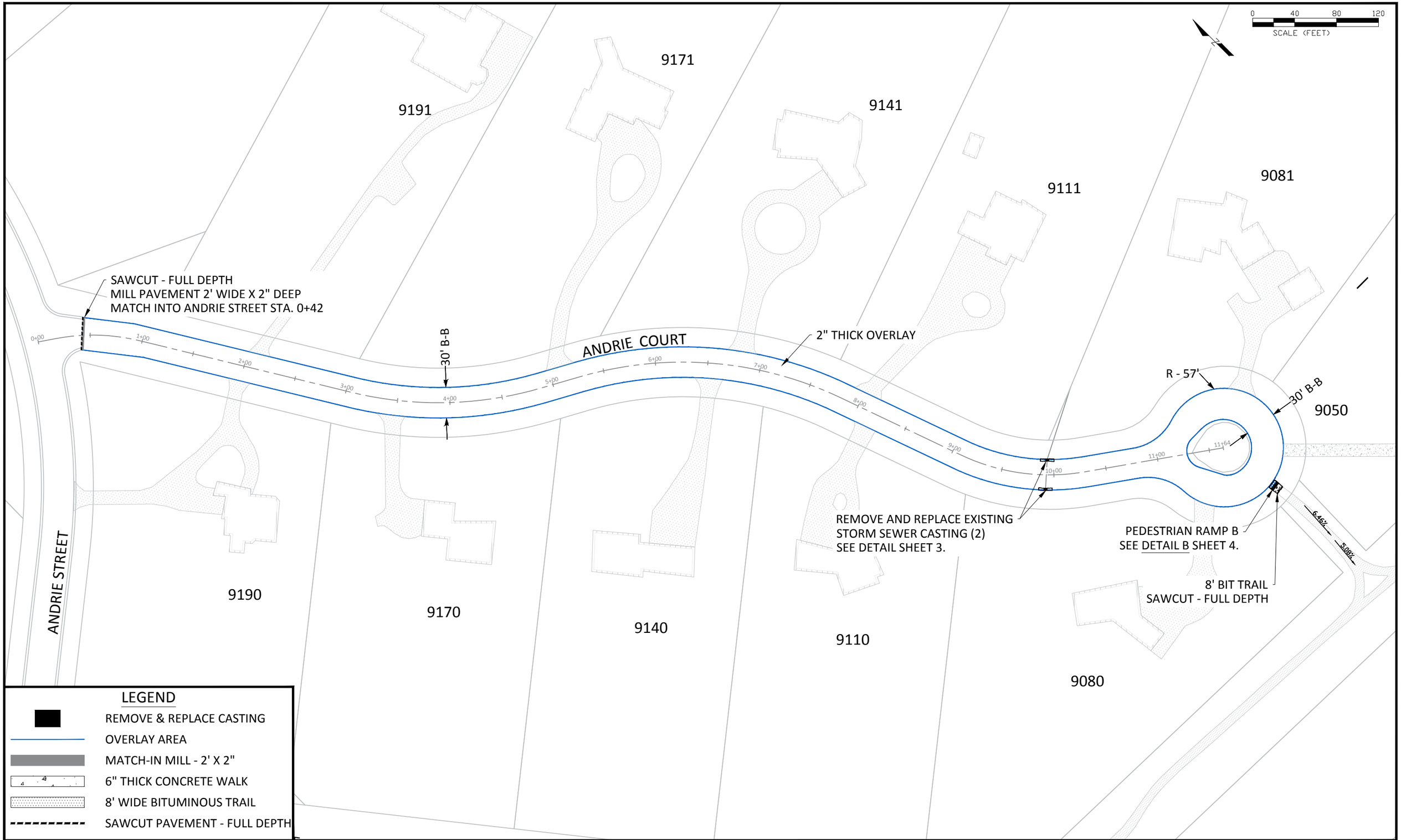
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THE NORTH FORTY 3RD OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA



LEGEND

- REMOVE & REPLACE CASTING
- OVERLAY AREA
- MATCH-IN MILL - 2' X 2"
- 6" THICK CONCRETE WALK
- 8' WIDE BITUMINOUS TRAIL
- SAWCUT PAVEMENT - FULL DEPTH

DATE	REVISION

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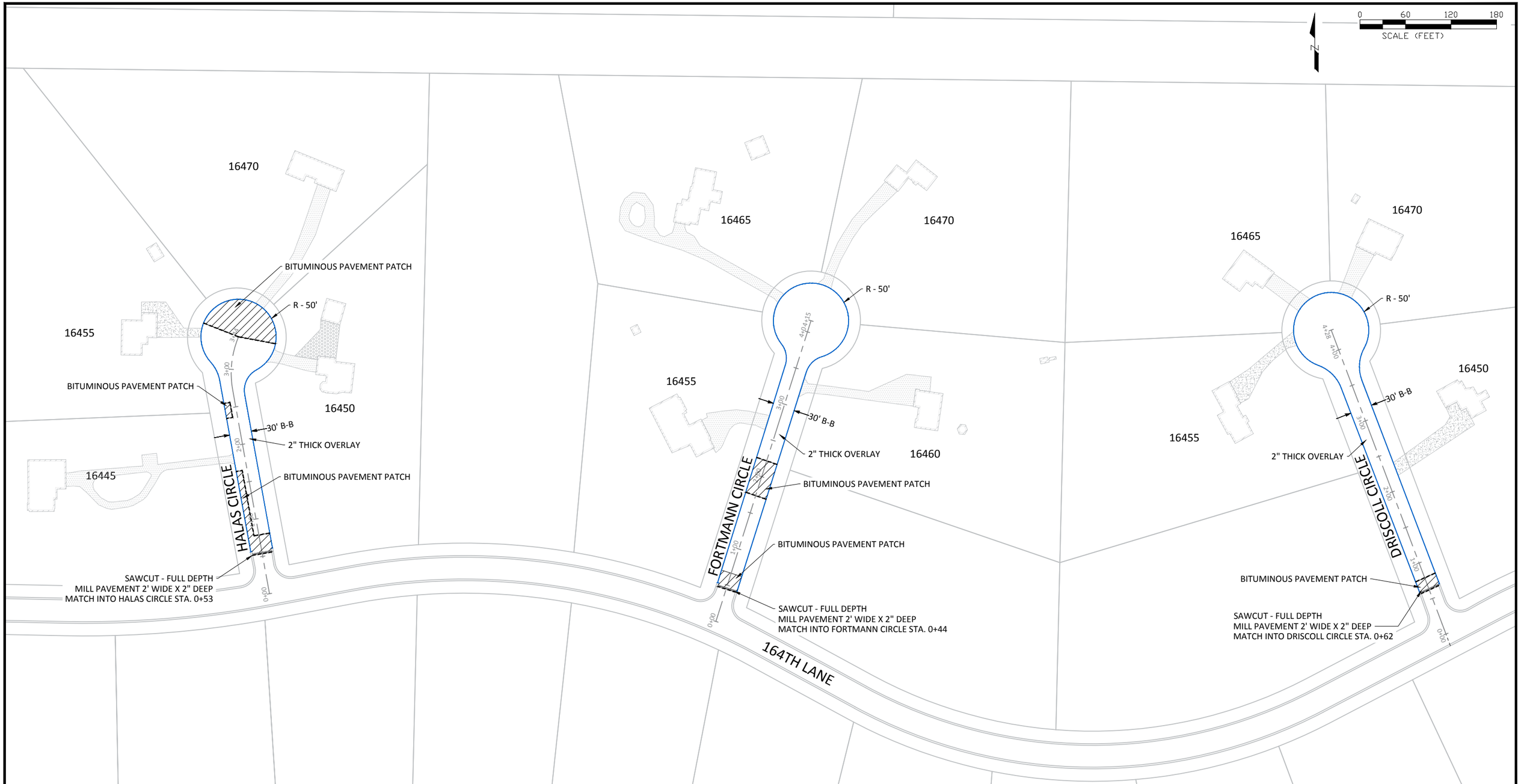
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NORTHFORK ITASCA SHORES OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA



LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2' X 2"
- BIT PAVEMENT PATCH
- SAWCUT PAVEMENT - FULL DEPTH

NOTE: BITUMINOUS PAVEMENT PATCH INCLUDES REMOVAL OF BITUMINOUS PAVEMENT, BITUMINOUS CURB AND AGGREGATE BASE AS NECESSARY. INCLUDES PLACING AGGREGATE BASE, BITUMINOUS PAVEMENT AND BITUMINOUS CURB AS NECESSARY EXISTING AGGREGATE BASE AND BITUMINOUS PAVEMENT GRADES.

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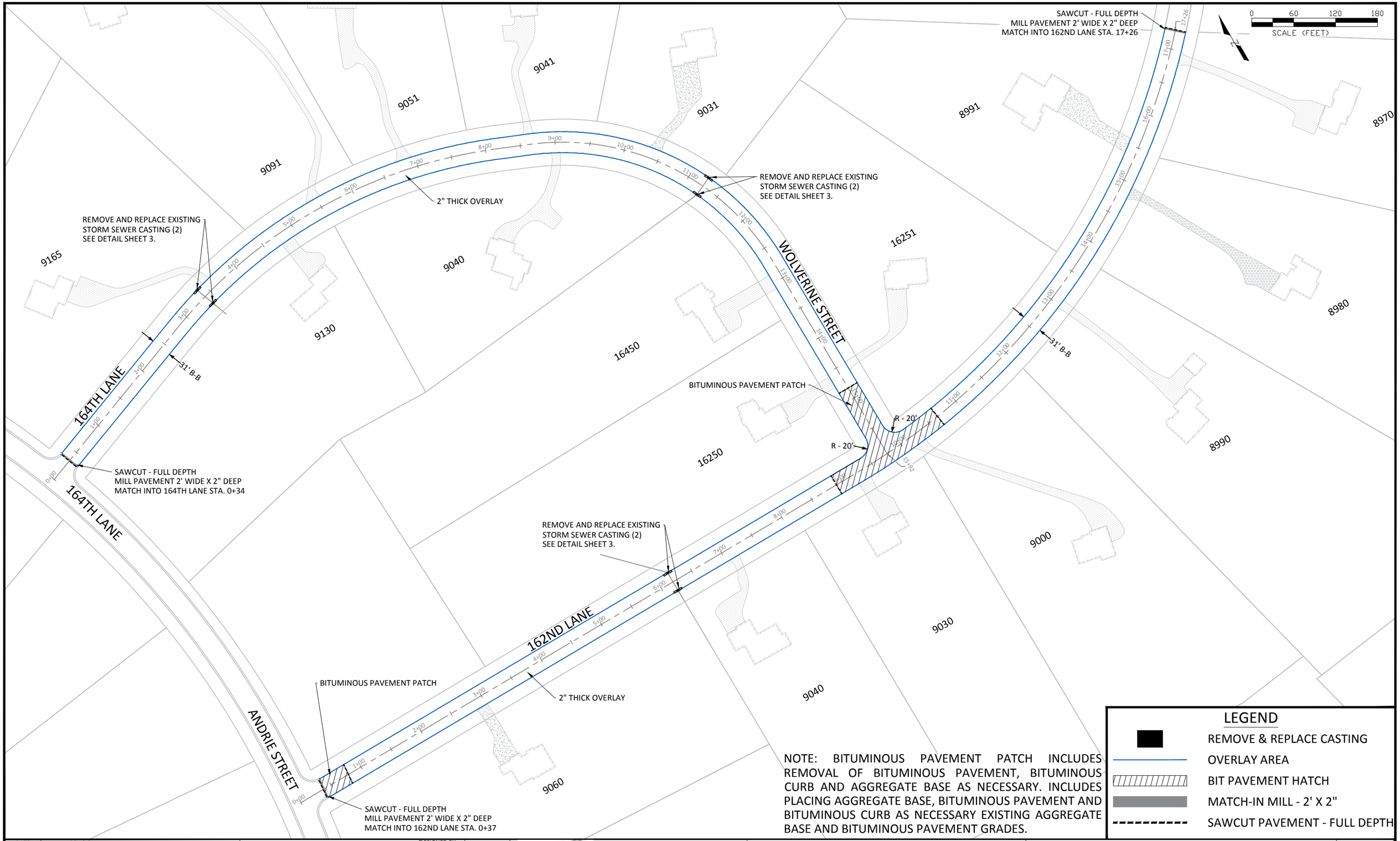
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NORTHFORK OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 20 OF 22 SHEETS



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LEGEND

- REMOVE & REPLACE CASTING
- OVERLAY AREA
- BIT PAVEMENT HATCH
- MATCH-IN MILL - 2' X 2"
- SAWCUT PAVEMENT - FULL DEPTH

DATE	REVISION

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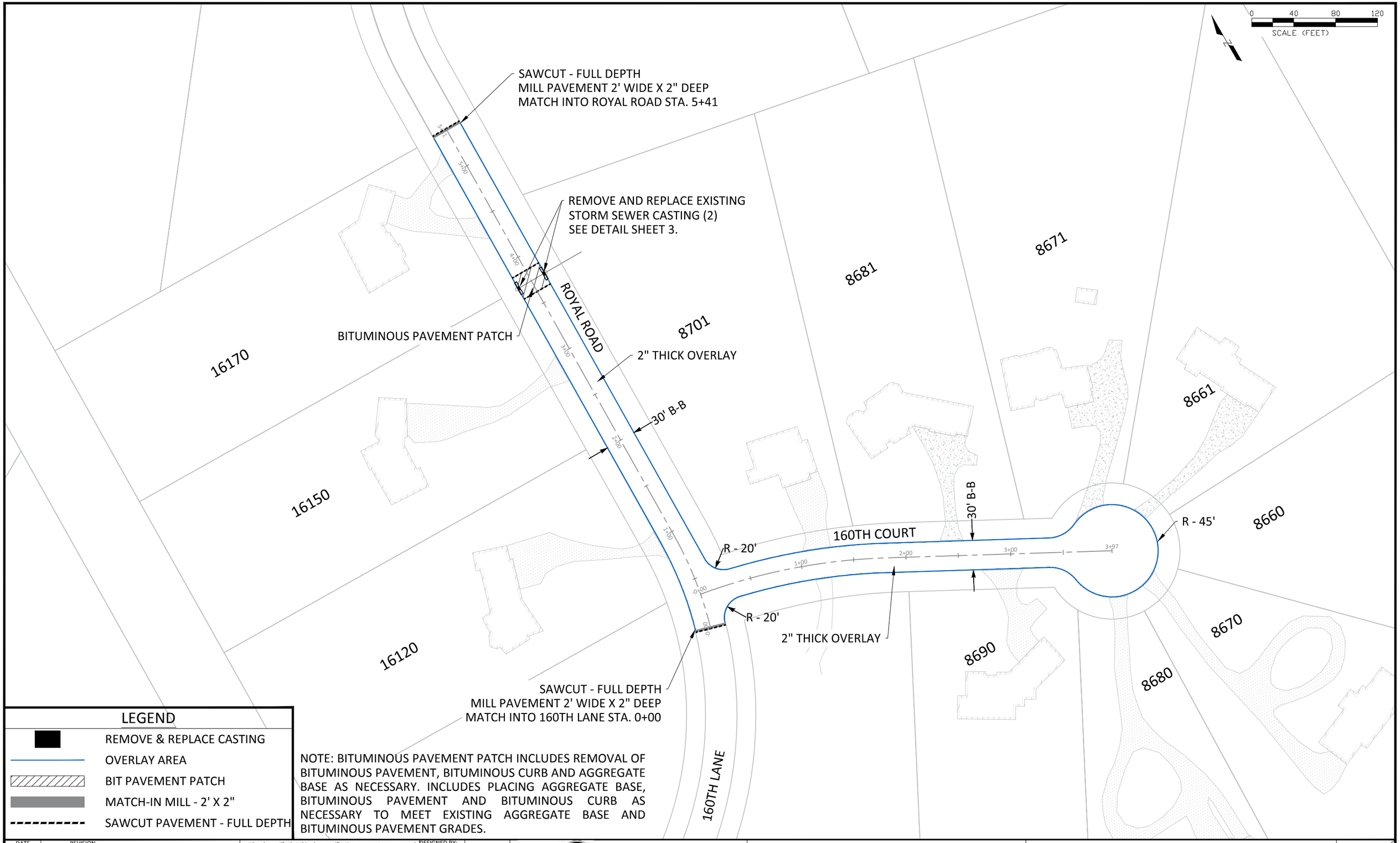
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NORTHFORK 2ND & 3RD OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA



LEGEND

- REMOVE & REPLACE CASTING
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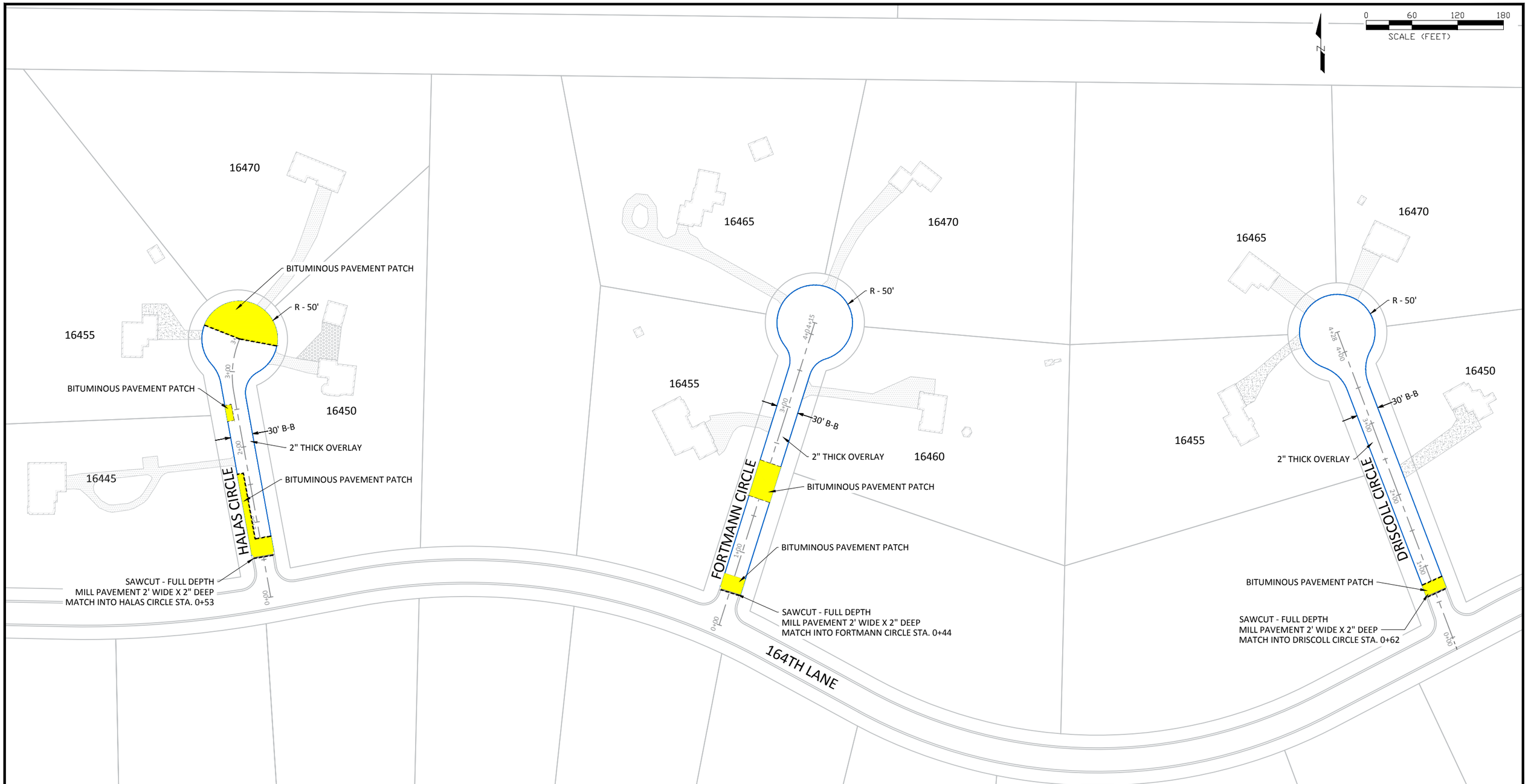
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NORTHFORK OAKS OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
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CITY OF RAMSEY, MINNESOTA

SHEET 22 OF 22 SHEETS



LEGEND

- OVERLAY AREA
- MATCH-IN MILL - 2' X 2"
- BIT PAVEMENT PATCH
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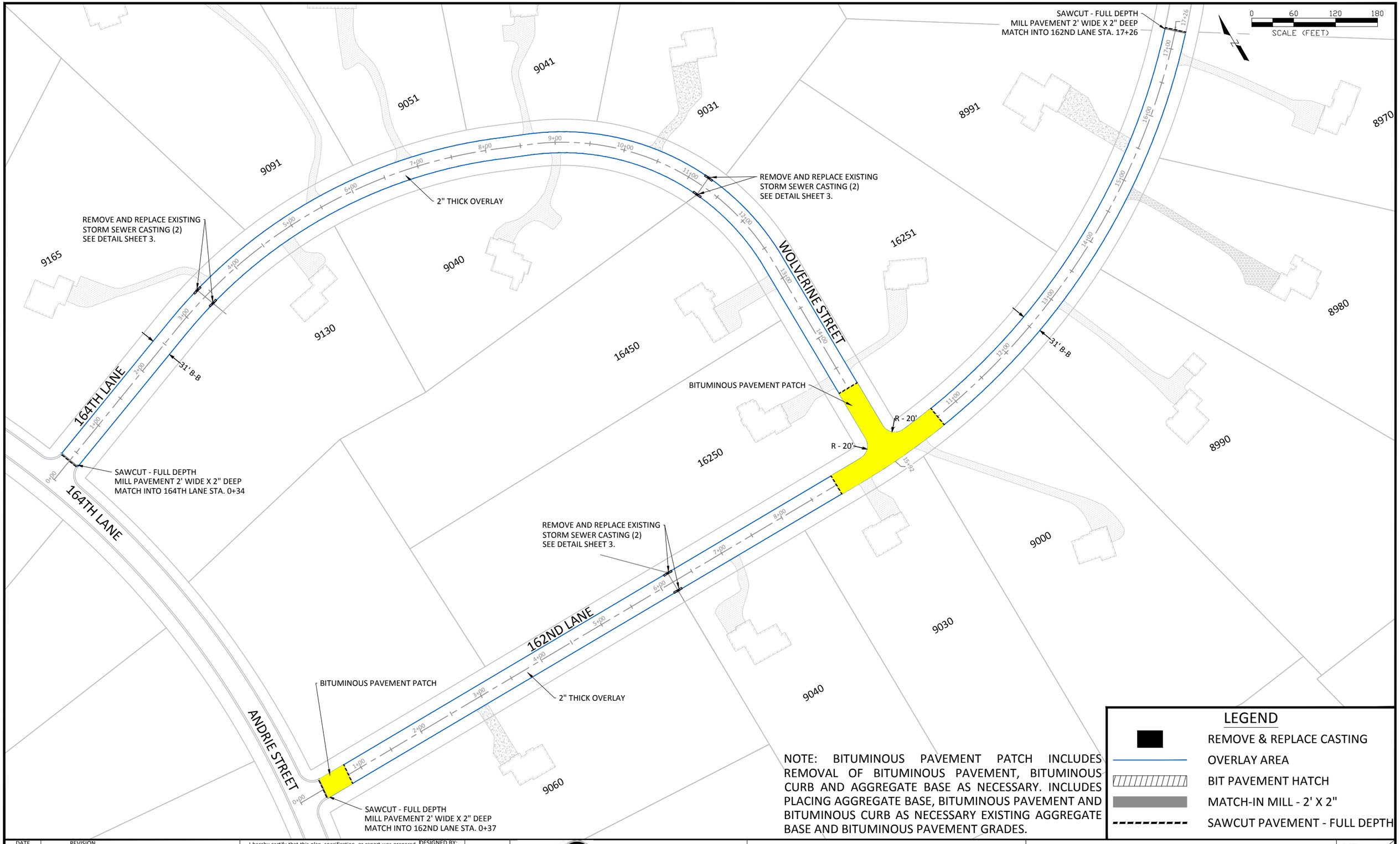
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NORTHFORK OVERLAY

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CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 20 OF 22 SHEETS



LEGEND

- REMOVE & REPLACE CASTING
- OVERLAY AREA
- BIT PAVEMENT HATCH
- MATCH-IN MILL - 2' X 2"
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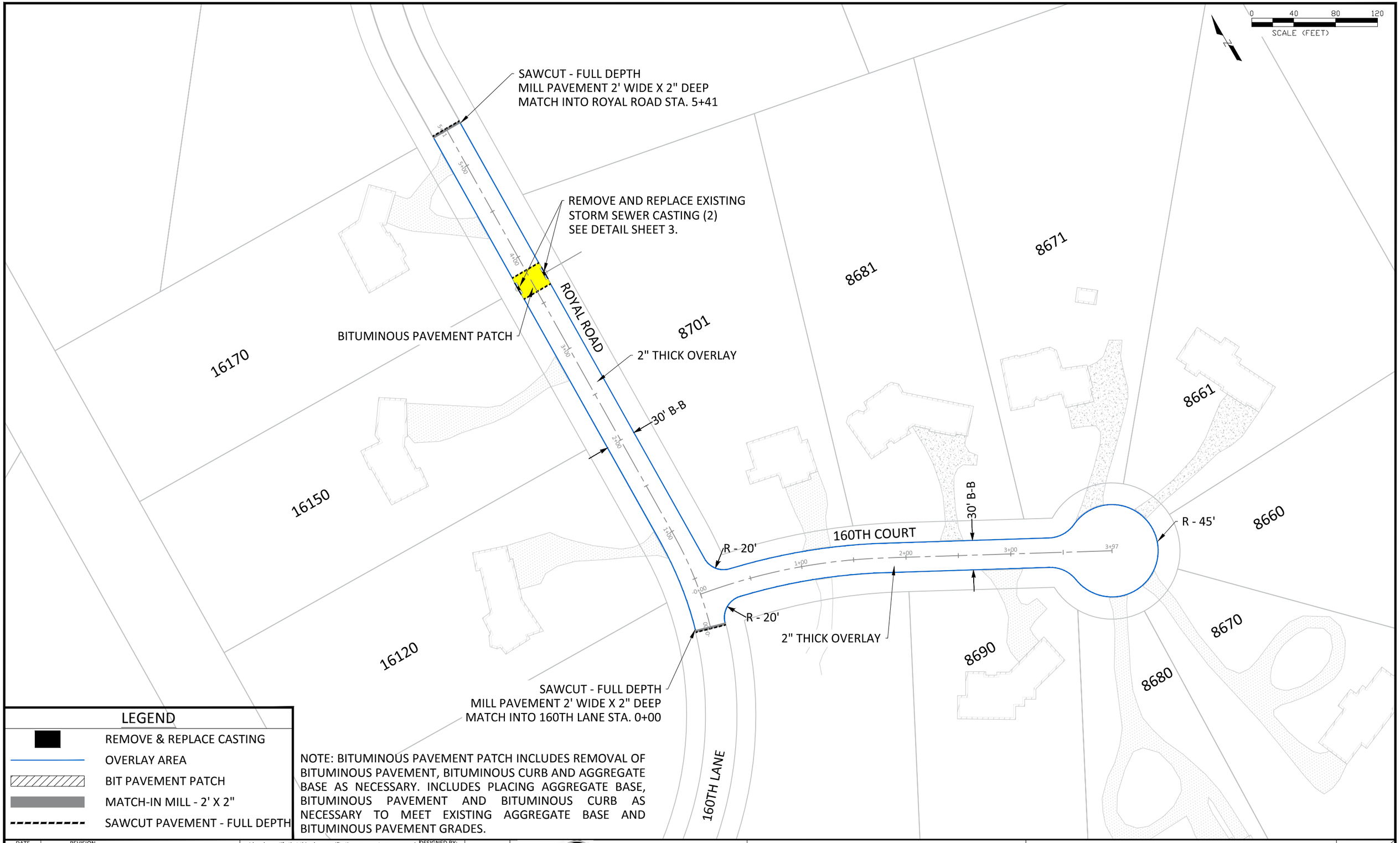
City of RAMSEY

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NORTHFORK 2ND & 3RD OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 21 OF 22 SHEETS



LEGEND

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NORTHFORK OAKS OVERLAY

2018 STREET OVERLAY IMPROVEMENTS
CITY PROJECT NO. 18-03
CITY OF RAMSEY, MINNESOTA

SHEET 22 OF 22 SHEETS

2015 through 2019

Five-Year Street Reconstruction Overlay Plan for the

City of Ramsey, Minnesota

March 10, 2015

Prepared by:

Ehlers & Associates, Inc.
3060 Centre Pointe Drive
Roseville, MN 55113

Table of Contents

I. INTRODUCTION 1

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City of Ramsey, MN

Five-Year Street Reconstruction and Overlay Plan

2015 through 2019

I. INTRODUCTION

In 2002, the Minnesota State Legislature passed into law a bill which generally exempts city bonds issued under a street reconstruction program from the referendum requirements usually required for bonding expenditures. In 2013 the Legislature amended the law to allow bituminous overlays to be included in the street reconstruction program.

II. PURPOSE

Street reconstruction or bituminous overlay is a major expenditure of city funds for the reconstruction or overlay of streets. Street reconstruction and bituminous overlay may include utility replacement and relocation and other incidental costs, turn lanes and other improvements having a substantial public safety function, realignments, other modifications to intersect with state and county roads, and the local share of state and county road projects. Except in the case of turn lanes, safety improvements, realignments, intersection modifications, and local share of state and county road projects, street reconstruction does not include the portion of project costs allocable to widening a street or adding curbs and gutters where none previously existed. A Street Reconstruction and Overlay Plan (SROP) is a document designed to anticipate street reconstruction and overlay expenditures and schedule them over a five-year period so that they may be purchased in the most efficient and cost effective method possible. A SROP allows the matching of expenditures with anticipated income. As potential expenditures are reviewed, the city considers the benefits, costs, alternatives and impact on operating expenditures.

The City of Ramsey, Minnesota (the "City") believes the street reconstruction and overlay process is an important element of responsible fiscal management. Major capital expenditures can be anticipated and coordinated so as to minimize potentially adverse financial impacts caused by the timing and magnitude of capital outlays. This coordination of capital expenditures is important to the City in achieving its goals of adequate physical assets and sound fiscal management. In these financially difficult times good planning is essential for the wise use of limited financial resources.

The Street Reconstruction and Overlay Plan is designed to be updated on an annual basis. In this manner, it becomes an ongoing fiscal planning tool that continually anticipates future capital expenditures and funding sources.

III. THE STREET RECONSTRUCTION AND OVERLAY PLANNING PROCESS

The street reconstruction and overlay planning process is as follows; the City Council authorizes the preparation of the SROP. The City staff is instructed to assemble the capital expenditures to be undertaken within the next five years. The City Council then reviews the expenditures according to their priority, fiscal impact, and available funding. From this information, a preliminary street reconstruction and overlay plan is prepared. A public hearing is held to solicit input from citizens and other governmental units. Changes are made based on that input, and a final project list is established.

The City Council then prepares a plan based on the available funding sources. If general obligation bonding is necessary, the City works with its financial advisor to prepare a bond sale and repayment schedule. Over the life of the SROP, once the funding, including proceeds from the bond sales becomes available, the individual capital expenditures can be made.

In subsequent years, the process is repeated as expenditures are completed as new needs arise. Street reconstruction planning looks five years into the future.

For a city to use its authority to finance expenditures under Chapter 475.58, Subdivision 3b, it must meet the requirements provided therein. Specifically, the city council must approve the sale of street reconstruction bonds by a unanimous vote of its membership present. In addition, it must hold a public hearing for public input. Notice of such hearing must be published in the official newspaper of the city at least 10, but not more than 28 days prior to the date of the public hearing. The city council approves the SROP unanimously following the public hearing.

Although a referendum is not required, a reverse referendum is allowable. If a petition bearing the signatures of at least 5 percent of the votes cast in the last general election requesting a vote on the issuance of bonds is received by the municipal clerk within 30 days after the public hearing, a referendum vote on the issuance of the bonds shall be called (if a vote is taken and the referendum passes, the taxes would be levied on market value rather than tax capacity).

IV. PROJECT SUMMARY

The expenditures to be undertaken with this Street Reconstruction and Overlay Plan (SROP) are limited to those listed in Appendix A. All other foreseeable capital expenditures within the City government will come through other means. The following expenditures have been submitted for inclusion in this SROP:

2015 Expenditures

- Garnet Street & 168th Avenue Reconstruction and overlay of streets in Hy-10 Ramsey, Northfork Highlands, Northfork Oaks, Northfork Point, Pondvale Estates, Pondvale Estates 2nd and Rolling Green.

2016 Expenditures

- Andrie Street and 164th Lane reconstruction and overlay of streets in AEC, Woodland Green and Sunwood Drive.

2017 Expenditures

- Reconstruction of Alpine Drive and overlay of streets in Rivers Bend.

2018 Expenditures

- Reconstruction of streets in Stanhope Terrace and North Forty and overlay of streets in Woodland Green, North Forty 2nd, Forth Forty 3rd, Northfork Oaks, Northfork, Northfork 2nd, Northfork 3rd and Northfork Itasca Shores.

2019 Expenditures

- Reconstruction of streets in Ford Brook Estates and overlay of streets in Brookview Estates, Meadow View, Flintwood Hills, Wood Pond Hills and Chestnut Ridge.

V. FINANCING THE STREET RECONSTRUCTION PLAN

The total amount of requested expenditures under the Street Reconstruction and Overlay Plan is approximately $9 million. If these expenditures are to be funded, that amount of money is anticipated to be generated through the tax levy and the sale of approximately $10,000,000 in bonds over the five-year period.

In the financing of the Street Reconstruction Plan, one statutory limitation applies. Under Chapter 475, with few exceptions, cities cannot incur debt in excess of 3% of the assessor's estimated market value for the city. In the City the pay 2014 EMV is $1,795,975,400. Therefore, the total amount of outstanding debt cannot exceed $53,879,262. As of February 10, 2015 the City had $20,050,000 subject to the legal debt limit.

Under the Street Reconstruction Plan, the City will secure $1,775,000 in general obligation bonds in the year 2015 to finance Garnet Street & 168th Avenue reconstruction and overlay of streets in Hy-10 Ramsey, Northfork Highlands, Northfork Oaks, Northfork Point, Pondvale Estates, Pondvale Estates 2nd and Rolling Green. In the year 2016, general obligation bonds in the amount of $2,865,000 will be secured for the Andrie Street and 164th Lane reconstruction and overlay of streets in AEC, Woodland Green and Sunwood Drive. In 2017, general obligation bonds in the amount of $995,000 will be used to finance reconstruction of Alpine Drive and overlay of streets in Rivers Bend. In 2018, general obligation bonds in the amount of $2,435,000 will be used to finance reconstruction of streets in Stanhope Terrace and North Forty and overlay of streets in Woodland Green, North Forty 2nd, Forth Forty 3rd, Northfork Oaks, Northfork, Northfork 2nd, Northfork 3rd and Northfork Itasca Shores. Finally in the year 2019, $1,440,000 in general obligation bonds will be secured for the financing of reconstruction of streets in Ford Brook Estates and overlay of streets in Brookview Estates, Meadow View, Flintwood Hills, Wood Pond Hills and Chestnut Ridge. All five general obligation bond issues will be repaid over a 10 - year period. The only exception is the road reconstruction portion of the 2016 bonds will be repaid over a 15-year period due to the size of the project (approximately $2.325 million). The par amount of each issue is based on the amounts listed in Appendix A plus estimated issuance costs. The proposed general obligation street reconstruction bonds (including issuance costs) are shown in Appendix B.

Continuation of the Street Reconstruction and Overlay Plan

This Street Reconstruction and Overlay Plan should be reviewed annually by the City Council using the process outlined in this Plan. It should review proposed expenditures, make priority decisions, and seek funding for those expenditures it deems necessary for the City. If deemed appropriate, the Council should prepare an update to this Plan.

APPENDIX A

PROJECT COSTS

(Capital Expenditures to be funded with Bond Proceeds)

The 2015 capital expenditure of approximately $1,680,100 for the City's portion of reconstruction of Garnet Street & 168th Avenue and overlay of streets in Hy-10 Ramsey, Northfork Highlands, Northfork Oaks, Northfork Point, Pondvale Estates, Pondvale Estates 2nd and Rolling Green is to be funded with $1,775,000 in bond proceeds.

Total Issue Sources And Uses

Dated 05/01/2015 | Delivered 05/01/2015

	Street Reconstruction	Overlay	Issue Summary
Sources Of Funds			
Par Amount of Bonds	$1,095,000.00	$680,000.00	$1,775,000.00
Total Sources	**$1,095,000.00**	**$680,000.00**	**$1,775,000.00**
Uses Of Funds			
Total Underwriter's Discount (1.200%)	13,140.00	8,160.00	21,300.00
Costs of Issuance	24,059.15	14,940.85	39,000.00
Deposit to Capitalized Interest (CIF) Fund	19,857.50	12,333.75	32,191.25
Deposit to Project Construction Fund	1,036,000.00	644,100.00	1,680,100.00
Rounding Amount	1,943.35	465.40	2,408.75
Total Uses	**$1,095,000.00**	**$680,000.00**	**$1,775,000.00**

PROJECT COSTS

The 2016 capital expenditure of approximately $2,719,710 for the City's portion of Andrie Street and 164th Lane reconstruction and overlay of streets in AEC, Woodland Green and Sunwood Drive is to be funded with $2,865,000 in bond proceeds.

Total Issue Sources And Uses

Dated 05/01/2016 | Delivered 05/01/2016

	Street Reconstruction	Overlay	Issue Summary
Sources Of Funds			
Par Amount of Bonds	$2,325,000.00	$540,000.00	$2,865,000.00
Total Sources	**$2,325,000.00**	**$540,000.00**	**$2,865,000.00**
Uses Of Funds			
Total Underwriter's Discount (1.200%)	27,900.00	6,480.00	34,380.00
Costs of Issuance	35,706.80	8,293.20	44,000.00
Deposit to Capitalized Interest (CIF) Fund	52,715.00	9,820.42	62,535.42
Deposit to Project Construction Fund	2,205,105.00	514,605.00	2,719,710.00
Rounding Amount	3,573.20	801.38	4,374.58
Total Uses	**$2,325,000.00**	**$540,000.00**	**$2,865,000.00**

PROJECT COSTS

The 2017 capital expenditure of approximately $919,065 for the reconstruction of Alpine Drive and overlay of streets in Rivers Bend is to be funded with $995,000 in bond proceeds.

Total Issue Sources And Uses

Dated 05/01/2017 | Delivered 05/01/2017

	Street Reconstruction	Overlay	Issue Summary
Sources Of Funds			
Par Amount of Bonds	$810,000.00	$185,000.00	$995,000.00
Total Sources	**$810,000.00**	**$185,000.00**	**$995,000.00**
Uses Of Funds			
Total Underwriter's Discount (1.500%)	12,150.00	2,775.00	14,925.00
Costs of Issuance	32,562.82	7,437.18	40,000.00
Deposit to Capitalized Interest (CIF) Fund	14,695.42	3,396.25	18,091.67
Deposit to Project Construction Fund	747,180.00	171,885.00	919,065.00
Rounding Amount	3,411.76	(493.43)	2,918.33
Total Uses	**$810,000.00**	**$185,000.00**	**$995,000.00**

PROJECT COSTS

The 2018 capital expenditure of approximately $2,316,050 for the reconstruction of streets in Stanhope Terrace and North Forty and overlay of streets in Woodland Green, North Forty 2nd, Forth Forty 3rd, Northfork Oaks, Northfork, Northfork 2nd, Northfork 3rd and Northfork Itasca Shores is to be funded with $2,435,000 in bond proceeds.

Total Issue Sources And Uses

Dated 05/01/2018 | Delivered 05/01/2018

	Street Reconstruction	Overlay	Issue Summary
Sources Of Funds			
Par Amount of Bonds	$1,565,000.00	$870,000.00	$2,435,000.00
Total Sources	**$1,565,000.00**	**$870,000.00**	**$2,435,000.00**
Uses Of Funds			
Total Underwriter's Discount (1.200%)	18,780.00	10,440.00	29,220.00
Costs of Issuance	28,279.26	15,720.74	44,000.00
Deposit to Capitalized Interest (CIF) Fund	28,426.67	15,805.83	44,232.50
Deposit to Project Construction Fund	1,486,980.00	829,070.00	2,316,050.00
Rounding Amount	2,534.07	(1,036.57)	1,497.50
Total Uses	**$1,565,000.00**	**$870,000.00**	**$2,435,000.00**

PROJECT COSTS

The 2019 capital expenditure of approximately $1,353,990 for the reconstruction of streets in Ford Brook Estates and overlay of streets in Brookview Estates, Meadow View, Flintwood Hills, Wood Pond Hills and Chestnut Ridge is to be funded with $1,440,000 in bond proceeds.

Total Issue Sources And Uses

Dated 05/01/2019 | Delivered 05/01/2019

	Street Reconstruction	Overlay	Issue Summary
Sources Of Funds			
Par Amount of Bonds	$725,000.00	$715,000.00	$1,440,000.00
Total Sources	**$725,000.00**	**$715,000.00**	**$1,440,000.00**
Uses Of Funds			
Total Underwriter's Discount (1.200%)	8,700.00	8,580.00	17,280.00
Costs of Issuance	19,131.95	18,868.05	38,000.00
Deposit to Capitalized Interest (CIF) Fund	13,102.92	12,943.13	26,046.05
Deposit to Project Construction Fund	680,570.00	673,420.00	1,353,990.00
Rounding Amount	3,495.13	1,188.82	4,683.95
Total Uses	**$725,000.00**	**$715,000.00**	**$1,440,000.00**

APPENDIX B

PROPOSED 2015 SROP BOND ISSUE

City of Ramsey, Minnesota

$1,775,000 General Obligation Bonds, Series 2015
Issue Summary

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	CIF	Net New D/S	105% of Total
12/01/2015	-	-	17,333.75	17,333.75	(17,333.75)	-	-
12/01/2016	180,000.00	0.850%	29,715.00	209,715.00	(14,857.50)	194,857.50	204,600.38
12/01/2017	170,000.00	1.050%	28,185.00	198,185.00	-	198,185.00	208,094.25
12/01/2018	170,000.00	1.250%	26,400.00	196,400.00	-	196,400.00	206,220.00
12/01/2019	170,000.00	1.400%	24,275.00	194,275.00	-	194,275.00	203,988.75
12/01/2020	170,000.00	1.650%	21,895.00	191,895.00	-	191,895.00	201,489.75
12/01/2021	175,000.00	1.750%	19,090.00	194,090.00	-	194,090.00	203,794.50
12/01/2022	180,000.00	1.900%	16,027.50	196,027.50	-	196,027.50	205,828.88
12/01/2023	185,000.00	2.050%	12,607.50	197,607.50	-	197,607.50	207,487.88
12/01/2024	185,000.00	2.300%	8,815.00	193,815.00	-	193,815.00	203,505.75
12/01/2025	190,000.00	2.400%	4,560.00	194,560.00	-	194,560.00	204,288.00
Total	**$1,775,000.00**	-	**$208,903.75**	**$1,983,903.75**	**(32,191.25)**	**$1,951,712.50**	**$2,049,298.13**

PROPOSED 2016 SROP BOND ISSUE

City of Ramsey, Minnesota

$2,865,000 General Obligation Bonds, Series 2016
Issue Summary

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	CIF	Net New D/S	105% of Total
12/01/2016	-	-	33,672.92	33,672.92	(33,672.92)	-	-
12/01/2017	215,000.00	0.850%	57,725.00	272,725.00	(28,862.50)	243,862.50	256,055.63
12/01/2018	185,000.00	1.050%	55,897.50	240,897.50	-	240,897.50	252,942.38
12/01/2019	190,000.00	1.250%	53,955.00	243,955.00	-	243,955.00	256,152.75
12/01/2020	190,000.00	1.400%	51,580.00	241,580.00	-	241,580.00	253,659.00
12/01/2021	200,000.00	1.650%	48,920.00	248,920.00	-	248,920.00	261,366.00
12/01/2022	200,000.00	1.750%	45,620.00	245,620.00	-	245,620.00	257,901.00
12/01/2023	205,000.00	1.900%	42,120.00	247,120.00	-	247,120.00	259,476.00
12/01/2024	205,000.00	2.050%	38,225.00	243,225.00	-	243,225.00	255,386.25
12/01/2025	210,000.00	2.300%	34,022.50	244,022.50	-	244,022.50	256,223.63
12/01/2026	215,000.00	2.400%	29,192.50	244,192.50	-	244,192.50	256,402.13
12/01/2027	160,000.00	2.550%	24,032.50	184,032.50	-	184,032.50	193,234.13
12/01/2028	165,000.00	2.700%	19,952.50	184,952.50	-	184,952.50	194,200.13
12/01/2029	170,000.00	2.850%	15,497.50	185,497.50	-	185,497.50	194,772.38
12/01/2030	175,000.00	2.950%	10,652.50	185,652.50	-	185,652.50	194,935.13
12/01/2031	180,000.00	3.050%	5,490.00	185,490.00	-	185,490.00	194,764.50
Total	**$2,865,000.00**	**-**	**$566,555.42**	**$3,431,555.42**	**(62,535.42)**	**$3,369,020.00**	**$3,537,471.00**

PROPOSED 2017 SROP BOND ISSUE

City of Ramsey, Minnesota

$995,000 General Obligation Bonds, Series 2017
Issue Summary

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	CIF	Net New D/S	105% of Total
12/01/2017	-	-	9,741.67	9,741.67	(9,741.67)	-	-
12/01/2018	100,000.00	0.850%	16,700.00	116,700.00	(8,350.00)	108,350.00	113,767.50
12/01/2019	90,000.00	1.050%	15,850.00	105,850.00	-	105,850.00	111,142.50
12/01/2020	95,000.00	1.250%	14,905.00	109,905.00	-	109,905.00	115,400.25
12/01/2021	95,000.00	1.400%	13,717.50	108,717.50	-	108,717.50	114,153.38
12/01/2022	100,000.00	1.650%	12,387.50	112,387.50	-	112,387.50	118,006.88
12/01/2023	100,000.00	1.750%	10,737.50	110,737.50	-	110,737.50	116,274.38
12/01/2024	100,000.00	1.900%	8,987.50	108,987.50	-	108,987.50	114,436.88
12/01/2025	105,000.00	2.050%	7,087.50	112,087.50	-	112,087.50	117,691.88
12/01/2026	105,000.00	2.300%	4,935.00	109,935.00	-	109,935.00	115,431.75
12/01/2027	105,000.00	2.400%	2,520.00	107,520.00	-	107,520.00	112,896.00
Total	**$995,000.00**	-	**$117,569.17**	**$1,112,569.17**	**(18,091.67)**	**$1,094,477.50**	**$1,149,201.38**

PROPOSED 2018 SROP BOND ISSUE

City of Ramsey, Minnesota

$2,435,000 General Obligation Bonds, Series 2018
Issue Summary

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	CIF	Net New D/S	105% of Total
12/01/2018	-	-	23,817.50	23,817.50	(23,817.50)	-	-
12/01/2019	250,000.00	0.850%	40,830.00	290,830.00	(20,415.00)	270,415.00	283,935.75
12/01/2020	225,000.00	1.050%	38,705.00	263,705.00	-	263,705.00	276,890.25
12/01/2021	230,000.00	1.250%	36,342.50	266,342.50	-	266,342.50	279,659.63
12/01/2022	235,000.00	1.400%	33,467.50	268,467.50	-	268,467.50	281,890.88
12/01/2023	235,000.00	1.650%	30,177.50	265,177.50	-	265,177.50	278,436.38
12/01/2024	240,000.00	1.750%	26,300.00	266,300.00	-	266,300.00	279,615.00
12/01/2025	250,000.00	1.900%	22,100.00	272,100.00	-	272,100.00	285,705.00
12/01/2026	250,000.00	2.050%	17,350.00	267,350.00	-	267,350.00	280,717.50
12/01/2027	255,000.00	2.300%	12,225.00	267,225.00	-	267,225.00	280,586.25
12/01/2028	265,000.00	2.400%	6,360.00	271,360.00	-	271,360.00	284,928.00
Total	**$2,435,000.00**	**-**	**$287,675.00**	**$2,722,675.00**	**(44,232.50)**	**$2,678,442.50**	**$2,812,364.63**

PROPOSED 2019 SROP BOND ISSUE

City of Ramsey, Minnesota

$1,440,000 General Obligation Bonds, Series 2019
Issue Summary

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	CIF	Net New D/S	105% of Total
12/01/2019	-	-	14,024.80	14,024.80	(14,024.80)	-	-
12/01/2020	150,000.00	0.850%	24,042.50	174,042.50	(12,021.25)	162,021.25	170,122.31
12/01/2021	135,000.00	1.050%	22,767.50	157,767.50	-	157,767.50	165,655.88
12/01/2022	140,000.00	1.250%	21,350.00	161,350.00	-	161,350.00	169,417.50
12/01/2023	140,000.00	1.400%	19,600.00	159,600.00	-	159,600.00	167,580.00
12/01/2024	140,000.00	1.650%	17,640.00	157,640.00	-	157,640.00	165,522.00
12/01/2025	140,000.00	1.750%	15,330.00	155,330.00	-	155,330.00	163,096.50
12/01/2026	145,000.00	1.900%	12,880.00	157,880.00	-	157,880.00	165,774.00
12/01/2027	150,000.00	2.050%	10,125.00	160,125.00	-	160,125.00	168,131.25
12/01/2028	150,000.00	2.300%	7,050.00	157,050.00	-	157,050.00	164,902.50
12/01/2029	150,000.00	2.400%	3,600.00	153,600.00	-	153,600.00	161,280.00
Total	**$1,440,000.00**	-	**$168,409.80**	**$1,608,409.80**	**(26,046.05)**	**$1,582,363.75**	**$1,661,481.94**

APPENDIX C

Pre-Sale Schedule dated March 10, 2015
5-Year City Street Reconstruction Plan Bond Issuance
City of Ramsey, Minnesota

The City Council must take the following actions before Bonds can be issued:

- City Council directs preparation of a 5-Year Street Reconstruction Plan.
- City Council conducts a Public Hearing on issuance of Bonds and Street Reconstruction Plan.
- City Council approves Bonds and Street Reconstruction Plan by unanimous vote.

The table below lists the steps in the issuing process:

February 10, 2015:	City Council adopts Resolution calling for Public Hearing on issuance of Bonds and on Street Reconstruction Plan.
February 16, 2105:	Close date to get Notice of Public Hearing on issuance of Bonds and on Street Reconstruction Plan to official newspaper for publication.
February 20, 2015:	Publish Notice of Public Hearing on issuance of Bonds and on Street Reconstruction Plan (publication no more than 28 days and no less than 10 days prior to hearing date).
March 10, 2015:	City Council holds Public Hearing at 7:00 p.m. on Bonds and on Street Reconstruction Plan and adopts Resolution giving preliminary approval for their issuance and approving Street Reconstruction Plan by unanimous vote of its membership present.
March 10, 2015:	City Council provides for sale of Bonds.
April 9, 2015:	Reverse referendum period ends (within 30 days of the public hearing).
April 14, 2015:	City Council accepts offer for Bonds and adopts Resolution-Approving sale of Bonds.
May 7, 2014:	Tentative closing/receipt of funds.

Net Debt Limit	
Assessor's Estimated Market Value	1,795,975,400
Multiply by 3%	0.03
Statutory Debt Limit	53,879,262
Less: Debt Paid Solely from Taxes	(20,050,000)
Unused Debt Limit	33,829,262

Project # 15-STR-011

Project Name 2018 Overlay Projects

Department Street Improvements
Contact
Type Improvement
Useful Life 20 Years
Category Street Improvement
Priority 3-Existing Obligation (Med)
Status Active

Total Cost **$753,700**

Description

Each paved street within the City is scheduled to receive preventative maintenance on a regularly scheduled basis, including reconstruction at the end of its useful life.

2018 Projects: Woodland Green, North Forty 2nd, North Forty 3rd, Northfork Oaks, Northfork, Northfork 2nd, Northfork 3rd, Northfork Itasca Shores

There is a total of $2.2M designated to maintain streets annually.

Overlays will be assessed at 25% of cost

Justification

Regular scheduled maintenance safeguards the considerable investment the City has in its pavements by cost effectively maximizing pavement life and minimizing emergency repairs.

Overlaying streets provides additional pavement life. These streets were selected based on Paser rating and time since last pavement maintenance treatment.

Look at Possibility of Using MSA or PIR funds for portion of costs instead of bonding.

Revisit Program for 2020-2025

Expenditures	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Improvements Other than Building Cost		753,700									753,700
Total		753,700									753,700

Funding Sources	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Special Assessment - Bonded		188,425									188,425
GO Bonding (Road Funding)		565,275									565,275
Total		753,700									753,700

Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

CC Regular Session **7. 5.**

Meeting Date: 03/27/2018

By: Bruce Westby, Engineering/Public Works

Information

Title:

Adopt Resolution #18-058 Accepting Bids and Awarding Contract for River's Bend Streets Reconstruction, Improvement Project #17-02

Purpose/Background:

Purpose:

The purpose of this case is to adopt Resolution #18-058 accepting bids and awarding a contract for construction for River's Bend Street Reconstructions, Improvement Project #17-02.

Background:

Attached is a copy of the plans prepared by City staff for Improvement Project #17-02, River's Bend Street Reconstructions.

This project proposes to reconstruct four street segments within the River's Bend residential neighborhood including;

- 147th Lane from the west River's Bend plat line to Waco Street,
- 148th Avenue from the west River's Bend plat line to Xkimo Street,
- Xkimo Street between 147th Lane and 149th Avenue/Sunwood Drive, and
- Yakima Street between 148th Avenue and 149th Avenue/Sunwood Drive.

These street segments total approximately 2,774 feet in length as shown on the title sheet of the attached plans.

Proposed improvements include removing and replacing all damaged concrete curb and gutter sections, and reconstructing the existing bituminous pavement section using the Full Depth Reclamation (FDR) process. The existing storm sewer system is in good condition and generally meets City design standards. The only storm sewer work proposed is resetting the castings after replacing adjusting rings and re-grouting the insides of the catch basins.

Municipal sanitary sewer and water utilities exist under each street segment. The attached plans do not propose improvements to these utilities, except for casting adjustments. These utilities will be tested to verify they are in good operating condition and should not require repairs during the serviceable life of these proposed improvements, which is 60 years. If tests reveal repairs are necessary, such repairs would be completed separately before any work on this project commences.

On February 12, 2018, Council accepted final plans and specifications and authorized advertisements for bids. On March 15, 2018, nine (9) sealed bids were received and were publicly opened and read aloud. The bids were checked for errors and omissions, and were tabulated. All bids were found to be competitive and favorable, complied with the advertisement for bids, and two adjustments were required, those being to the bids of Omann Contracting Companies, Inc. and Northwest Asphalt which will not impact awarding a bid since their bids were not

the lowest. A summary of bids is below and in the attached resolution.

CONTRACTOR	TOTAL BID
North Valley, Inc.	$191,474.48
Omann Contracting Companies, Inc.	$199,270.62
Asphalt Surface Technologies, Corp.	$204,037.17
Park Construction Company	$204,713.69
GMH Asphalt, Corp.	$214,468.83
Hardrives, Inc.	$215,011.00
Douglas-Kerr Underground, LLC	$222,381.82
Midwest Asphalt Services	$223,635.60
Northwest Asphalt	$227,857.71
Engineer's Estimate	*$237,649.00*

North Valley, Inc. of Nowthen, Minnesota, who provided a total bid of $191,474.48 for the construction of said improvements in accordance with the approved plans and specifications and advertisement for bids, is the lowest responsible bidder. Their bid is $46,174.52, or 19.4% less than the engineer's estimate of $237,649.00.

Following award of a contract, staff will immediately issue a Notice of Award to North Valley, Inc. to initiate execution of a contract and issuance of the required bonds and insurance. The City Attorney will verify that the contract, bonds, and insurance are in proper legal form prior to execution of the contract. Once a contract is executed, staff will issue a Notice to Proceed and construction may then begin. At this time, it is anticipated that construction will begin in early June.

A preconstruction meeting will also be conducted before construction begins. Staff will then contact all abutting property owners to provide updates on the proposed construction schedule and operations based on the Contractors input at the preconstruction meeting.

Substantial completion will occur by August 31 to allow school buses unimpeded access to their normal routes before the next school year begins.

The Assessment Hearing is scheduled for October 9, 2018.

Notification:

Advertisements for bids were published in the Anoka Union Herald and in Finance & Commerce on February 16 and 23, 2018.

Observations/Alternatives:

Observations:

The proposed improvements should have a serviceable life of 60 years, assuming that proactive maintenance operations are performed regularly during the life of the improvements. However, since a majority of the existing concrete curb and gutter is not proposed to be replaced, this curb and gutter will be monitored over time and if it needs to be replaced before the improvements proposed with this project reach the end of their serviceable life, Staff will re-evaluate the pavement condition at that time.

Impacts to private irrigation systems may occur during construction. Staff will notify property owners in writing of the pending construction as far in advance as possible to allow them time to move their irrigation system components away from the construction activities. All costs to relocate private irrigation system components are the responsibility of the property owners.

Alternatives:

Alternative #1 – Motion to adopt Resolution #18-058 accepting bids and awarding a contract for construction for River's Bend Street Reconstructions, Improvement Project #17-02.

Alternative #2 – Motion to deny adoption of Resolution #18-058 at this time.

Funding Source:

The low bid submitted by North Valley, Inc. of Nowthen, Minnesota, is $191,474.48. After adding indirect costs for administrative (6%), engineering (15%), finance (1%), and legal (1%) costs, total project costs become $235,513.36.

For comparison, the Feasibility Report estimated project costs at $301,738.31 and the engineer's estimate based on final plans and specifications was $292,308.27.

The improvements are proposed to be funded using a combination of Street Reconstruction and Overlay Program bond funds ($175,905.43), Stormwater Utility Funds ($972.78), and special assessments to benefitting properties ($58,635.15).

Forty-four (44) residential parcels use these streets to access their properties and will therefore receive special benefit from the improvements. Staff proposes to assess up to 25-percent of eligible project costs equally across these 44 parcels using the "per lot" assessment method. Based on the low bid, assessments would be $1,332.62 per parcel. Assessments for this project were preliminarily adopted at $1,714.42 per parcel.

Final assessments will be based on final construction costs and the findings of a special benefit consultation report. Unless Council objects, Staff plans to order a special benefit consultation report for this project following Council authorization to award a construction contract. Again, the purpose of this report is to help verify that proposed assessments will not exceed the benefit to assessed parcels.

Recommendation:

Staff recommends Alternative #1. This will allow the project to be constructed in 2018, and will allow for the use of special assessments to pay for up to 25% of eligible project costs per the applicable provisions of Minnesota Statute Chapter 429, Chapter 8 of the City Charter, and the City's Special Assessments Policy.

Action:

Motion to adopt Resolution #18-058 accepting bids and awarding a contract for construction for River's Bend Street Reconstructions, Improvement Project #17-02.

Attachments

Resolution 18-058

IP17-02 Plans

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:43 PM
Form Started By: Bruce Westby		Started On: 03/12/2018 01:15 PM
Final Approval Date: 03/22/2018		

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

RESOLUTION #18-058

RESOLUTION ACCEPTING BIDS AND AWARDING CONTRACT FOR RIVER'S BEND STREET RECONSTRUCTIONS, IMPROVEMENT PROJECT #17-02

WHEREAS, pursuant to Ramsey City Council resolution #16-12-242, adopted December 13, 2016, the City Engineer was ordered to prepare a Feasibility Report to study the feasibility of milling and overlaying segments of 147th Lane, 148th Avenue, Xkimo Street, and Yakima Street in the River's Bend residential development as part of the 2017 Street Maintenance Program; and

WHEREAS, while preparing the Feasibility Report, twelve pavement core samples were extracted from the bituminous pavement which verified the existing pavement is too thin to mill and overlay; and

WHEREAS, pursuant to Ramsey City Council resolution #17-01-016, adopted January 10, 2017, the City Engineer was ordered to study the feasibility of reconstructing segments of 147th Lane, 148th Avenue, Xkimo Street, and Yakima Street in the River's Bend residential development as part of the 2017 Street Maintenance Program including the reconstruction of existing bituminous pavement, the replacement of damaged concrete curb and gutter, and other appurtenant work; and

WHEREAS, pursuant to Ramsey City Council resolution #17-01-030, adopted January 24, 2017, the City Council received and accepted the Feasibility Report which recommended that the proposed improvements be constructed in 2018 in conjunction with other proposed 2018 street reconstruction improvements in the immediate vicinity; and

WHEREAS, the Feasibility Report was updated to reflect updated estimated costs and an updated project schedule based on construction occurring in 2018 in conjunction with other proposed 2018 street reconstruction improvements; and

WHEREAS, pursuant to Ramsey City Council resolution #17-10-273, adopted October 24, 2017, the updated Feasibility Report was received and accepted, and a Public Hearing was ordered for November 14, 2017, to consider the proposed improvements for said streets in accordance with the revised Feasibility Report; and

WHEREAS, benefiting properties are proposed to be assessed for 25-percent of the cost of eligible improvements, pursuant to Minnesota Statutes Chapter 429, Chapter 8 of the City Charter, and the City's Special Assessments Policy; and

WHEREAS, the City Clerk gave mailed and published notice of such hearing and improvements as required by law; and

WHEREAS, pursuant to Ramsey City Council resolution #17-11-284, adopted November 14, 2017, the updated Feasibility Report was approved following a Public Hearing and the City Engineer was designated as the engineer for this improvement and was ordered to prepare plans and specifications for the making of such improvements; and

WHEREAS, pursuant to Ramsey City Council Resolution #18-034, adopted February 12, 2018, the City Council accepted final plans and specifications and authorized advertisements for bids for said improvements; and

WHEREAS, bids were advertised in the Anoka Union Herald and in Finance and Commerce on February 16 and 23, 2018; and

WHEREAS, bids were received, opened, and tabulated on March 15, 2018, and the following bids were found to comply with the advertisement for bids; and

CONTRACTOR	TOTAL BID
North Valley, Inc.	$191,474.48
Omann Contracting Companies, Inc.	$199,270.62
Asphalt Surface Technologies, Corp.	$204,037.17
Park Construction Company	$204,713.69
GMH Asphalt, Corp.	$214,468.83
Hardrives, Inc.	$215,011.00
Douglas-Kerr Underground, LLC	$222,381.82
Midwest Asphalt Services	$223,635.60
Northwest Asphalt	$227,857.71
Engineer's Estimate	*$237,649.00*

WHEREAS, the bid of North Valley, Inc. of Nowthen, Minnesota, in the amount of $191,474.48 for the total bid for construction of said improvements in accordance with the approved plans and specifications and advertisement for bids, is the lowest responsible bidder and their bid shall be and hereby is accepted; and

WHEREAS, benefiting properties are proposed to be assessed for all or a portion of the cost of the improvements, pursuant to Minnesota Statutes Chapter 429, Chapter 8 of the City Charter, and the City of Ramsey's adopted Special Assessments Policy.

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

1) The Mayor and City Administrator are hereby authorized and directed to enter into a contract with said bidder for the construction of said improvements for and on behalf of the City of Ramsey.

2) The City Administrator is hereby authorized and directed to return forthwith to all bidders the deposits made with their bids at such time that a contract has been executed.

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:

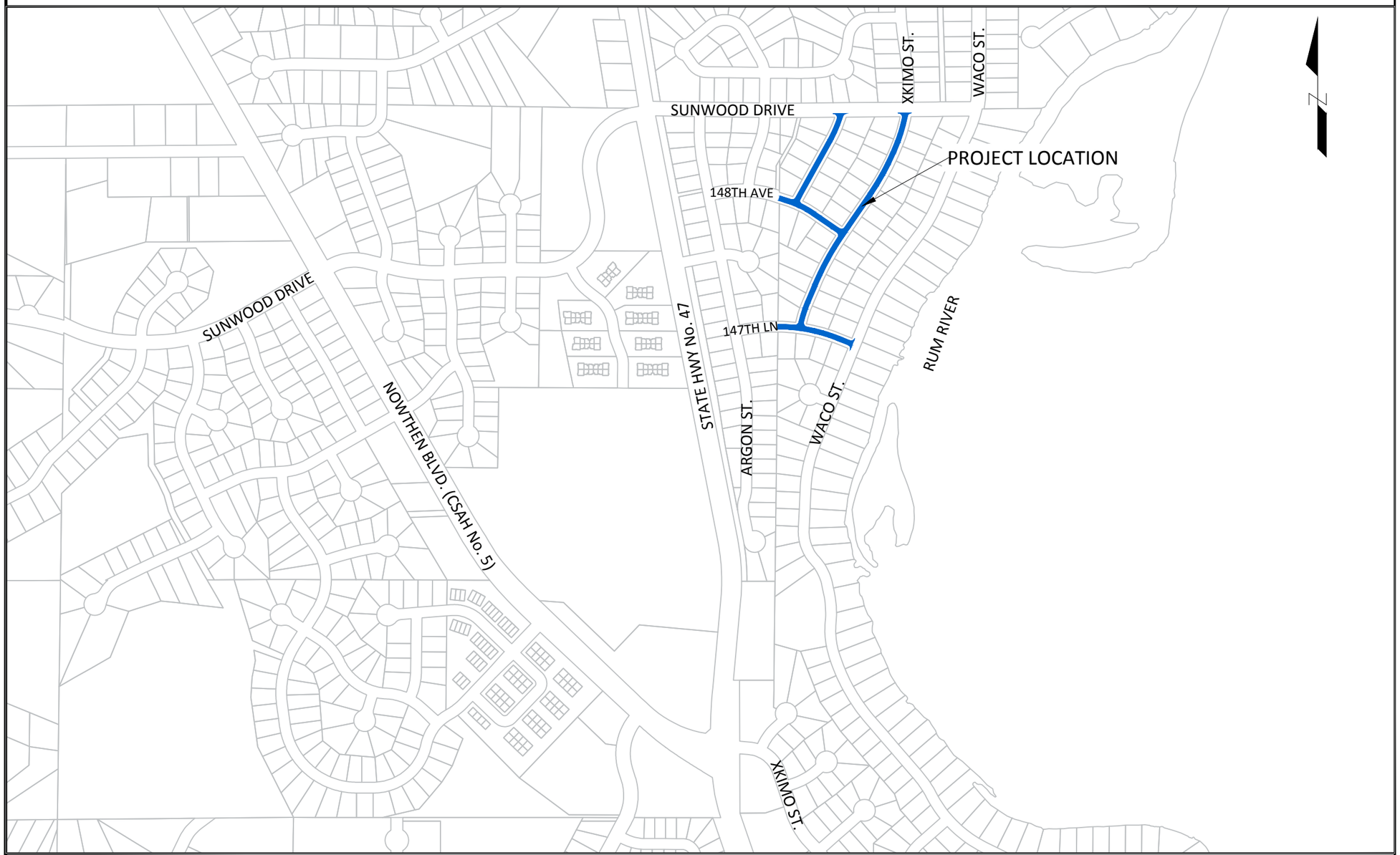
Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 27th day of March, 2018.

_____
Mayor

ATTEST:

_____
City Clerk

CITY OF RAMSEY
RIVERS BEND STREET RECONSTRUCTIONS
147TH LANE, 148TH AVENUE, YAKIMA STREET, XKIMO STREET
CITY IMPROVEMENT PROJECT NO. 17-02



0 300 600 900
SCALE (FEET)

Feb 14, 2018 - 3:48pm
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CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL 1-800-252-1166 OR 651-454-0002

Call before you dig
811
651-454-0002 Metro
800 252-1166 Outstate
www.gopherstateonecall.org

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTION
4	DETAILS
5 - 6	EXISTING CONDITIONS AND REMOVALS
7	EROSION CONTROL AND RESTORATION
8 - 9	STREET CONSTRUCTION

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

Bruce Westby

BRUCE WESTBY, P.E.
RAMSEY CITY ENGINEER

Lic. No. 40116

Date 2/14/18

STATEMENT OF ESTIMATED QUANTITIES
17-02 RIVERS BEND STREET RECONSTRUCTIONS

PAGE NO.	NOTE	MNDOT NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
		2021.501	MOBILIZATION	LS	1
5 - 6	1	2104.501	REMOVE CONCRETE CURB AND GUTTER	LF	1,105
5 - 6	1	2104.503	REMOVE CONCRETE PAVEMENT	SF	180
5 - 6	1	2104.505	REMOVE BITUMINOUS PAVEMENT	SY	32
5	1	2104.505	REMOVE CONCRETE VALLEY GUTTER	SY	70
5 - 6	1	2104.511	SAWING CONCRETE PAVEMENT - FULL DEPTH	LF	450
5 - 6	1	2104.513	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LF	300
7	2	2105.201	COMMON EXCAVATION (EV)	CY	26
5 - 6		2112.501	SUBGRADE PREPARATION	RDST	28
5 - 6		2130.501	WATER	MGAL	50
5 - 6	5	2215.501	BITUMINOUS PAVEMENT RECLAMATION (FULL-DEPTH)	SY	7,898
5 - 6	1	2232.501	MILL BITUMINOUS PAVEMENT (2' WIDTH X 1.5" DEPTH)	SY	48
8 - 9	7	2301.603	CURING COMPOUND FOR EXISTING CONCRETE CURB AND GUTTER	LF	4,253
3, 5 - 6	2, 5	2331.607	HAUL AND DISPOSE BIT PAVEMENT RECLAMATION (LV)	CY	921
8 - 9	3	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	556
8 - 9	4	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (1.5")	TON	656
8 - 9	4	2360.502	TYPE SP 12.5 NON-WEARING COURSE MIXTURE (SPNWB330C) (2.0")	TON	869
8 - 9	4	2360.505	TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) DRIVEWAYS (2.0")	TON	4
5 - 6		2504.602	ADJUST VALVE BOX	EA	9
5 - 6		2506.522	ADJUST FRAME AND RING CASTING	EA	14
9		2506.602	GROUT CATCH BASIN	EA	4
8 - 9		2531.501	CONCRETE CURB & GUTTER DESIGN SURMOUNTABLE	LF	875
8 - 9		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LF	230
8 - 9		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SY	20
8		2531.604	7" CONCRETE VALLEY GUTTER	SY	68
7		2540.601	LANDSCAPE RESTORATION	LS	1
5 - 6	6	2563.601	TRAFFIC CONTROL	LS	1
7		2573.530	STORM DRAIN INLET PROTECTION	EA	8
7		2573.535	STABILIZED CONSTRUCTION EXIT	LS	2
7	2	2574.525	COMMON TOPSOIL BORROW (LV)	CY	31
7		2575.505	SODDING TYPE LAWN	SY	235

PAY ITEM NOTES:

1. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
2. EV TO CV CONVERSION FACTOR = 1.2.
3. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
4. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 110 LB/SY-IN.
5. STOCKPILING OF BITUMINOUS PAVEMENT RECLAMATION IS INCIDENTAL TO THE HAUL BIT PAVEMENT RECLAMATION PAY ITEM. THERE ARE NO STOCKPILE OR STAGING AREAS AVAILABLE ON-SITE FOR STOCKPILING OF BITUMINOUS PAVEMENT RECLAMATION.
6. LUMP SUM QUANTITY SHALL INCLUDE ALL COST REQUIRED FOR MAINTAINING ALL FLAGGING OPERATIONS AS NECESSARY, MAINTAINING PEDESTRIAN ACCESS ROUTES, ANY SIGNAGE AND BARRICADES AS NECESSARY.
7. EXISTING CONCRETE CURB AND GUTTER SHALL BE COVERED WITH WHITE CURE. CONTRACTOR SHALL SWEEP CLEAN THE CONCRETE CURB AND GUTTER PRIOR TO PLACEMENT OF CURE.

GENERAL NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING IRRIGATION SYSTEMS WITHIN THE PROJECT CONSTRUCTION LIMITS BEFORE COMMENCING WORK. THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING DAMAGE TO IRRIGATION SYSTEMS WHERE POSSIBLE.

DATE	REVISION

Feb 14, 2018 - 3:48pm
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

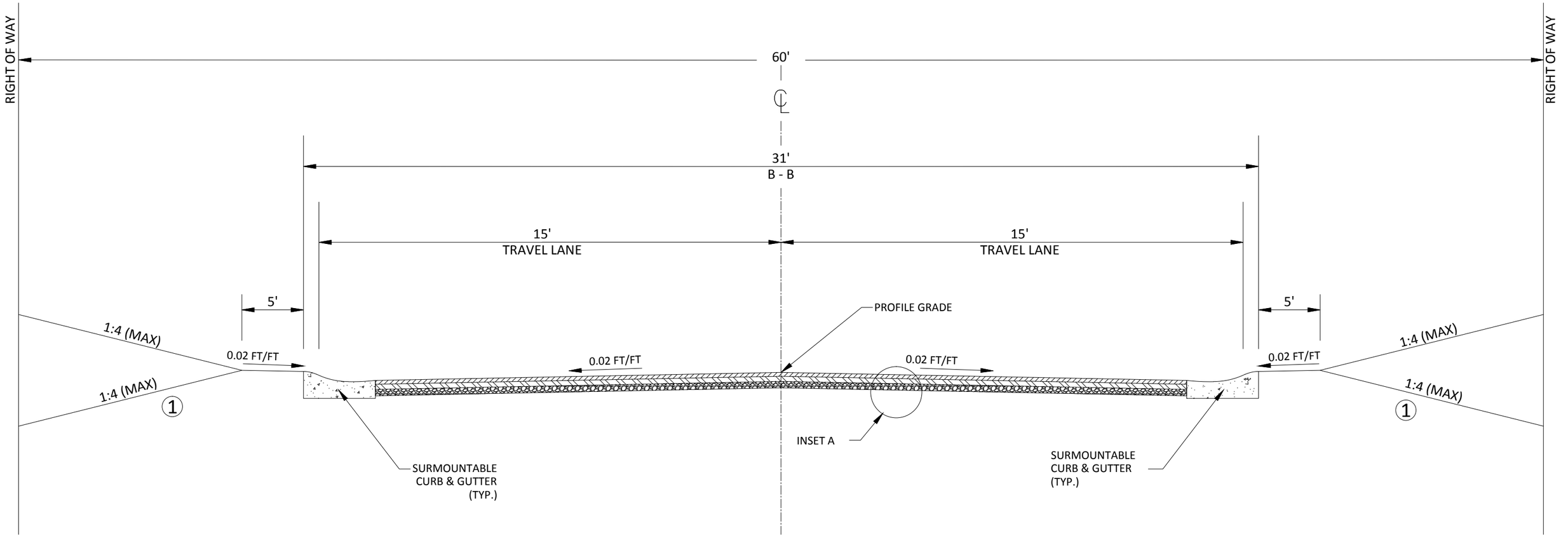
BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	17-01

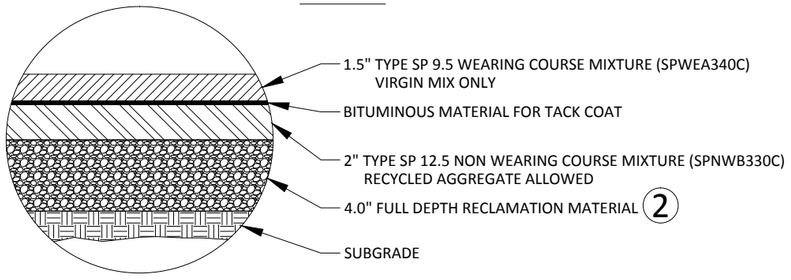
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STATEMENT OF ESTIMATED QUANTITIES

RIVERS BEND STREET RECONSTRUCTIONS
CITY PROJECT NO. 17-02
CITY OF RAMSEY, MINNESOTA



INSET A:



REFERENCE NOTES:

① GRADE TO MATCH EXISTING GROUND. ESTABLISH TURF USING A MINIMUM OF 4" COMMON TOPSOIL BORROW AND SODDING TYPE LAWN. SEE CITY PLATE NO. ERO-6 FOR COMMON TOPSOIL BORROW.

② FULL DEPTH RECLAMATION MUST PASS CITY OF RAMSEY MODIFIED CLASS 5 AGGREGATE BASE GRADATION. SEE CITY PLATE NO. STR-26. MATERIAL SHALL BE SHAPED AND COMPACTED ACCORDING TO THE SPECIFIED DENSITY METHOD.

DATE	REVISION

Feb 14, 2018 - 3:49pm
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

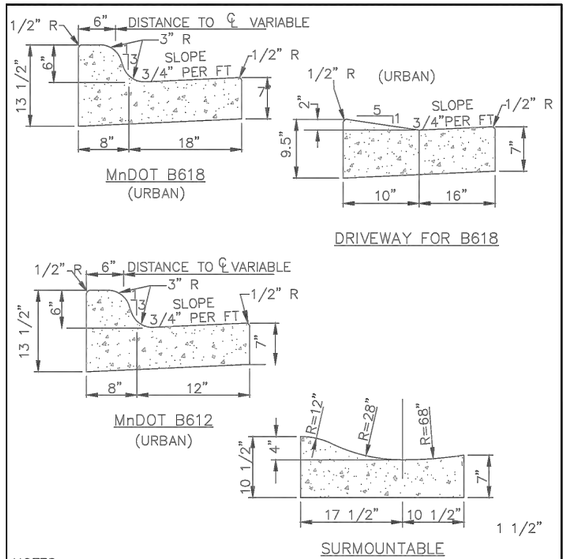
DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 17-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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TYPICAL SECTION

RIVERS BEND STREET RECONSTRUCTIONS
CITY PROJECT NO. 17-02
CITY OF RAMSEY, MINNESOTA

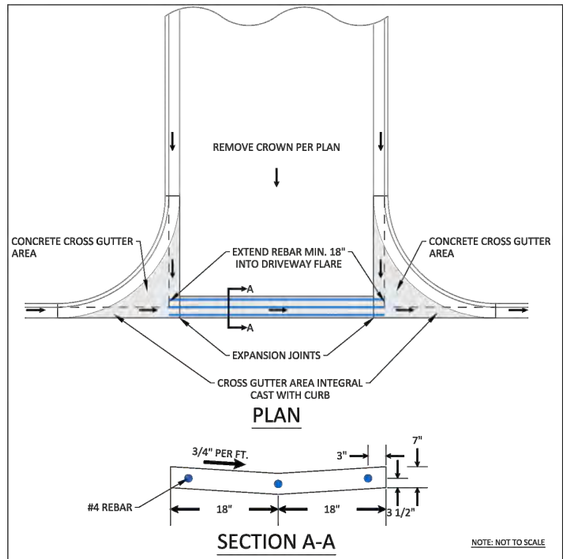
SHEET 3 OF 9 SHEETS



NOTES:

1. ON WEAR COURSE MILL THE EXISTING BITUMINOUS 1.5" BY 24" IN FRONT OF THE REPLACEMENT CURB.
2. ON BASE COURSE SAW CUT AND REMOVE EXISTING BITUMINOUS 18" IN FRONT OF THE REPLACEMENT CURB.

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: CURB AND GUTTER
		CITY PLATE No. STR-1



NOTE: NOT TO SCALE

NOTES:

1. WITH REMOVAL OF EXISTING CURB AT A STREET, MILL BITUMINOUS TO A DEPTH OF 1.5" AND A WIDTH OF 18" IN EXISTING STREET.
2. TO BE USED WHENEVER CROSS DRAINAGE IS < 2%.
3. CONCRETE CURB AND GUTTER SHALL BE CAST INTEGRAL WITH CONCRETE CROSS GUTTER AREA.
4. CONCRETE CURB AND GUTTER SHALL BE PAID SEPARATELY FROM CONCRETE CROSS GUTTER AREA.

APPROVED: 3 – 2017	City of RAMSEY	STANDARD DETAILS: CROSS GUTTER
		CITY PLATE No. STR-2

TABLE A
MODIFIED CLASS 5 SPECIFICATIONS
% PASSING

1"	100
3/4"	90 – 100
3/8"	50 – 80
No.4	35 – 70
No.10	20 – 60
No.40	10 – 35
No.200	5 – 10

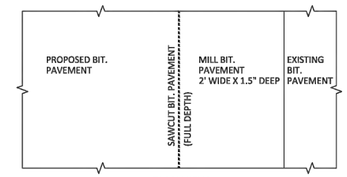
NOTES:

1. THE AGGREGATE BASE CONSTRUCTION WILL BE ACCEPTED FOR PAYMENT IN ACCORDANCE WITH THE PROVISIONS IN TABLE A.
2. IF THE AGGREGATE BASE FAILS TO MEET THE REQUIREMENTS OF TABLE A THE MATERIAL CAN BE CORRECTED IN PLACE OR REMOVED AND REPLACED WITH MATERIAL THAT MEET THE REQUIREMENTS OF TABLE A.
3. IN THE EVENT THAT RECYCLED MATERIAL IS USE IT MUST MEET MNDOT REQUIREMENTS FOR RECYCLED BASE.

APPROVED: 2 – 2003	City of RAMSEY	STANDARD DETAILS: MODIFIED CLASS 5 SPECIFICATIONS
		CITY PLATE No. STR-26

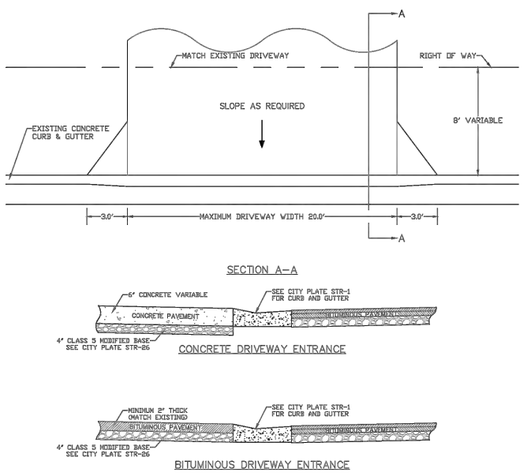
NOTES:

1. BITUMINOUS SHALL BE SAWCUT AND REMOVED
2. CLASS 5 AND BITUMINOUS COURSES SHALL BE MECHANICALLY COMPACTED.
3. SEE CITY PLATE STR-26 FOR MODIFIED CLASS 5 SPECIFICATIONS.



NOTE: NOT TO SCALE.

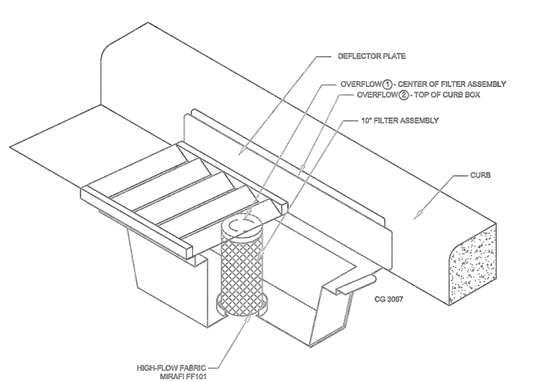
APPROVED: 3 – 2017	City of RAMSEY	CITY PLATE No. STR-31	STANDARD DETAILS: STREET TIE-IN



NOTES:

1. PANEL WIDTH SHALL NOT EXCEED 10 FT. WITHOUT A CENTERLINE CONSTRUCTION JOINT.
2. CONCRETE DRIVEWAY TO BE ONE COURSE CONCRETE PAVEMENT. (SEE SPECIAL PROVISIONS FOR CLASS OF CONCRETE.)
3. CONCRETE DRIVEWAYS TO BE 6" THICK.
4. ½" EXPANSION JOINT, ½" PREFORMED JOINT FILLER MATERIAL, AASHTO M 213 (REQUIRED WHEN 2 CONCRETE AREAS ARE POURED SEPERATELY.)
5. BITUMINOUS DRIVEWAYS MINIMUM 2" THICK, MATCH EXISTING BITUMINOUS PAVEMENT THICKNESS.

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: RESIDENTIAL DRIVEWAY – NO SIDEWALK
		CITY PLATE No. STR-30

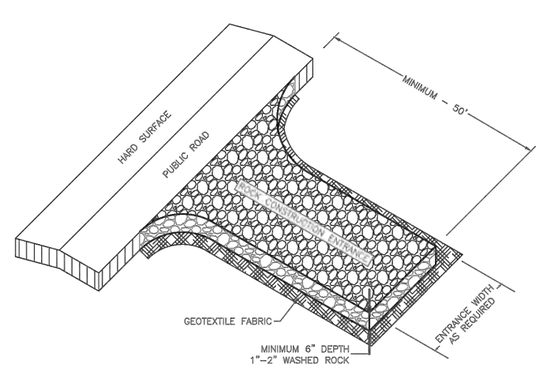


INLET PROTECTION – WIMCO OR EQUAL

N.T.S.

NOTE:
THIS INLET PROTECTION SHALL BE USED IMMEDIATELY FOLLOWING CURB & GUTTER CONSTRUCTION. INLET PROTECTION SHALL REMAIN INSTALLED AND MAINTAINTED UNTIL ALL HOME CONSTRUCTION IS COMPLETE.

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: INLET PROTECTION
		CITY PLATE No. ERO-2



NOTE:

1. MINIMUM CONSTRUCTION ENTRANCE WIDTH EQUAL TO PROPOSED ROADWAY WIDTH.
2. WIDTH OF RADIUS AS REQUIRED TO ENSURE VEHICLES DO NOT TRACK ONTO PUBLIC ROAD.
3. MAINTAINENCE AS REQUIRED TO PREVENT TRACKING ONTO PUBLIC ROADS. THIS MAY REQUIRE TOP DRESSING WITH ADDITIONAL ROCK OR REMOVAL AND REINSTALLATION OF THE ENTRANCE AS NEEDED.

NOT TO SCALE

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: ROCK CONSTRUCTION ENTRANCE
		CITY PLATE No. ERO-5

MNDOT 2016 SPEC

MNDOT 2016 SPEC TABLE 3877-1 COMMON TOPSOIL BORROW		
REQUIREMENT	RANGE	TEST METHOD
MATERIAL PASSING THE 3/4 IN [19MM]	100%	ASTM D 422
MATERIAL PASSING NO. 4 [4.75MM]	>85%	–
CLAY	5% –35%	ASTM D 422
SILT	5% – 70%	ASTM D 422
SAND	10% – 75%	ASTM D 422
ORGANIC MATTER	3% – 15%	ASTM D 2974
pH	6.1–7.8	ASTM G 51

NOTE:

1. INSTALLATION OF 4" OF TOPSOIL MEETING MNDOT SPECIFICATION 3877A COMMON TOPSOIL BORROW, MAY BE REQUIRED ACROSS ALL DISTURBED AREAS.
2. A SOIL CERTIFICATION FROM A GEOTECHNICAL FIRM MUST BE PROVIDED VERIFYING THE TOPSOIL MEETS SPECIFICATION ALONG WITH LOAD TICKETS TO VERIFY THE SOURCE OF MATERIAL AND QUANTITY.
3. TOPSOIL MUST COME FROM A CITY APPROVED SOURCE.

APPROVED: 1 – 2016	City of RAMSEY	CITY PLATE No. ERO-6	STANDARD DETAILS: TOPSOIL REQUIREMENTS

DATE	REVISION

Feb 14, 2018 - 3:49pm
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116.

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 17-01

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

DETAILS

RIVERS BEND STREET RECONSTRUCTIONS
CITY PROJECT NO. 17-02
CITY OF RAMSEY, MINNESOTA

SHEET 4 OF 9 SHEETS

2' x 1.5" DEEP EDGE MILL
SEE CITY DETAIL STR-31
SAWCUT BIT - FULL DEPTH

REMOVE CONCRETE
CURB & GUTTER (TYP.)

REMOVE CONCRETE VALLEY GUTTER (24 SY)
SAWCUT CONC. - FULL DEPTH

2' x 1.5" DEEP EDGE MILL
SEE CITY DETAIL STR-31
SAWCUT BIT - FULL DEPTH

REMOVE CONCRETE VALLEY GUTTER
22 SY

BITUMINOUS PAVEMENT RECLAMATION
FULL-DEPTH

REMOVE CONCRETE VALLEY GUTTER
24 SY

MATCH TO SHEET 6 STA 1+00

MATCH TO SHEET 6 STA 7+50

XKIMO STREET

147TH LANE

148TH AVENUE

0 30 60 90
SCALE (FEET)

LEGEND

- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- RECLAMATION - FULL DEPTH
- REMOVE CONCRETE VALLEY GUTTER
- MILL BITUMINOUS PAVEMENT - STREET TIE-IN
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT PAVEMENT - FULL DEPTH

NOTE:

1. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
2. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
3. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.

DATE	REVISION

Feb 14, 2018 - 3:51pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Rivers Bend Reconstructions 17-02\Plan Drawings\17-02 Removals.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116.

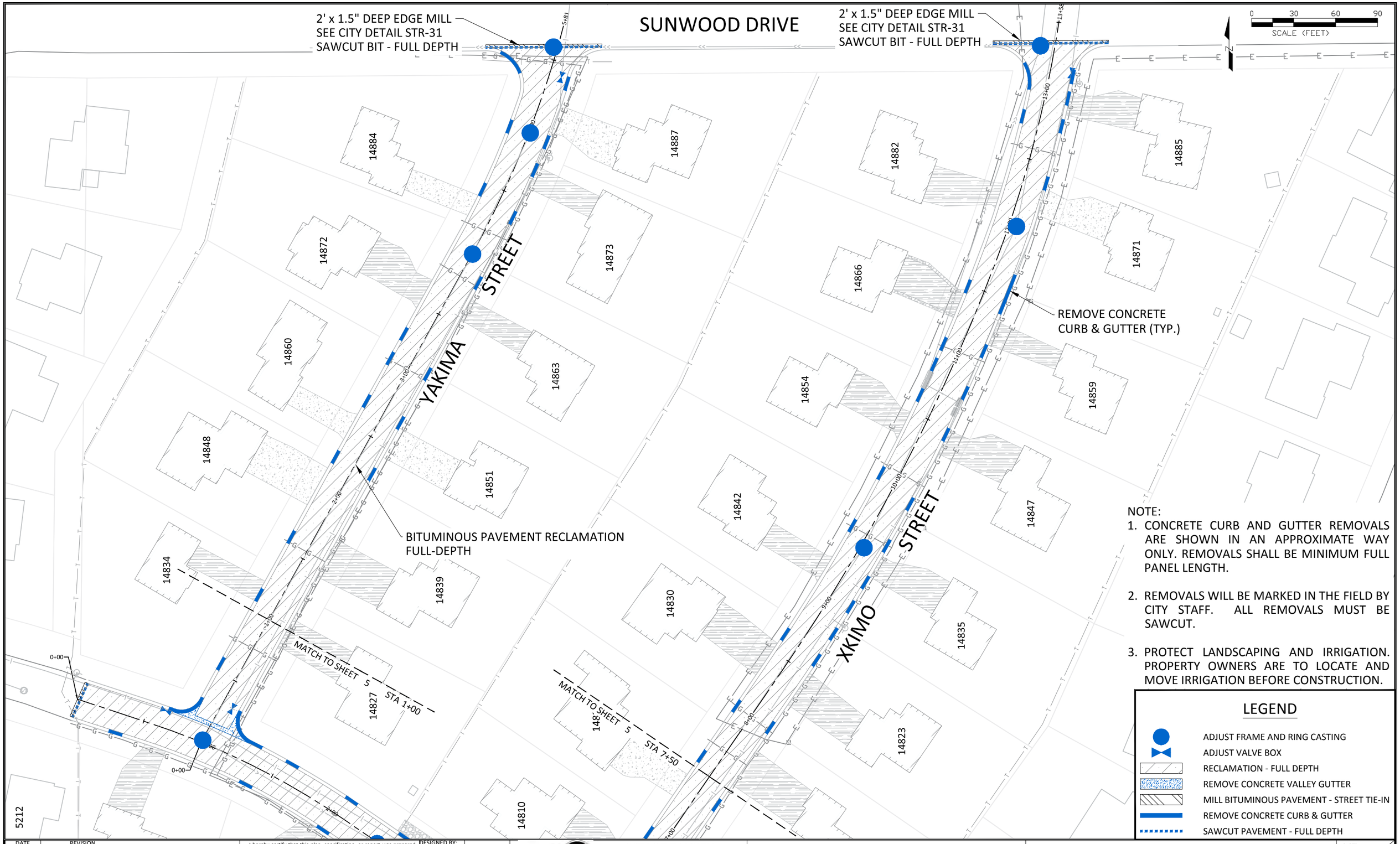
DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	17-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EXISTING CONDITIONS AND REMOVALS

RIVERS BEND STREET RECONSTRUCTIONS
CITY PROJECT NO. 17-02
CITY OF RAMSEY, MINNESOTA

SHEET 5 OF 9 SHEETS



NOTE:

1. CONCRETE CURB AND GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS SHALL BE MINIMUM FULL PANEL LENGTH.
2. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
3. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.

LEGEND

- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- RECLAMATION - FULL DEPTH
- REMOVE CONCRETE VALLEY GUTTER
- MILL BITUMINOUS PAVEMENT - STREET TIE-IN
- REMOVE CONCRETE CURB & GUTTER
- SAWCUT PAVEMENT - FULL DEPTH

DATE	REVISION

Feb 14, 2018 - 3:51pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Rivers Bend Reconstructions 17-02\Plan Drawings\17-02 Removals.dwg

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Date 2/14/18 Lic. No. 40116

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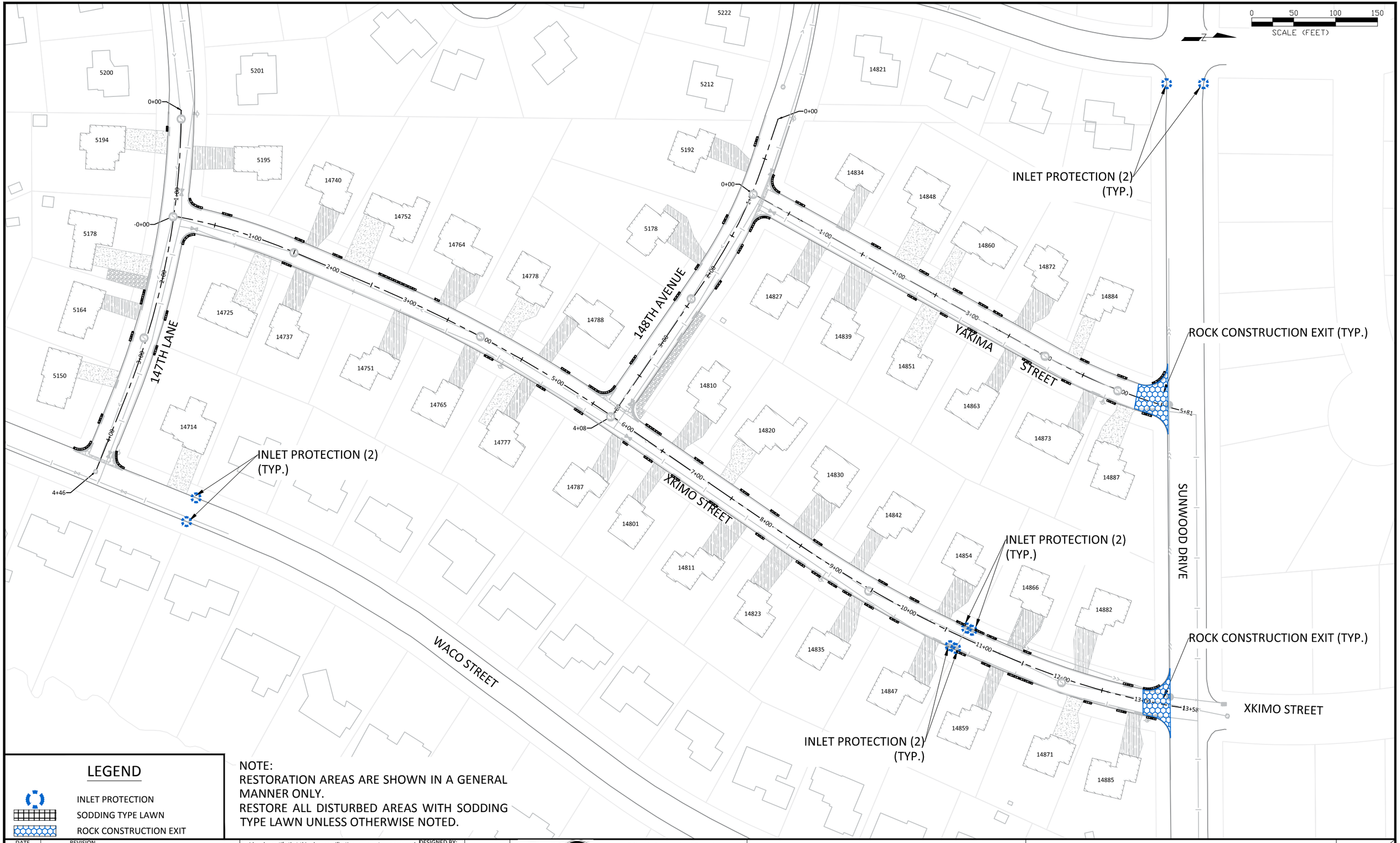
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EXISTING CONDITIONS AND REMOVALS

RIVERS BEND STREET RECONSTRUCTIONS
CITY PROJECT NO. 17-02
CITY OF RAMSEY, MINNESOTA

SHEET 6 OF 9 SHEETS



LEGEND

- INLET PROTECTION
- SODDING TYPE LAWN
- ROCK CONSTRUCTION EXIT

NOTE:
RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY.
RESTORE ALL DISTURBED AREAS WITH SODDING TYPE LAWN UNLESS OTHERWISE NOTED.

DATE	REVISION

Feb 14, 2018 - 3:53pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Rivers Bend Reconstructions 17-02\Plan Drawings\17-02 Erosion Control.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	17-01

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EROSION CONTROL AND RESTORATION

RIVERS BEND STREET RECONSTRUCTIONS
CITY PROJECT NO. 17-02
CITY OF RAMSEY, MINNESOTA

MATCH EXISTING STREET
STA. 0+00

0+00

5194

5195

14740

14752

14764

5178

14778

5164

14725

14737

14788

14751

5150

14714

14765

14777

14787

14801

14810

14820

14827

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14701

14708

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14661

14660

14659

14658

14657

SUNWOOD DRIVE

MATCH EXISTING STREET
STA. 5+62

MATCH EXISTING STREET
STA. 13+37

B618 CONCRETE CURB & GUTTER (TYP.)
SEE DETAIL STR-1

SURMOUNTABLE CONCRETE CURB & GUTTER (TYP.)
SEE DETAIL STR-1

GROUT CATCH BASIN (4)

YAKIMA STREET

XKIMO STREET

31' B-B

MATCH TO SHEET 8 STA 1+00

MATCH TO SHEET 8 STA 7+50

0 30 60 90
SCALE (FEET)

N

NOTE:
CONCRETE CURB AND GUTTER AND CONCRETE VALLEY GUTTER ARE HIGH EARLY (HE) CONCRETE.
SWEEP EXISTING CONCRETE CURB AND GUTTER PRIOR TO COVERING WITH WHITE CURE.

LEGEND

- GROUT CATCH BASIN
- SANITARY SEWER MANHOLE
- WATERMAIN VALVE
- STORM SEWER MANHOLE
- 7" CONCRETE VALLEY GUTTER
- B618 CONCRETE CURB & GUTTER
- SURMOUNTABLE CONCRETE CURB & GUTTER
- MATCHLINE - EXISTING PAVEMENT

DATE	REVISION

Feb 14, 2018 - 3:54pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Rivers Bend Reconstructions 17-02\Plan Drawings\17-02 Streets.dwg

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BRUCE WESTBY
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CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET CONSTRUCTION

RIVERS BEND STREET RECONSTRUCTIONS
CITY PROJECT NO. 17-02
CITY OF RAMSEY, MINNESOTA

SHEET 9 OF 9 SHEETS

Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

CC Regular Session **7. 6.**

Meeting Date: 03/27/2018

By: Bruce Westby, Engineering/Public Works

Information

Title:

Adopt Resolution #18-059 Accepting Bids and Awarding Contract for Stanhope Terrace Streets Reconstruction, Improvement Project #18-00

Purpose/Background:

Purpose:

The purpose of this case is to adopt Resolution #18-059 accepting bids and awarding a contract for construction for Stanhope Terrace Street Reconstructions, Improvement Project #18-00.

Background:

Attached is a copy of the plans prepared by City staff for Improvement Project #18-00, Stanhope Terrace Street Reconstructions.

This project proposes to reconstruct three street segments within the Stanhope Terrace residential neighborhood including;

- Ute Street north of Alpine Drive through the cul-de-sac,
- 154th Lane between Ute Street and Roanoke Street, and
- 153rd Court west of Roanoke Street through the cul-de-sac.

These street segments total approximately 2,800 feet in length as shown on the title sheet of the attached plans.

Proposed improvements include removing existing bituminous curb and replacing it with B618 concrete curb and gutter, then reconstructing the existing bituminous pavement section using the Full Depth Reclamation (FDR) process. The existing storm sewer system is in good condition and generally meets City design standards. The only storm sewer work proposed is resetting the castings after replacing adjusting rings and re-grouting the insides of the catch basins.

Municipal sanitary sewer and water utilities do not exist in Stanhope Terrace, and the attached plans do not propose to install such utilities.

On February 12, 2018, Council accepted final plans and specifications and authorized advertisements for bids. On March 15, 2018, nine (9) sealed bids were received and were publicly opened and read aloud. The bids were checked for errors and omissions, and were tabulated. All bids were found to be competitive and favorable, complied with the advertisement for bids, and only one adjustment was required, that being to the bid of GMH Asphalt, Corp. which will not impact awarding a bid since their bid was the fourth lowest. A summary of bids is below and in the attached resolution.

CONTRACTOR	TOTAL BID
North Valley, Inc.	$303,756.46

Douglas-Kerr Underground, LLC	$335,706.40
Asphalt Surface Technologies, Corp.	$336,595.45
GMH Asphalt, Corp.	$352,597.43
Omann Contracting Companies, Inc.	$353,300.16
Midwest Asphalt Services	$377,017.00
Hardrives, Inc.	$378,113.27
Park Construction Company	$405,318.27
Northwest Asphalt	$414,791.59
Engineer's Estimate	*$363,783.00*

North Valley, Inc. of Nowthen, Minnesota, who provided a total bid of $303,756.46 for the construction of said improvements in accordance with the approved plans and specifications and advertisement for bids, is the lowest responsible bidder. Their bid is $60,026.54, or 16.5% less than the engineer's estimate of $363,783.00.

Following award of a contract, staff will immediately issue a Notice of Award to North Valley, Inc. to initiate execution of a contract and issuance of the required bonds and insurance. The City Attorney will verify that the contract, bonds, and insurance are in proper legal form prior to execution of the contract. Once a contract is executed, staff will issue a Notice to Proceed and construction may then begin. At this time, it is anticipated that construction will begin in early June.

A preconstruction meeting will also be conducted before construction begins. Staff will then contact all abutting property owners to provide updates on the proposed construction schedule and operations based on the Contractors input at the preconstruction meeting.

Substantial completion will occur by August 31 to allow school buses unimpeded access to their normal routes before the next school year begins.

The Assessment Hearing is scheduled for October 9, 2018.

Notification:
Advertisements for bids were published in the Anoka Union Herald and in Finance & Commerce on February 16 and 23, 2018.

Observations/Alternatives:

Observations:
The proposed improvements should have a serviceable life of 60 years, assuming that proactive maintenance operations are performed regularly during the life of the improvements.

Impacts to private irrigation systems may occur during construction. Staff will notify property owners in writing of the pending construction as far in advance as possible to allow them time to move their irrigation system components away from the construction activities. All costs to relocate private irrigation system components are the responsibility of the property owners.

As previously discussed, while preparing the Feasibility Report Staff found that the Ute Street cul-de-sac is not fully located within existing right-of-way, and that no public easements exist over the two "ears" outside City right-of-way. Staff has discussed this issue with the property owners on both sides of the cul-de-sac. Both property owners verbally agreed to grant the required roadway easements, which will allow the improvements to be constructed as proposed and maintained in perpetuity. Staff anticipates providing easement agreements to both property owners the week of March 26th, and recording the easements by the end of April, well before construction begins.

Alternatives:
Alternative #1 – Motion to adopt Resolution #18-059 accepting bids and awarding a contract for construction for

Stanhope Terrace Street Reconstructions, Improvement Project #18-00.

Alternative #2 – Motion to deny adoption of Resolution #18-059 at this time.

Funding Source:

The low bid submitted by North Valley, Inc. of Nowthen, Minnesota, is $303,756.46. After adding indirect costs for administrative (6%), engineering (15%), finance (1%), and legal (1%) costs, total project costs become $373,620.45.

For comparison, the Feasibility Report estimated project costs at $430,934.81 and the engineer's estimate based on final plans and specifications was $447,453.09.

The improvements are proposed to be funded using a combination of Street Reconstruction and Overlay Program bond funds ($279,742.21), Stormwater Utility Funds ($630.84), and special assessments to benefitting properties ($93,247.40).

Sixteen (16) residential parcels use these streets to access their properties and will therefore receive special benefit from the improvements. Staff proposes to assess up to 25-percent of eligible project costs equally across these 16 parcels using the "per lot" assessment method. Based on the low bid, assessments would be $5,827.96 per parcel. Assessments for this project were preliminarily adopted at $6,733.36 per parcel.

Final assessments will be based on final construction costs and the findings of a special benefit consultation report. Unless Council objects, Staff plans to order a special benefit consultation report for this project following Council authorization to award a construction contract. Again, the purpose of this report is to help verify that proposed assessments will not exceed the benefit to assessed parcels.

Recommendation:

Staff recommends Alternative #1. This will allow the project to be constructed in 2018, and will allow for the use of special assessments to pay for up to 25% of eligible project costs per the applicable provisions of Minnesota Statute Chapter 429, Chapter 8 of the City Charter, and the City's Special Assessments Policy.

Action:

Motion to adopt Resolution #18-059 accepting bids and awarding a contract for construction for Stanhope Terrace Street Reconstructions, Improvement Project #18-00.

Attachments

Resolution 18-059

IP18-00 Plans

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:37 PM
Form Started By: Bruce Westby		Started On: 03/12/2018 01:16 PM
Final Approval Date: 03/22/2018		

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

RESOLUTION #18-059

RESOLUTION ACCEPTING BIDS AND AWARDING CONTRACT FOR STANHOPE TERRACE STREET RECONSTRUCTIONS, IMPROVEMENT PROJECT #18-00

WHEREAS, pursuant to Ramsey City Council Resolution #17-07-168, adopted July 11, 2017, the City Engineer was ordered to prepare a Feasibility Report to study the feasibility of reconstructing approximately 0.52 miles of streets within the Stanhope Terrace development including Ute Street from Alpine Drive to its termini cul-de-sac, 154th Avenue between Ute Street and Roanoke Street, and 153rd Court from Roanoke Street to its termini cul-de-sac, including the reconstruction of streets and curb and gutter, the construction of storm sewer, and other appurtenant work; and

WHEREAS, pursuant to Ramsey City Council Resolution #17-10-271, adopted October 24, 2017, the City Council received and accepted the Feasibility Report, and a Public Hearing was ordered for November 14, 2017, to consider the proposed improvements for said streets in accordance with the Feasibility Report; and

WHEREAS, benefiting properties are proposed to be assessed for 25-percent of the cost of eligible improvements, pursuant to Minnesota Statutes Chapter 429, Chapter 8 of the City Charter, and the City's Special Assessments Policy; and

WHEREAS, the City Clerk gave mailed and published notice of such hearing and improvements as required by law; and

WHEREAS, pursuant to Ramsey City Council Resolution #17-11-285, adopted November 14, 2017, the Feasibility Report was approved following a Public Hearing and the City Engineer was designated as the engineer for this improvement and was ordered to prepare plans and specifications for the making of such improvements; and

WHEREAS, pursuant to Ramsey City Council Resolution #18-035, adopted February 12, 2018, the City Council accepted final plans and specifications and authorized advertisements for bids for said improvements; and

WHEREAS, bids were advertised in the Anoka Union Herald and in Finance and Commerce on February 16 and 23, 2018; and

WHEREAS, bids were received, opened, and tabulated on March 15, 2018, and the following bids were found to comply with the advertisement for bids; and

CONTRACTOR	TOTAL BID
North Valley, Inc.	$303,756.46
Douglas-Kerr Underground, LLC	$335,706.40
Asphalt Surface Technologies, Corp.	$336,595.45
GMH Asphalt, Corp.	$352,597.43
Omann Contracting Companies, Inc.	$353,300.16
Midwest Asphalt Services	$377,017.00
Hardrives, Inc.	$378,113.27
Park Construction Company	$405,318.27
Northwest Asphalt	$414,791.59
Engineer's Estimate	*$363,783.00*

WHEREAS, the bid of North Valley, Inc. of Nowthen, Minnesota, in the amount of $303,756.46 for the total bid for construction of said improvements in accordance with the approved plans and specifications and advertisement for bids, is the lowest responsible bidder and their bid shall be and hereby is accepted; and

WHEREAS, benefiting properties are proposed to be assessed for all or a portion of the cost of the improvements, pursuant to Minnesota Statutes Chapter 429, Chapter 8 of the City Charter, and the City of Ramsey's adopted Special Assessments Policy.

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

1) The Mayor and City Administrator are hereby authorized and directed to enter into a contract with said bidder for the construction of said improvements for and on behalf of the City of Ramsey.

2) The City Administrator is hereby authorized and directed to return forthwith to all bidders the deposits made with their bids at such time that a contract has been executed.

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:

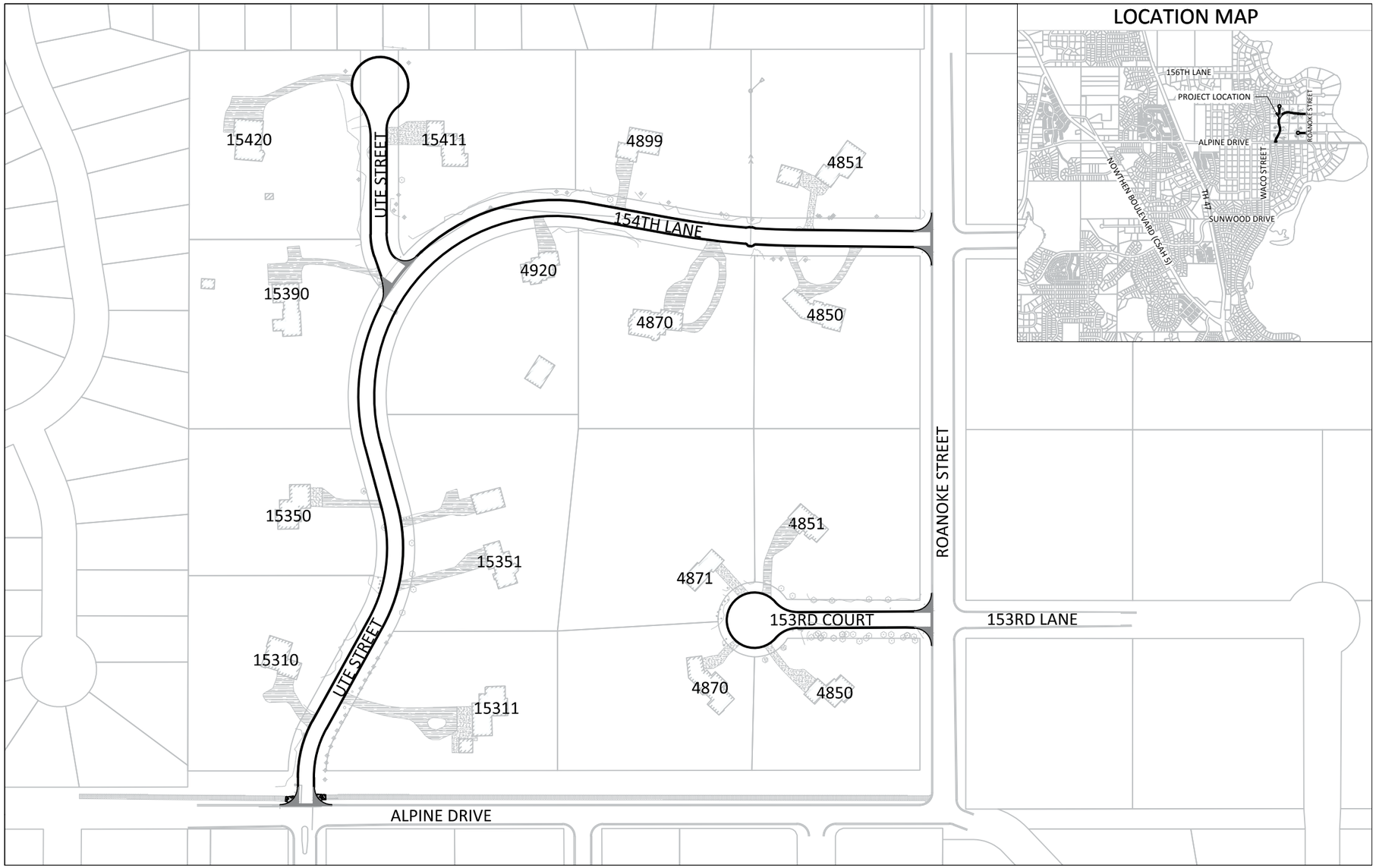
Whereupon said resolution was declared duly passed and adopted by the Ramsey City Council this the 27th day of March, 2018.

_____
Mayor

ATTEST:

_____
City Clerk

CITY OF RAMSEY
STANHOPE TERRACE STREET RECONSTRUCTION
CITY IMPROVEMENT PROJECT NO. 18-00



GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

SHEET INDEX

THIS PLAN CONTAINS 28 SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTION
4	CITY DETAILS
5 - 10	MNDOT PEDESTRIAN RAMP DETAILS
11 - 12	EXISTING CONDITIONS AND REMOVALS
13 - 14	EROSION CONTROL AND RESTORATION
15	ALIGNMENT LAYOUT
16	STREET AND STORM - UTE STREET
17	STREET AND STORM - 154TH LANE
18	STREET AND STORM - UTE STREET CDS & 153RD COURT
19	UTE STREET PEDESTRIAN RAMP LAYOUTS
20 - 23	CROSS SECTIONS - UTE STREET & 154TH LANE
24	CROSS SECTIONS - UTE STREET CUL-DE-SAC
25 - 26	CROSS SECTIONS - 153RD COURT
27 - 28	SWPPP

LEGEND

	LIGHT POLE		EASEMENT
	TREE		RIGHT OF WAY
	TREE	E	ELECTRIC
	SHRUB	OE	OVERHEAD ELECTRIC
	SIGN	G	GAS
	VALVE	T	TELECOMMUNICATIONS
PED	UTILITY PEDESTAL		STORM SEWER
HH	HAND HOLE		SANITARY SEWER
	WATERMAIN		WATERMAIN
	REMOVE TREE		SAWCUT PAVEMENT
	3'X2' CATCH BASIN		TREE LINE
	MANHOLE		FENCE
	INLET PROTECTION		LANDSCAPING
	HYDRANT		RETAINING WALL
	VALVE		5' CONTOUR LINE
			1' CONTOUR LINE
			SILT FENCE
			EXISTING CONCRETE CURB & GUTTER
			B618 CONCRETE CURB & GUTTER
			REMOVE BITUMINOUS PAVEMENT
			SODDING TYPE LAWN
			CONCRETE PAVEMENT
			BITUMINOUS PAVEMENT
			GRAVEL SURFACE
			ROCK CONSTRUCTION EXIT

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

Bruce W. Westby

BRUCE R WESTBY, P.E.
RAMSEY CITY ENGINEER

40116 LIC. NO.

DATE 2/14/18

DATE	REVISION

0 100 200 300
SCALE (FEET)

N

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL 1-800-252-1166 OR 651-454-0002

GSOC

Call before you dig
811
651 454-0002 Metro
800 252-1166 Outstate
www.gopherstateonecall.org

Feb 14, 2018 - 3:23pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Cover and Notes.dwg

18-00 STANHOPE TERRACE STREET RECONSTRUCTIONS

STATEMENT OF ESTIMATED QUANTITIES

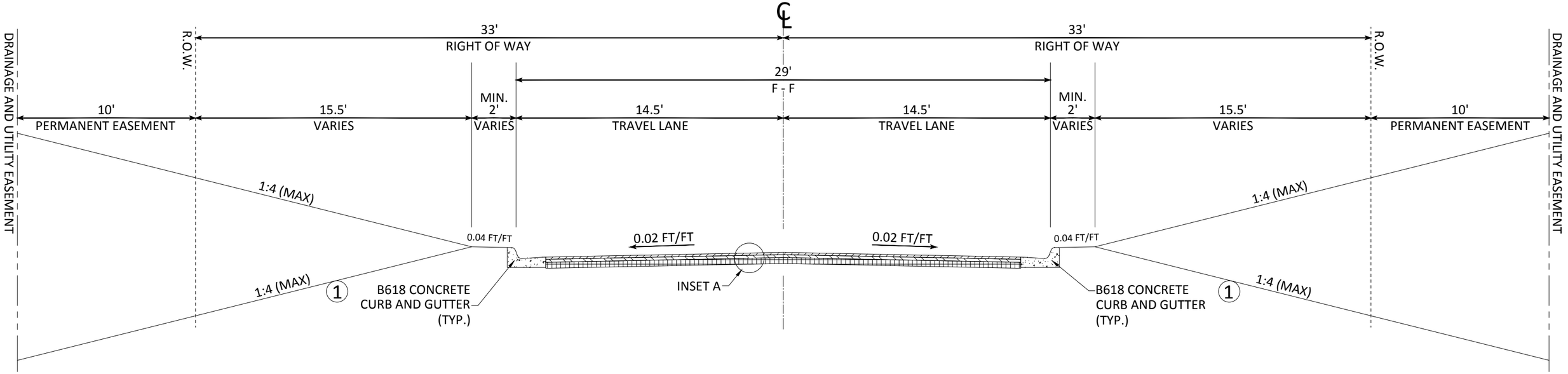
PAGE No.	NOTE	MNDOT No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
		2021.501	MOBILIZATION	LS	1
11 - 12	1	2104.501	REMOVE CONCRETE CURB AND GUTTER	LF	313
11 - 12	1	2104.503	REMOVE CONCRETE PAVEMENT	SF	674
11 - 12	1	2104.505	REMOVE BITUMINOUS PAVEMENT	SY	208
11 - 12	1	2104.505	REMOVE CONCRETE VALLEY GUTTER	SY	155
11 - 12	1	2104.511	SAWING CONCRETE PAVEMENT - FULL DEPTH	LF	350
11 - 12	1	2104.513	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LF	216
11 - 12	3	2104.523	SALVAGE MAIL BOX SUPPORT	EA	15
		2104.523	TEMPORARY MAIL BOX CLUSTER	EA	3
20 - 26	2	2105.201	COMMON EXCAVATION (EV)	CY	400
20 - 26	2	2105.507	SUBGRADE EXCAVTION (EV)	CY	50
16 - 18		2112.501	SUBGRADE PREPARATION	RDST	26
		2130.501	WATER	MGAL	50
16 - 18	2, 6	2211.503	AGGREGATE BASE CLASS 5 MODIFIED (CV)	CY	1,242
11 - 12	6, 7	2215.501	BITUMINOUS PAVEMENT RECLAMATION - FULL DEPTH	SY	10,132
11 - 12	7	2331.607	HAUL BIT PAVEMENT RECLAMATION (LV)	CY	2,533
16 - 18	4	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	615
16 - 18	5	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (1.5")	TON	725
16 - 18	5	2360.502	TYPE SP 12.5 NON WEARING COURSE MIXTURE (SPNWB330C) (2")	TON	965
16 - 18	5	2360.505	TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) DRIVEWAYS (2")	TON	20
16 - 17	8	2506.602	RESET CATCH BASIN CASTING	EA	6
19		2521.501	6" CONCRETE WALK	SF	242
16 - 18		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LF	5,548
16 - 18		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SY	75
16 - 18		2531.604	7" CONCRETE VALLEY GUTTER	SY	235
19		2531.618	TRUNCATED DOMES	SF	55
13 - 14		2540.601	LANDSCAPE RESTORATION	LS	1
13 - 14	3	2540.602	INSTALL MAIL BOX SUPPORT	EA	15
	9	2563.601	TRAFFIC CONTROL	LS	1
13 - 14		2573.502	SILT FENCE, TYPE MS	LF	850
13 - 14		2573.530	STORM DRAIN INLET PROTECTION	EA	13
13 - 14	2	2574.525	COMMON TOPSOIL BORROW (LV)	CY	467
13 - 14		2575.505	SODDING TYPE LAWN	SY	3,500

PAY ITEM NOTES:

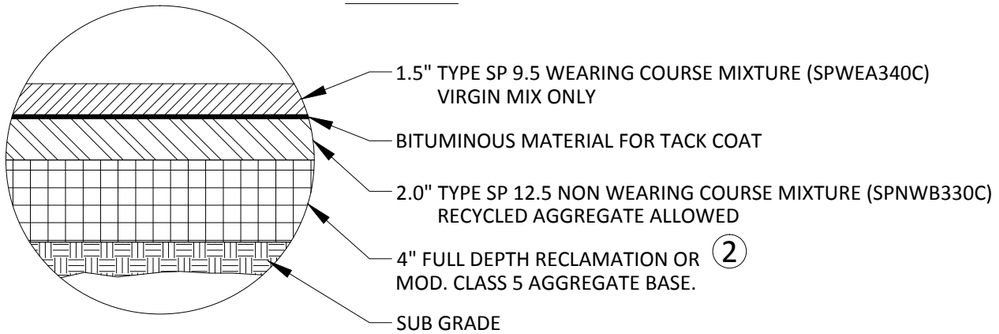
1. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
2. EV TO CV CONVERSION FACTOR = 1.2.
3. PAY ITEM INCLUDES ALL EXISTING MAILBOX SUPPORTS, REGARDLESS OF MATERIAL(S), SIZE, FOOTING TYPE, LOCATION, OR EXISTING ELECTRICAL SERVICE.
4. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
5. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 110 LB/SY-IN.
6. BITUMINOUS PAVEMENT RECLAMATION MEETING CITY OF RAMSEY MODIFIED CLASS 5 GRADATION IS ACCEPTABLE AS AGGREGATE BASE CLASS 5.
7. STOCKPILING OF BITUMINOUS PAVEMENT RECLAMATION BEING USED AS AGGREGATE BASE CLASS 5 IS INCIDENTAL TO THE HAUL BIT PAVEMENT RECLAMATION PAY ITEM. THERE ARE NO STOCKPILE OR STAGING AREAS AVAILABLE ON-SITE FOR STOCKPILING OF BITUMINOUS PAVEMENT RECLAMATION.
8. SEE CITY STANDARD PLATE STO-13, SHEET 4 FOR RESET CATCH BASIN CASTING.
9. LUMP SUM QUANTITY SHALL INCLUDE ALL COST REQUIRED FOR MAINTAINING ALL FLAGGING OPERATIONS AS NECESSARY, MAINTAINING PEDESTRIAN ACCESS ROUTES, ANY SIGNAGE AND BARRICADES AS NECESSARY.

GENERAL NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING IRRIGATION SYSTEMS WITHIN THE PROJECT CONSTRUCTION LIMITS BEFORE COMMENCING WORK. THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING DAMAGE TO IRRIGATION SYSTEMS WHERE POSSIBLE.
3. SALVAGE AND INSTALL MAILBOX SUPPORTS IN THE SAME LOCATION, UNLESS OTHERWISE DIRECTED. THE INSTALLATION WILL BE THE SAME TYPE AS ORIGINAL INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING MAILBOX SUPPORTS WHICH ARE DAMAGED DURING SALVAGE AND/OR INSTALLATION UNLESS CONTRACTOR NOTIFIES CITY OF DAMAGED MAILBOX SUPPORTS BEFORE SALVAGE OPERATIONS BEGIN. SALVAGED MAILBOX SUPPORTS SHALL BE STORED BY CONTRACTOR DURING PROJECT.



INSET A:



REFERENCE NOTES:

1. GRADE TO MATCH EXISTING GROUND. ESTABLISH TURF USING A MINIMUM OF 4" COMMON TOPSOIL BORROW AND SODDING TYPE LAWN. SEE CITY PLATE NO. ERO-6 FOR COMMON TOPSOIL BORROW.

2. FULL DEPTH RECLAMATION MUST PASS CITY OF RAMSEY MODIFIED CLASS 5 AGGREGATE BASE GRADATION. SEE CITY PLATE NO. STR-26.

CUL-DE-SACS GENERALLY MEASURE 100' DIAMETER FROM BACK-OF-CURB TO BACK-OF-CURB.

NOTE: NOT TO SCALE

DATE	REVISION

Feb 14, 2018 - 3:23pm
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

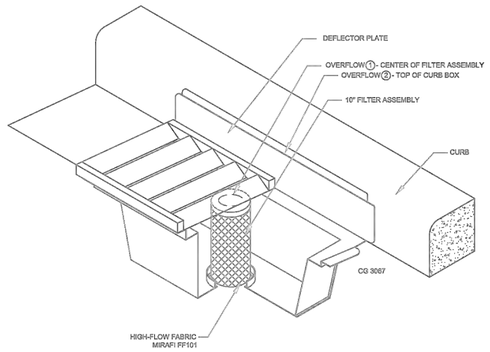
BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

TYPICAL SECTION

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

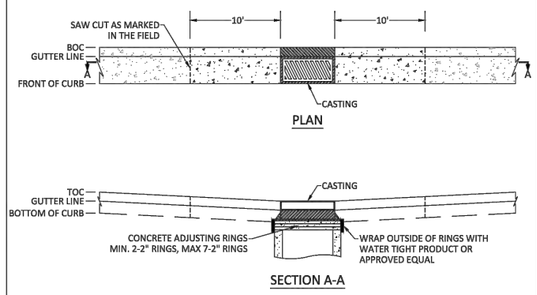


INLET PROTECTION – WIMCO OR EQUAL

N.T.S.

NOTE:
THIS INLET PROTECTION SHALL BE USED IMMEDIATELY FOLLOWING CURB & GUTTER CONSTRUCTION. INLET PROTECTION SHALL REMAIN INSTALLED AND MAINTAINTED UNTIL ALL HOME CONSTRUCTION IS COMPLETE.

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: INLET PROTECTION
		CITY PLATE No. ERO–2

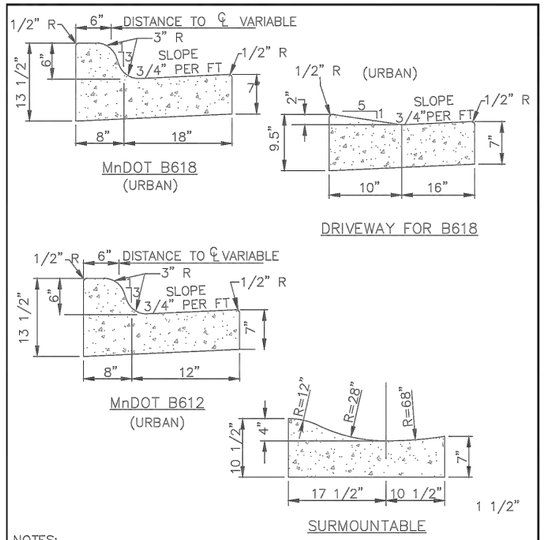


NOTE: NOT TO SCALE

NOTE:

1. CONCRETE CURB AND GUTTER TO BE REMOVED 10 FEET TO EITHER SIDE OF CATCH BASIN CASTING. CURB AND GUTTER MUST BE SAW CUT - FULL DEPTH.
2. CASTING SHALL BE BROUGHT UP TO PROPER GRADE. DAMAGED CONCRETE ADJUSTING RINGS MUST BE REPLACED. OUTSIDE OF RINGS MUST BE WRAPPED WITH APPROVED WATER TIGHT PRODUCT. INSIDE OF RINGS MUST BE GROUTED TO A SMOOTH FINISH.
3. CONCRETE CURB AND GUTTER SHALL BE REPLACED AND MATCH INTO THE RESET CASTING AND THE EXISTING CURB AND GUTTER.
4. DAMAGED BITUMINOUS PAVEMENT SHALL BE REPAIRED AND IS INCIDENTAL. FOLLOW CITY STANDARD PLATE STR-25.
5. PROPER TRAFFIC CONTROL DEVICES SHALL BE REQUIRED TO MAINTAIN A SAFE WORK ENVIRONMENT, AND IS INCLUDED IN THE TRAFFIC CONTROL LUMP SUM BIT ITEM.
6. ALL EQUIPMENT, MATERIALS, DISPOSAL, AND LABOR REQUIRED TO RESET CATCH BASIN CASTING AS DESCRIBED BY THIS DETAIL IS INCIDENTAL.
7. BOULEVARD RESTORATION BEHIND CURB IS NOT INCLUDED WITH THE RESET CATCH BASIN CASTING PAY ITEM.

APPROVED: 3 – 2017	City of RAMSEY	STANDARD DETAILS: RESET CATCH BASIN CASTING
		CITY PLATE No. STO–13



NOTES:

1. ON WEAR COURSE MILL THE EXISTING BITUMINOUS 1.5" BY 24" IN FRONT OF THE REPLACEMENT CURB.
2. ON BASE COURSE SAW CUT AND REMOVE EXISTING BITUMINOUS 18" IN FRONT OF THE REPLACEMENT CURB.

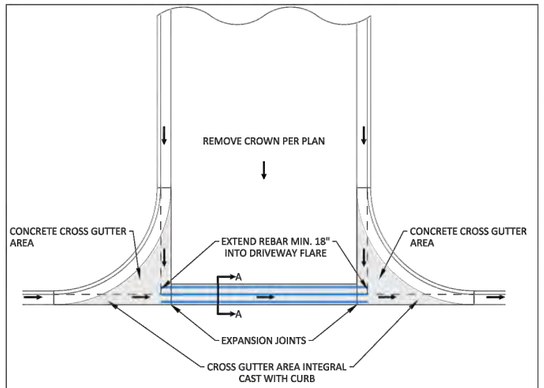
APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: CURB AND GUTTER
		CITY PLATE No. STR-1

MNDOT 2016 SPEC

MNDOT 2016 SPEC TABLE 3877–1 COMMON TOPSOIL BORROW		
REQUIREMENT	RANGE	TEST METHOD
MATERIAL PASSING THE 3/4 IN [19MM]	100%	ASTM D 422
MATERIAL PASSING NO. 4 [4.75MM]	≥85%	–
CLAY	5% –35%	ASTM D 422
SILT	5% – 70%	ASTM D 422
SAND	10% – 75%	ASTM D 422
ORGANIC MATTER	3% – 15%	ASTM D 2974
pH	6.1–7.8	ASTM G 51

NOTE:
1. INSTALLATION OF 4" OF TOPSOIL MEETING MNDOT SPECIFICATION 3877A COMMON TOPSOIL BORROW, MAY BE REQUIRED ACROSS ALL DISTURBED AREAS.
2. A SOIL CERTIFICATION FROM A GEOTECHNICAL FIRM MUST BE PROVIDED VERIFYING THE TOPSOIL MEETS SPECIFICATION ALONG WITH LOAD TICKETS TO VERIFY THE SOURCE OF MATERIAL AND QUANTITY.
3. TOPSOIL MUST COME FROM A CITY APPROVED SOURCE.

APPROVED: 1 – 2016	City of RAMSEY	CITY PLATE No. ERO–6	STANDARD DETAILS: TOPSOIL REQUIREMENTS

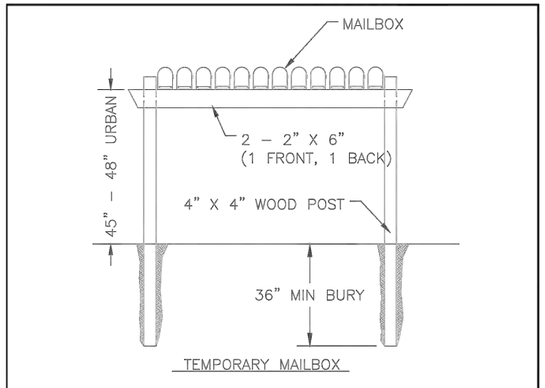


NOTE: NOT TO SCALE

NOTES:

1. WITH REMOVAL OF EXISTING CURB AT A STREET, MILL BITUMINOUS TO A DEPTH OF 1.5" AND A WIDTH OF 18" IN EXISTING STREET.
2. TO BE USED WHENEVER CROSS DRAINAGE IS < 2%.
3. CONCRETE CURB AND GUTTER SHALL BE CAST INTEGRAL WITH CONCRETE CROSS GUTTER AREA.
4. CONCRETE CURB AND GUTTER SHALL BE PAID SEPARATELY FROM CONCRETE CROSS GUTTER AREA.

APPROVED: 3 – 2017	City of RAMSEY	STANDARD DETAILS: CROSS GUTTER
		CITY PLATE No. STR–2



NOTES:
MAILBOX LOCATIONS SHOULD BE STAKED BEFORE INSTALLATION FOR PROPER HEIGHT AND DISTANCE FROM THE ROADWAY. ONCE STAKED, THE INSTALLER MUST NOTIFY THE CITY ENGINEER AND THE POST OFFICE. THE ENGINEER AND POSTMASTER/ MAILCARRIER WILL BE ALLOWED 48 HOURS TO REVIEW AND MODIFY THE STAKED LOCATIONS PRIOR TO FINAL INSTALLATION.

OTHER MAILBOX SUPPORT DESIGNS MAY BE USED UPON APPROVAL BY THE CITY ENGINEER.

ALL MAILBOX SUPPORTS MUST BE CRASHWORTHY AND MEET MINNESOTA RULES, 8818, U.S. POST OFFICE AND FEDERAL HIGHWAY ADMINISTRATION (FHWA) STANDARDS AND RECOMMENDATIONS.

APPROVED: 9 – 2011	City of RAMSEY	STANDARD DETAILS: NESTED MAILBOX CLUSTER
		CITY PLATE No. STR–10

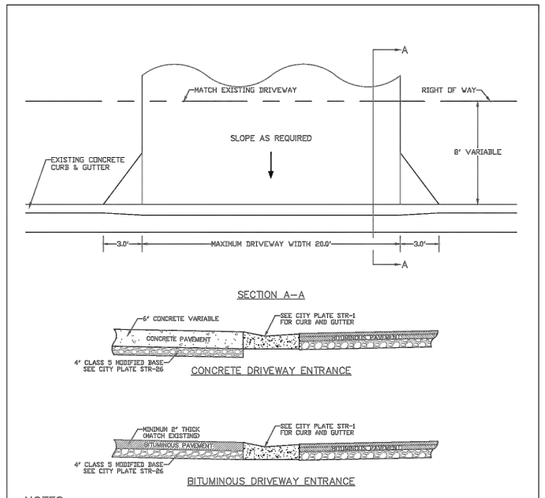
TABLE A
MODIFIED CLASS 5 SPECIFICATIONS

% PASSING

1"	100
3/4"	90 – 100
3/8"	50 – 80
No.4	35 – 70
No.10	20 – 60
No.40	10 – 35
No.200	5 – 10

NOTES:
1. THE AGGREGATE BASE CONSTRUCTION WILL BE ACCEPTED FOR PAYMENT IN ACCORDANCE WITH THE PROVISIONS IN TABLE A.
2. IF THE AGGREGATE BASE FAILS TO MEET THE REQUIREMENTS OF TABLE A THE MATERIAL CAN BE CORRECTED IN PLACE OR REMOVED AND REPLACED WITH MATERIAL THAT MEET THE REQUIREMENTS OF TABLE A.
3. IN THE EVENT THAT RECYCLED MATERIAL IS USE IT MUST MEET MNDOT REQUIREMENTS FOR RECYCLED BASE.

APPROVED: 2 – 2003	City of RAMSEY	STANDARD DETAILS: MODIFIED CLASS 5 SPECIFICATIONS
		CITY PLATE No. STR–26



NOTES:
1. PANEL WIDTH SHALL NOT EXCEED 10 FT. WITHOUT A CENTERLINE CONSTRUCTION JOINT.
2. CONCRETE DRIVEWAY TO BE ONE COURSE CONCRETE PAVEMENT. (SEE SPECIAL PROVISIONS FOR CLASS OF CONCRETE.)
3. CONCRETE DRIVEWAYS TO BE 6" THICK.
4. ½" EXPANSION JOINT, ½" PREFORMED JOINT FILLER MATERIAL, AASHTO M 213 (REQUIRED WHEN 2 CONCRETE AREAS ARE POURED SEPERATELY.)
5. BITUMINOUS DRIVEWAYS MINIMUM 2" THICK, MATCH EXISTING BITUMINOUS PAVEMENT THICKNESS.

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: RESIDENTIAL DRIVEWAY – NO SIDEWALK
		CITY PLATE No. STR–30

DATE	REVISION

Feb 14, 2018 - 3:24pm
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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

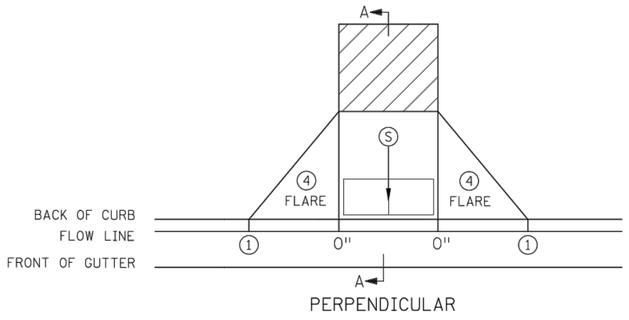
DESIGNED BY: JJF		
DRAWN BY: JJF	DATE: 2/14/18	
CHECKED BY: BRW	FILE No. 18-00	

City of RAMSEY
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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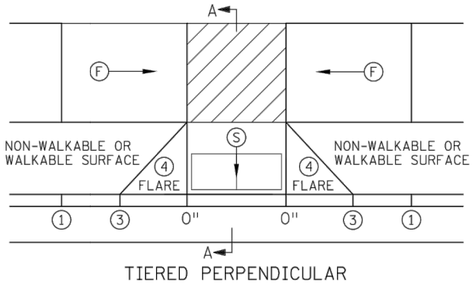
CITY DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

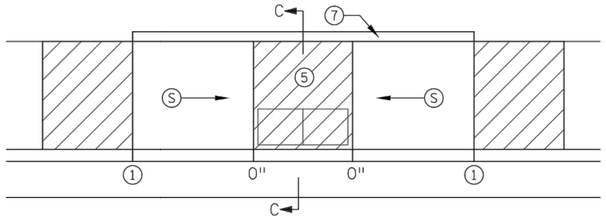
SHEET 4 OF 28 SHEETS



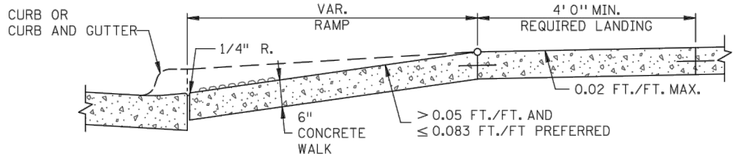
PERPENDICULAR



TIERED PERPENDICULAR

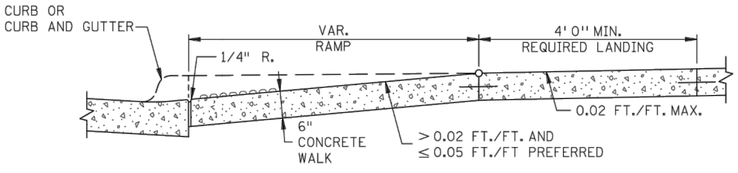


PARALLEL



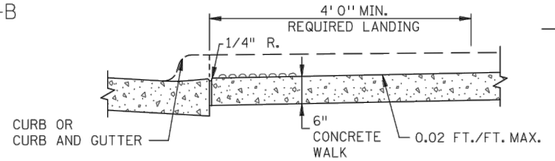
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



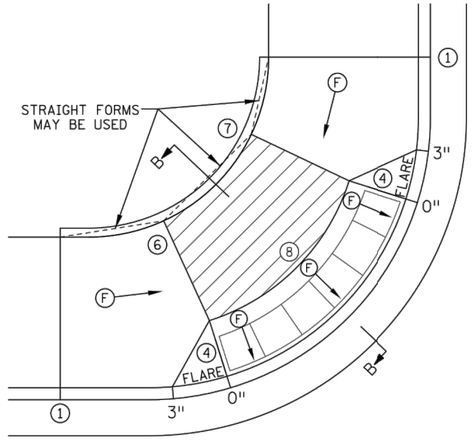
SECTION B-B

FAN

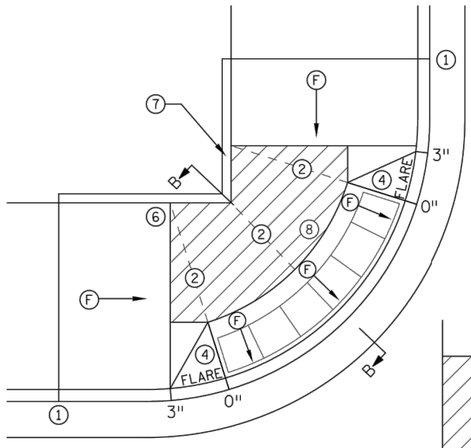


SECTION C-C

PARALLEL/DEPRESSED CORNER

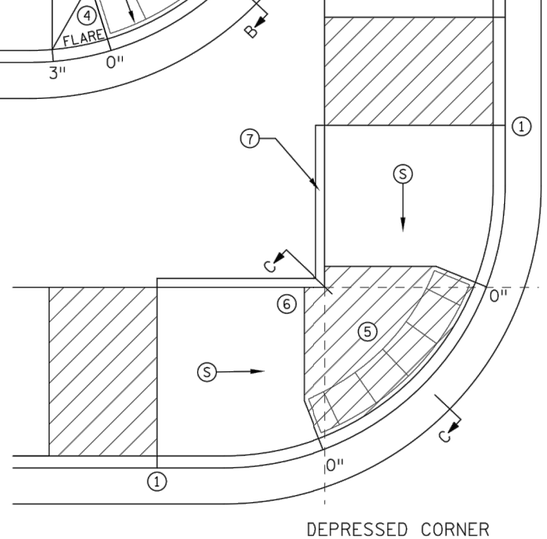


FAN⑩

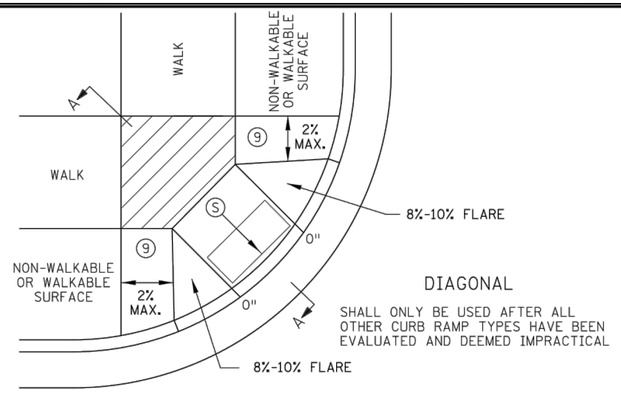


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY
IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

① MATCH FULL HEIGHT CURB.
② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
⑧ A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
⑨ PAVE FULL WALK WIDTH.
⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 1 OF 6

DATE	REVISION

Feb 14, 2018 - 3:24pm
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

BRUCE WESTBY

Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

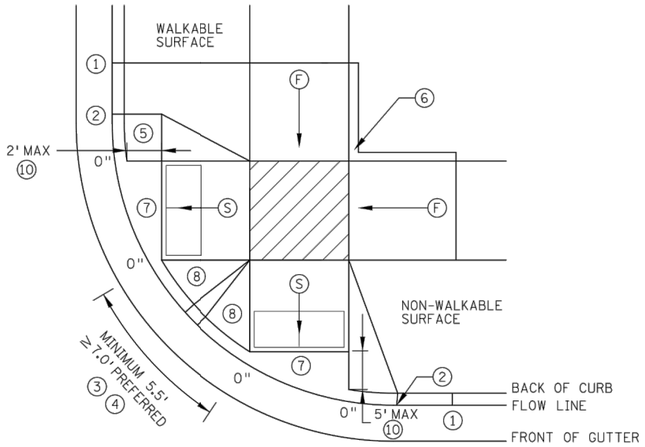
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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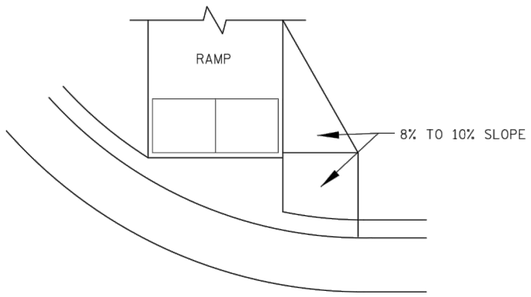
MNDOT PED RAMP DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 5 OF 28 SHEETS



COMBINED DIRECTIONAL ⑨



DIRECTIONAL RAMP WALKABLE FLARE

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.

② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.

③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).

④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.

⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.

⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

⑧ 8% TO 10% WALKABLE FLARE.

⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

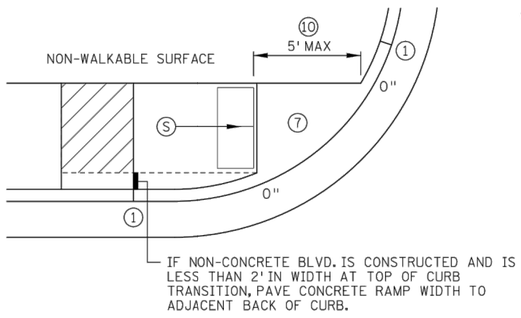
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

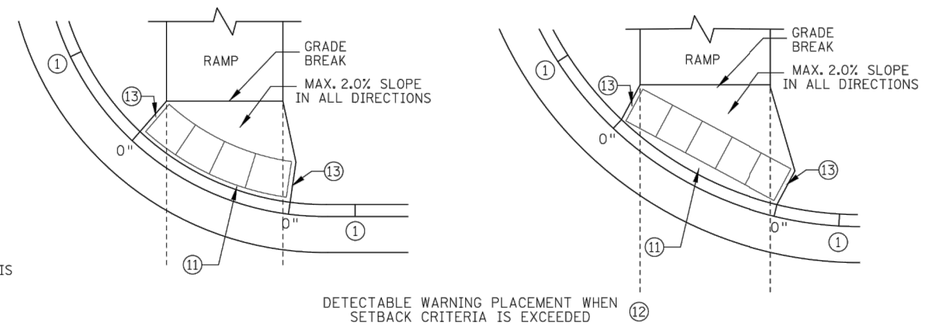
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

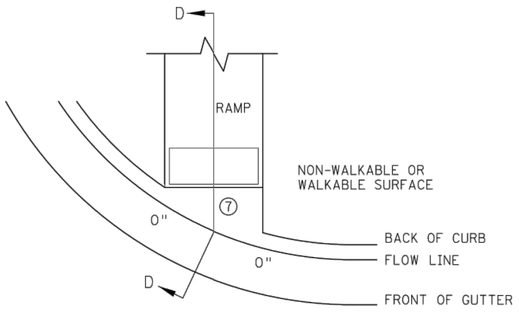
⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.



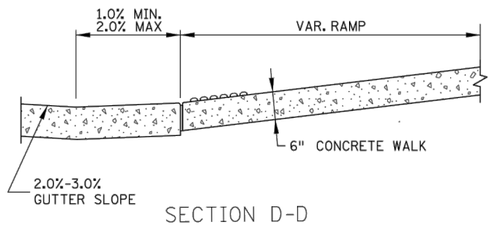
STANDARD ONE-WAY DIRECTIONAL ⑨



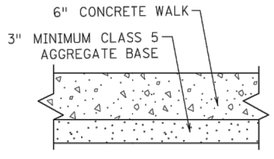
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 2 OF 6

DATE	REVISION

Feb 14, 2018 - 3:24pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Details.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

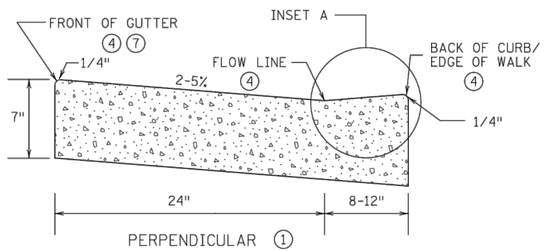
DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

CITY OF RAMSEY
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RAMSEY, MN 55303
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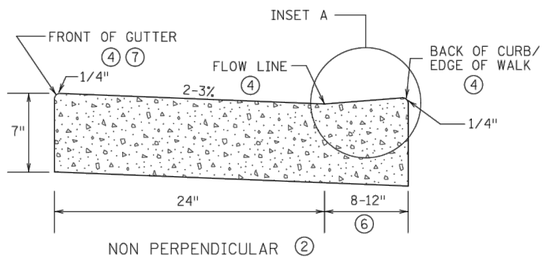
MNDOT PED RAMP DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

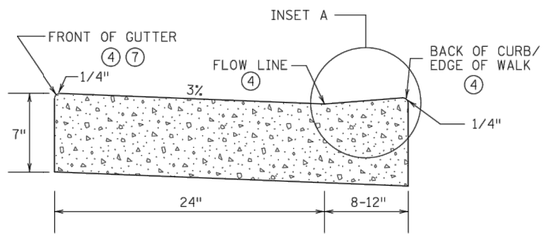
SHEET 6 OF 28 SHEETS



PERPENDICULAR ①

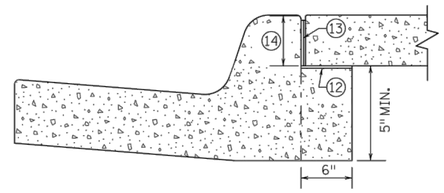


NON PERPENDICULAR ②



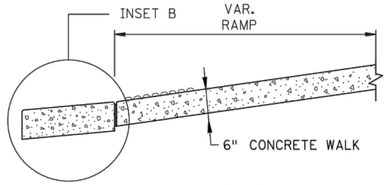
FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)

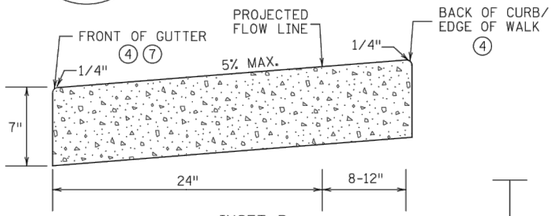
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



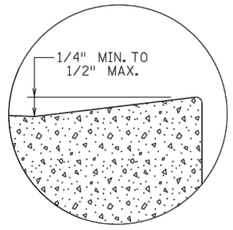
OPTIONAL SILL CURB WHEN SIDEWALK
IS AT BACK OF CURB

CONCRETE SILL TO BE USED ONLY WHEN
SPECIFIED IN THE PLAN.

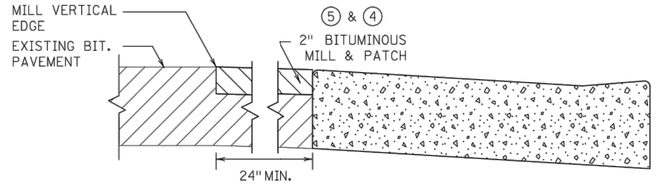


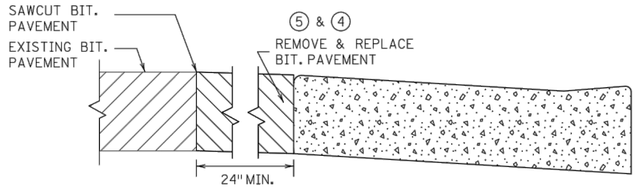


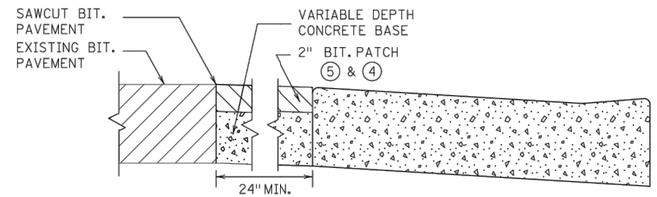
INSET B
OUTFLOW GUTTER ⑧



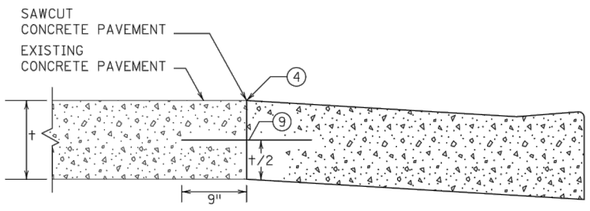
INSET A





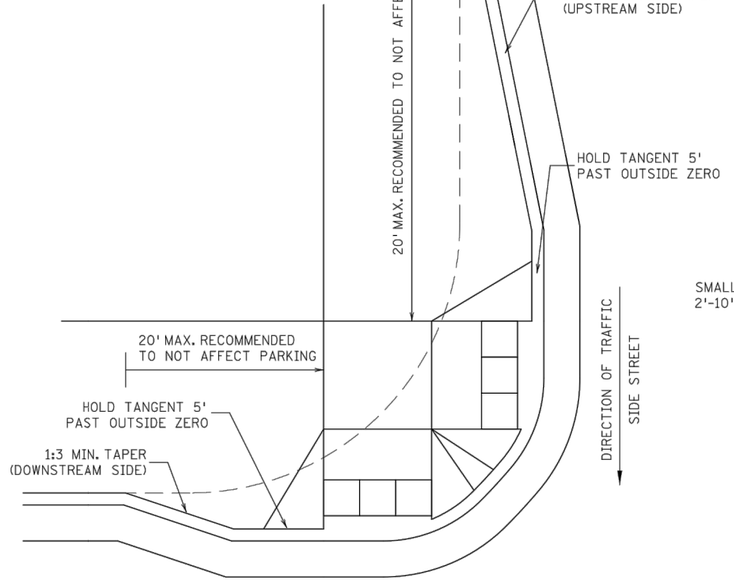


ONLY ALLOWED PER ENGINEER'S APPROVAL

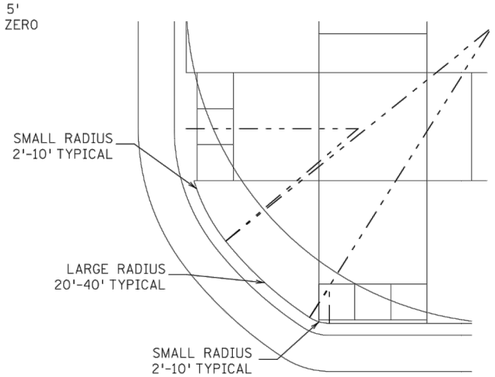


PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.

③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.

④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.

⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.

⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 3 OF 6

DATE	REVISION

Feb 14, 2018 - 3:25pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Details.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

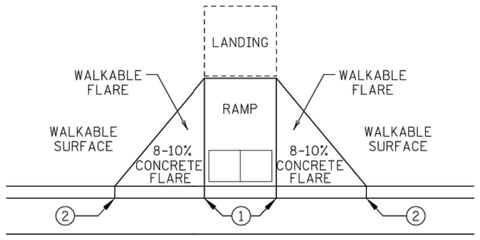
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DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
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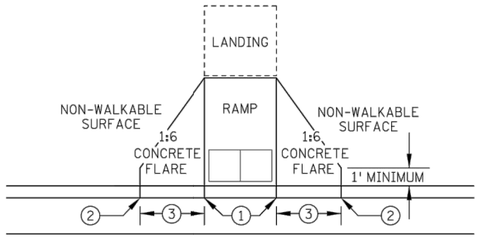
MNDOT PED RAMP DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

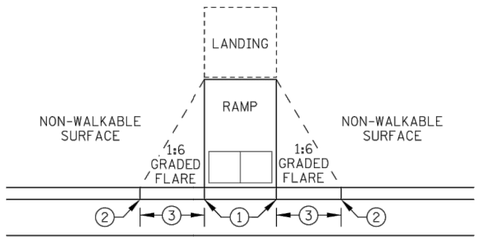
SHEET 7 OF 28 SHEETS



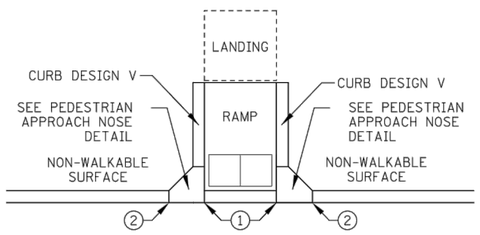
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

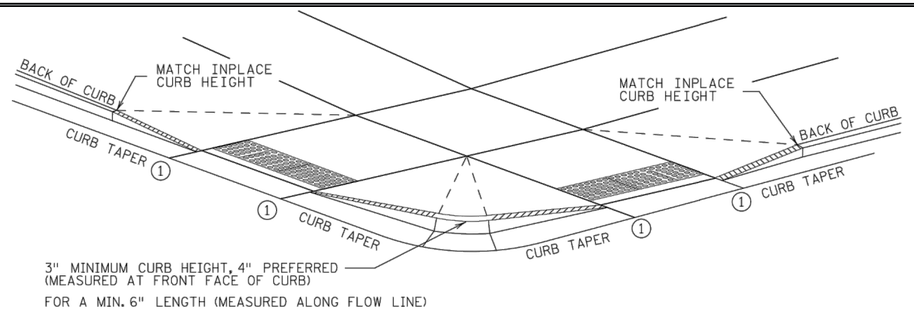


GRADED FLARES

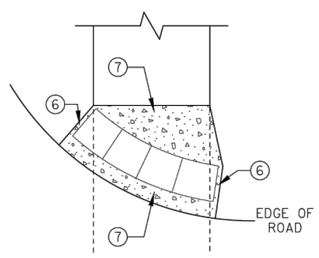


RETURNED CURB ⑤

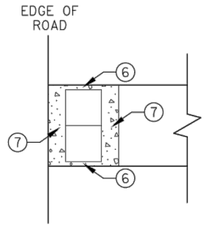
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

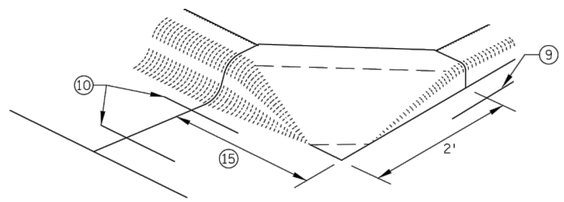


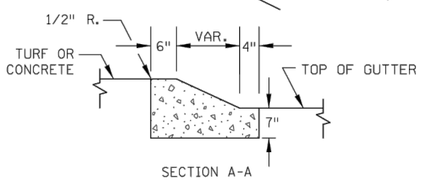
RADIAL DETECTABLE WARNING



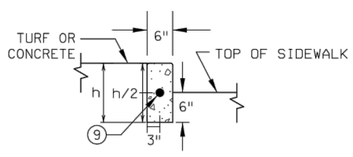
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

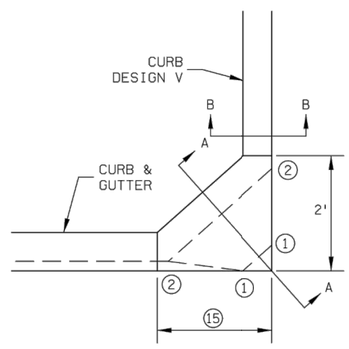




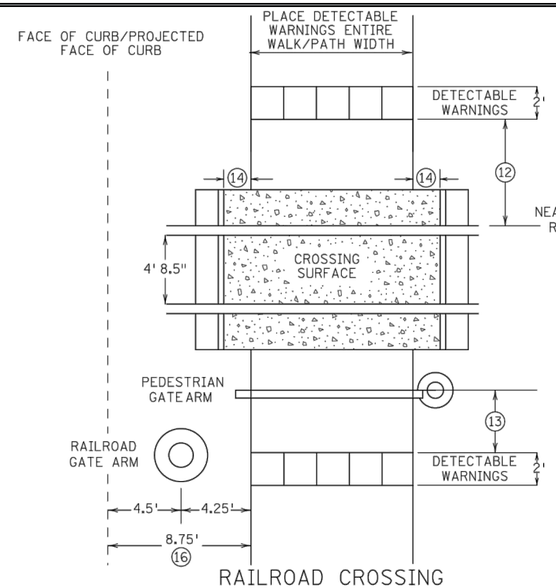
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.

④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑩ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.

⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.

⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 4 OF 6

DATE	REVISION

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

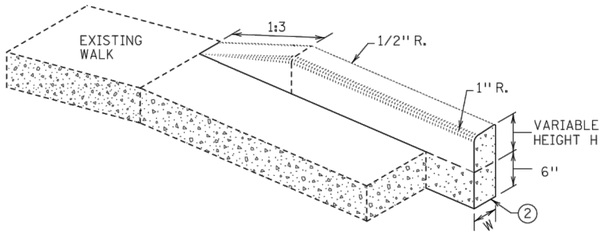
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DRAWN BY:	JJF	DATE: 2/14/18
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(763) 427-1410 FAX (763) 433-9898

MNDOT PED RAMP DETAILS

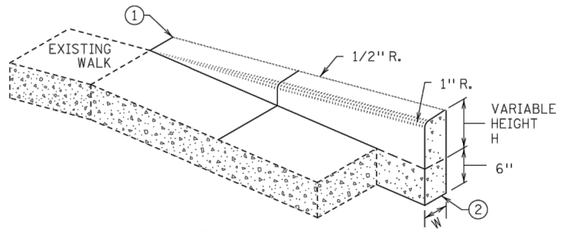
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 8 OF 28 SHEETS



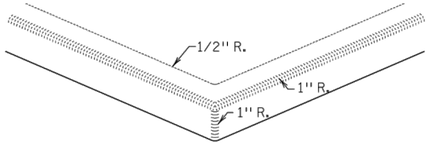
V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS

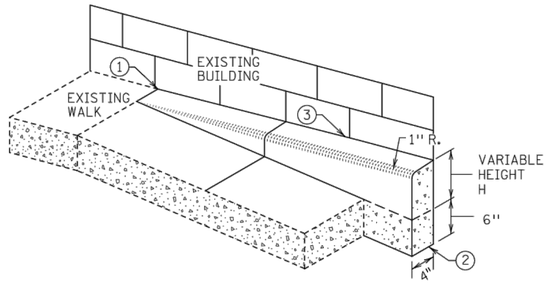


V CURB ADJACENT TO LANDSCAPE

CURB OUTSIDE SIDEWALK LIMITS

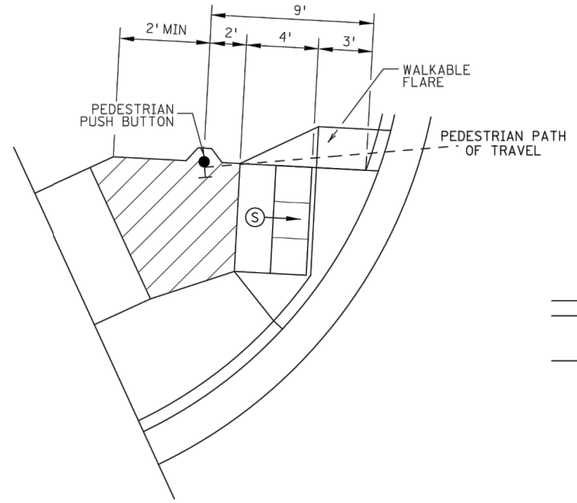


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING OR BARRIER

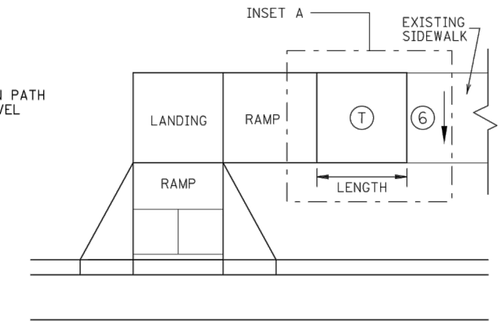
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"

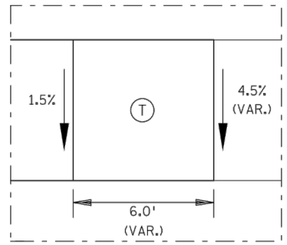


SEMI-DIRECTIONAL RAMP (3,4,9)

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

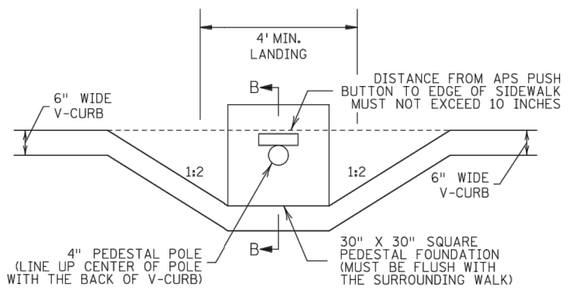
PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)



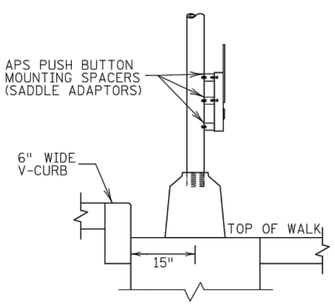


INSET A

TRANSITION PANEL ④⑤

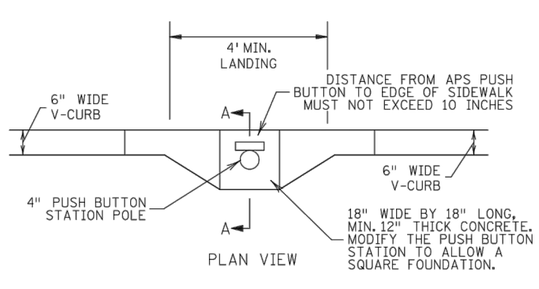


PLAN VIEW

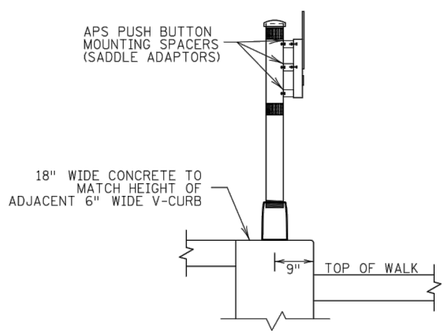


SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



PLAN VIEW



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

1. END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
2. ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
3. EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
4. THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
5. TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
6. EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- (T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 5 OF 6

DATE	REVISION

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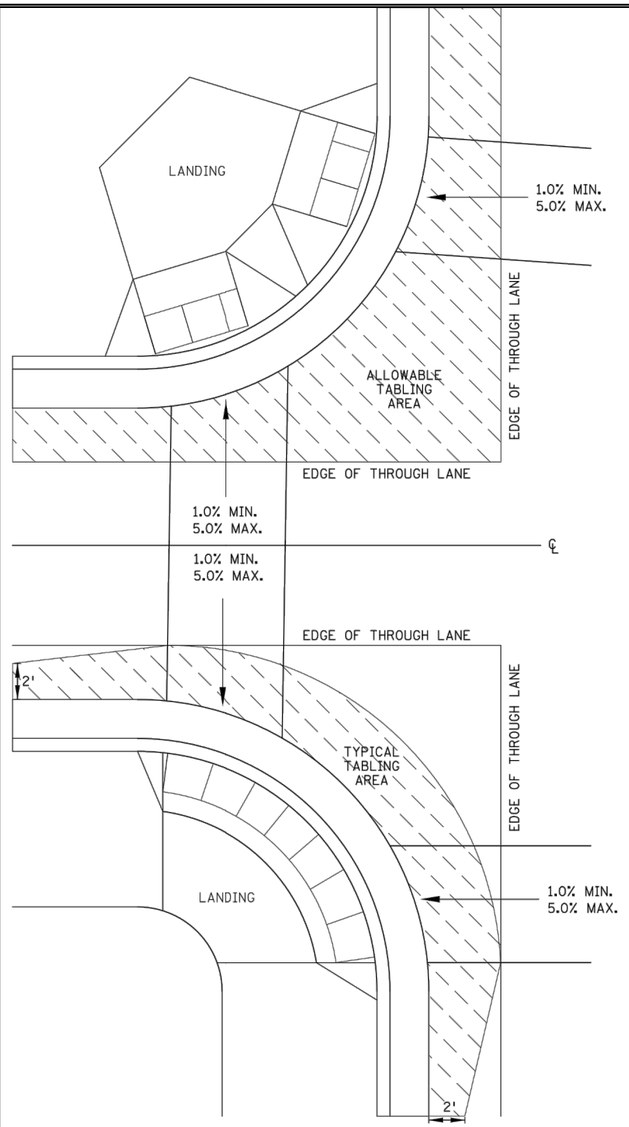
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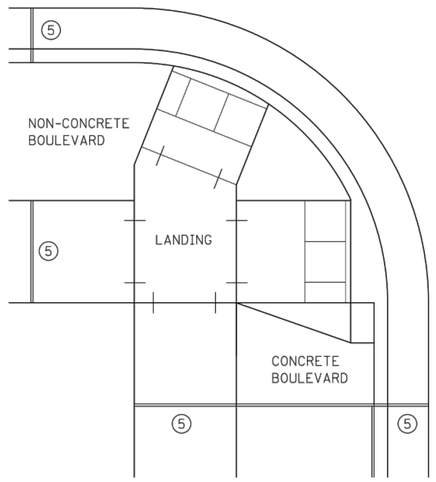
MNDOT PED RAMP DETAILS

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CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

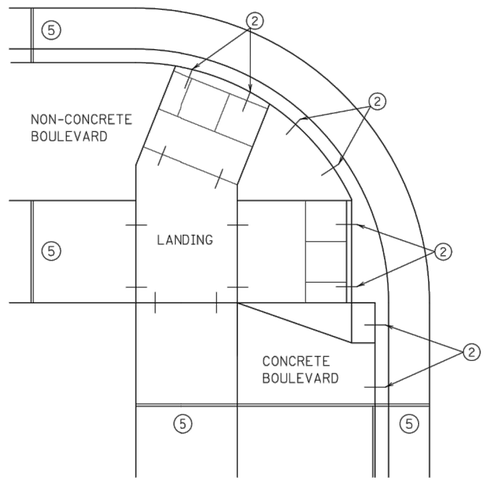
SHEET 9 OF 28 SHEETS



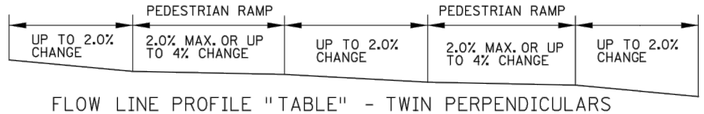
CURB LINE AND ROAD CROSSING ADJUSTMENTS



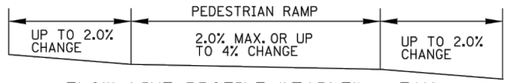
EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS



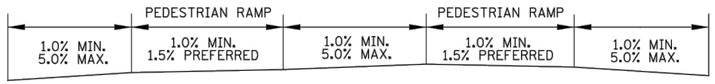
OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④



FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



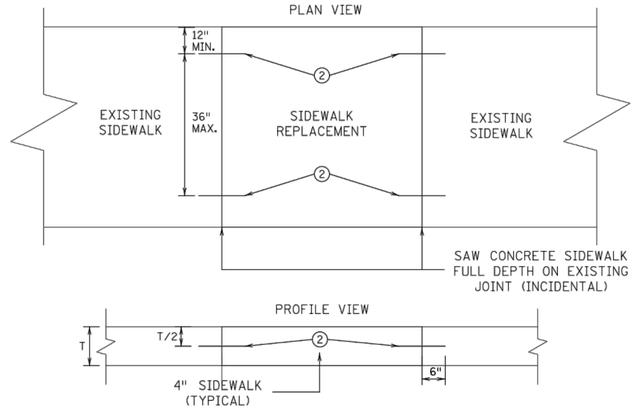
FLOW LINE PROFILE "TABLE" - FAN



FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

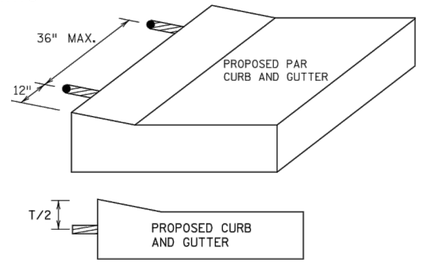


FLOW LINE PROFILE RAISE - FAN

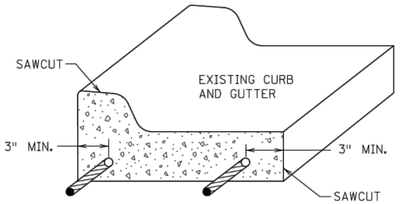


OPTIONAL SIDEWALK REINFORCEMENT

SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.

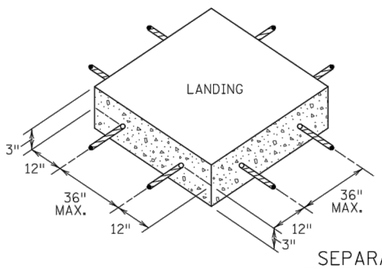


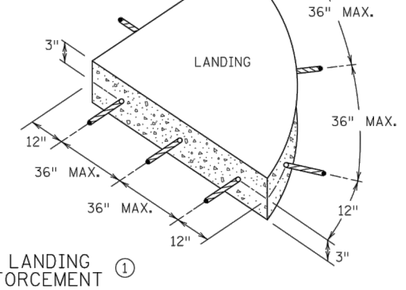
OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④



FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER REINFORCEMENT ③





SEPARATE LANDING POUR REINFORCEMENT ①

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

1. TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
2. DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
3. DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
4. THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
5. 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 6 OF 6

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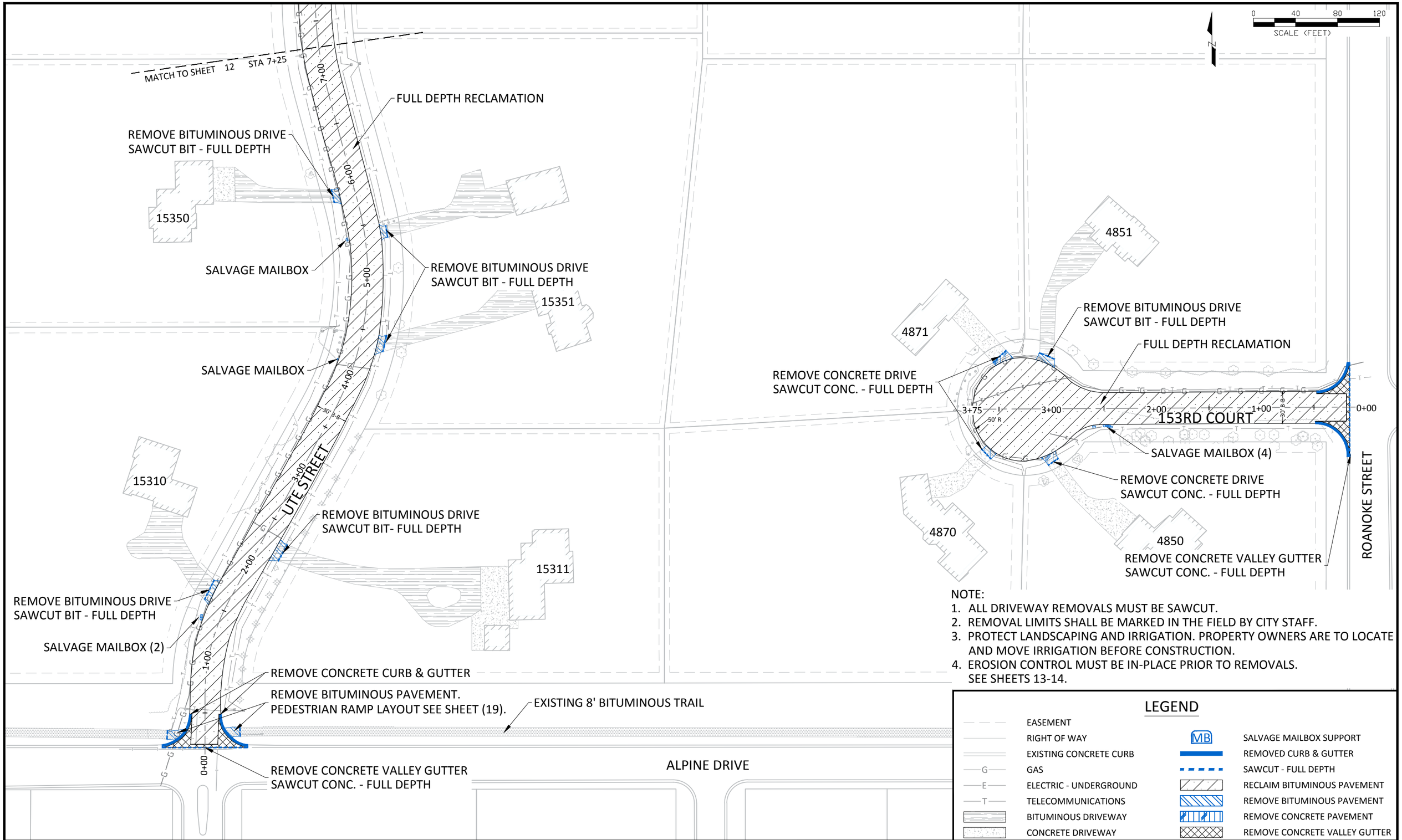
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MNDOT PED RAMP DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 10 OF 28 SHEETS



NOTE:
1. ALL DRIVEWAY REMOVALS MUST BE SAWCUT.
2. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
3. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.
4. EROSION CONTROL MUST BE IN-PLACE PRIOR TO REMOVALS. SEE SHEETS 13-14.

LEGEND

EASEMENT	
RIGHT OF WAY	MB — SALVAGE MAILBOX SUPPORT
EXISTING CONCRETE CURB	REMOVED CURB & GUTTER
G — GAS	SAWCUT - FULL DEPTH
E — ELECTRIC - UNDERGROUND	RECLAIM BITUMINOUS PAVEMENT
T — TELECOMMUNICATIONS	REMOVE BITUMINOUS PAVEMENT
BITUMINOUS DRIVEWAY	REMOVE CONCRETE PAVEMENT
CONCRETE DRIVEWAY	REMOVE CONCRETE VALLEY GUTTER

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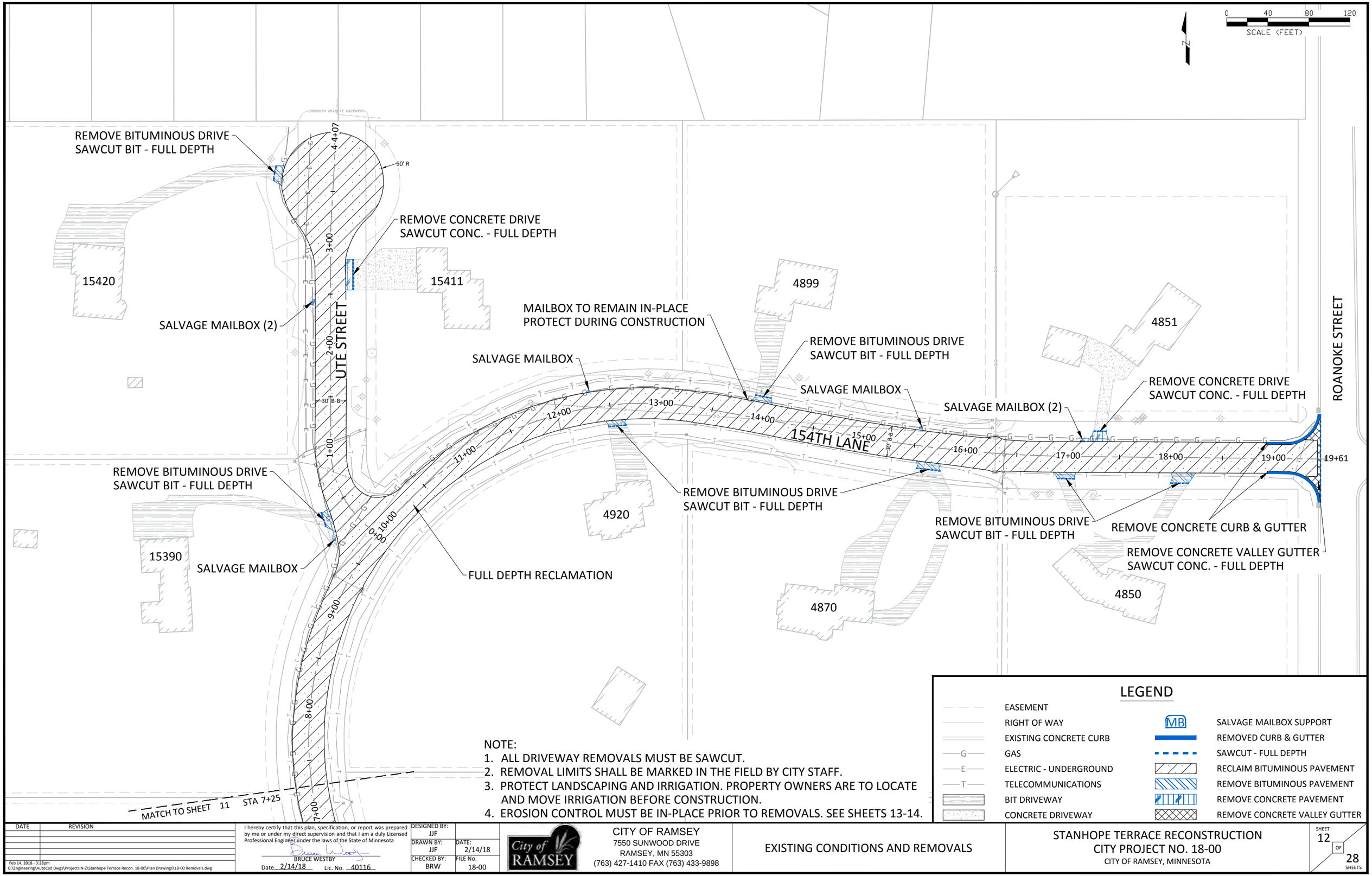
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DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

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EXISTING CONDITIONS AND REMOVALS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 11 OF 28 SHEETS



NOTE:

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4. EROSION CONTROL MUST BE IN-PLACE PRIOR TO REMOVALS. SEE SHEETS 13-14.

LEGEND

- EASEMENT
- RIGHT OF WAY
- EXISTING CONCRETE CURB
- G — GAS
- E — ELECTRIC - UNDERGROUND
- T — TELECOMMUNICATIONS
- BIT DRIVEWAY
- CONCRETE DRIVEWAY
- MB — SALVAGE MAILBOX SUPPORT
- REMOVED CURB & GUTTER
- SAWCUT - FULL DEPTH
- RECLAIM BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE CONCRETE VALLEY GUTTER

DATE	REVISION

Feb 14, 2018 - 3:28pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Removals.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

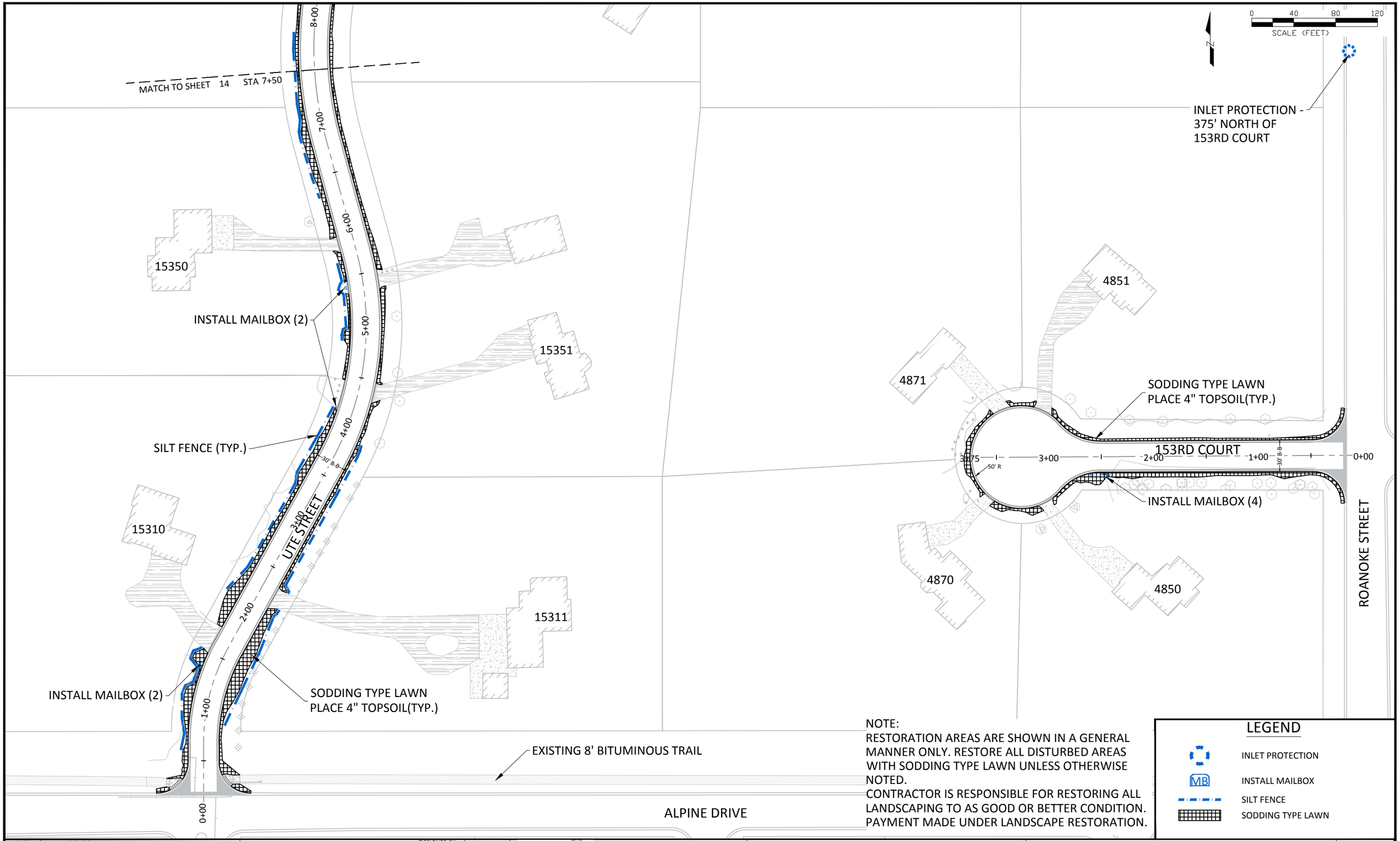
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EXISTING CONDITIONS AND REMOVALS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 12 OF 28 SHEETS



NOTE:
RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY. RESTORE ALL DISTURBED AREAS WITH SODDING TYPE LAWN UNLESS OTHERWISE NOTED.
CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.

LEGEND

- INLET PROTECTION
- MB — INSTALL MAILBOX
- SILT FENCE
- SODDING TYPE LAWN

DATE	REVISION

Feb 14, 2018 - 3:30pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Erosion Control and Restoration.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

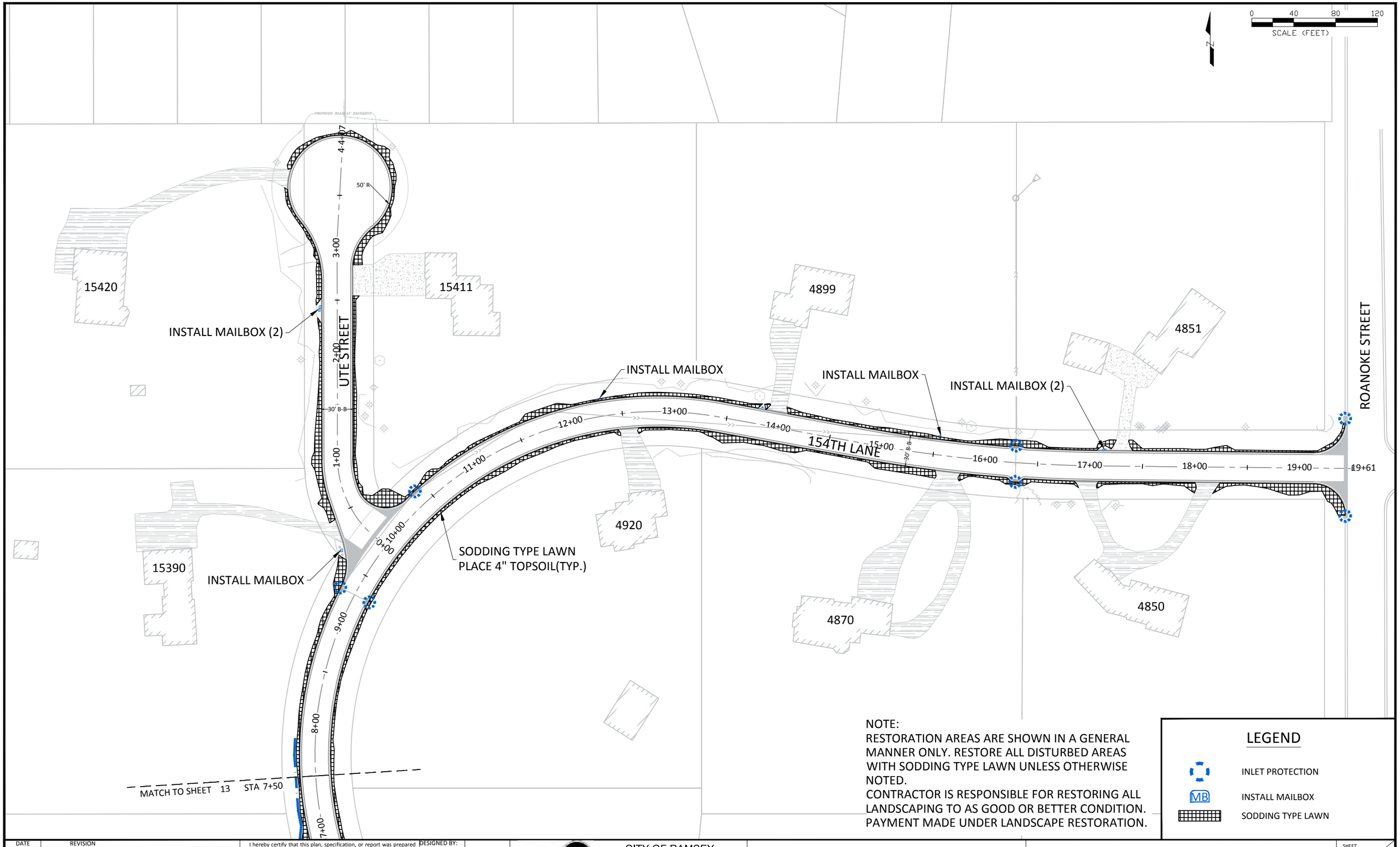
DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

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7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EROSION CONTROL AND RESTORATION

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 13 OF 28 SHEETS



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CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.

LEGEND

- INLET PROTECTION
- MB — INSTALL MAILBOX
- SODDING TYPE LAWN

DATE	REVISION

Feb 14, 2018 - 3:31pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Erosion Control and Restoration.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

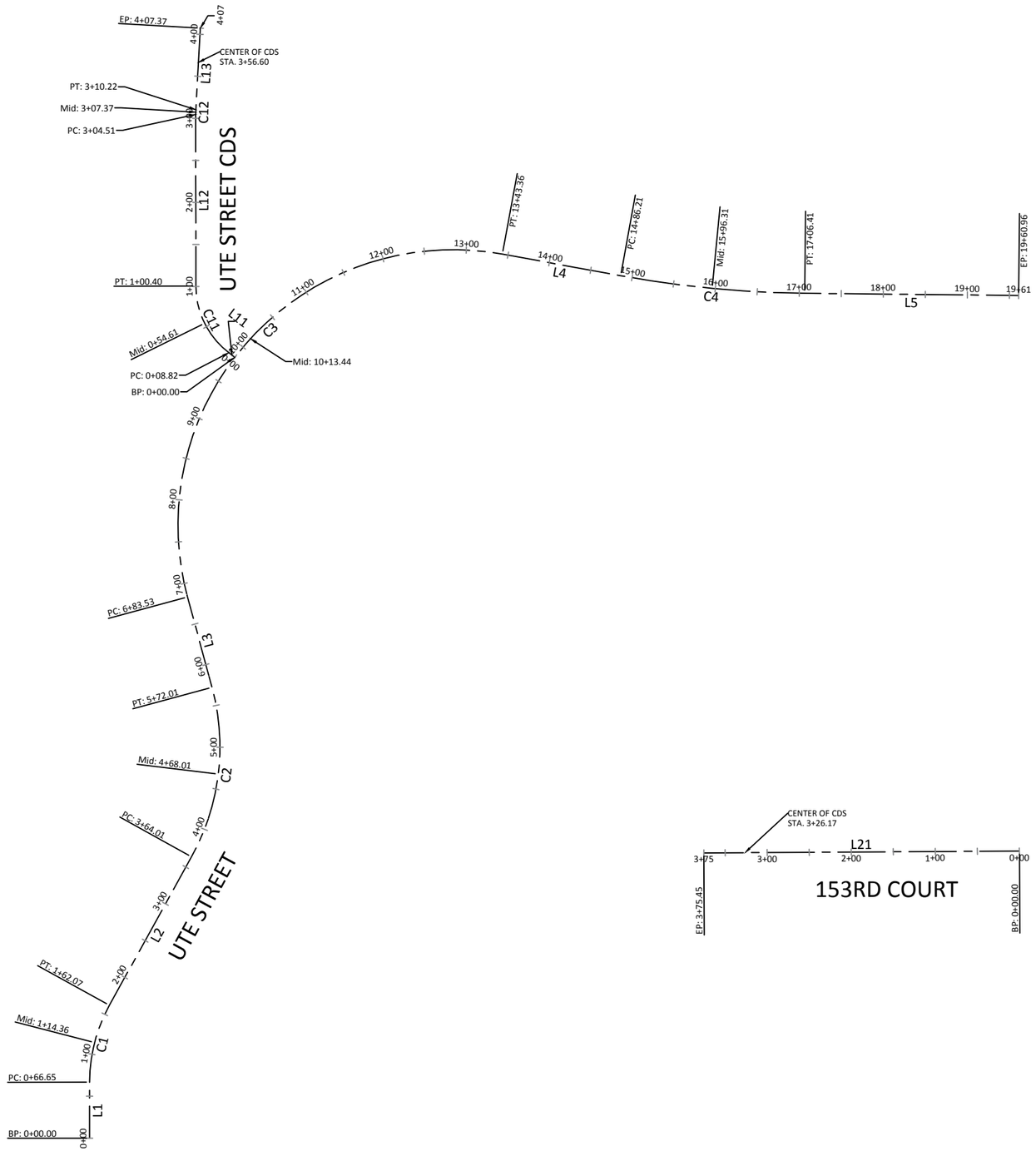
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EROSION CONTROL AND RESTORATION

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 14 OF 28 SHEETS



0 75 150 225
SCALE (FEET)

UTE STREET CL ALIGNMENT

ALIGMENT LINE TABLE

Line #	Length	Direction	Start Point	End Point
L1	66.646	N00° 03' 44.84"W	(467497.3889,177747.9076)	(467497.3163,177814.5531)
L2	201.936	N28° 57' 53.16"E	(467520.8762,177905.9741)	(467618.6681,178082.6516)
L3	111.517	N15° 09' 56.84"W	(467643.0424,178284.0847)	(467613.8681,178391.7179)
L4	142.851	S79° 39' 56.84"E	(467988.5057,178799.3585)	(468129.0389,178773.7326)
L5	254.549	S89° 24' 59.39"E	(468347.9755,178752.8100)	(468602.5110,178750.2178)

ALIGNMENT CURVE TABLE

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	188.357	95.425	N14° 27' 04.16"E	(467497.3163,177814.5531)	(467520.8762,177905.9741)
C2	270.059	208.006	N06° 53' 58.16"E	(467618.6681,178082.6516)	(467643.0424,178284.0847)
C3	327.319	659.829	N42° 35' 03.16"E	(467613.8681,178391.7179)	(467988.5057,178799.3585)
C4	1293.907	220.200	S84° 32' 28.11"E	(468129.0389,178773.7326)	(468347.9755,178752.8100)

UTE STREET CUL-DE-SAC ALIGNMENT

ALIGMENT LINE TABLE

Line #	Length	Direction	Start Point	End Point
L11	8.816	N52° 32' 33.46"W	(467670.0243,178676.7035)	(467663.0265,178682.0649)
L12	204.115	N00° 04' 14.58"W	(467623.8436,178761.3221)	(467623.5917,178965.4365)
L13	97.143	N03° 12' 08.66"E	(467623.7478,178971.1462)	(467629.1745,179068.1374)

ALIGNMENT CURVE TABLE

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C11	100.000	91.581	N26° 18' 24.02"W	(467663.0265,178682.0649)	(467623.8436,178761.3221)
C12	100.000	5.713	N01° 33' 57.04"E	(467623.5917,178965.4365)	(467623.7478,178971.1462)

153RD COURT CUL-DE-SAC ALIGNMENT

ALIGMENT LINE TABLE

Line #	Length	Direction	Start Point	End Point
L21	375.449	S89° 40' 03.71"W	(468603.4126,178089.4217)	(468227.9695,178087.2442)

DATE	REVISION

Feb 14, 2018 - 3:32pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Cover and Notes.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

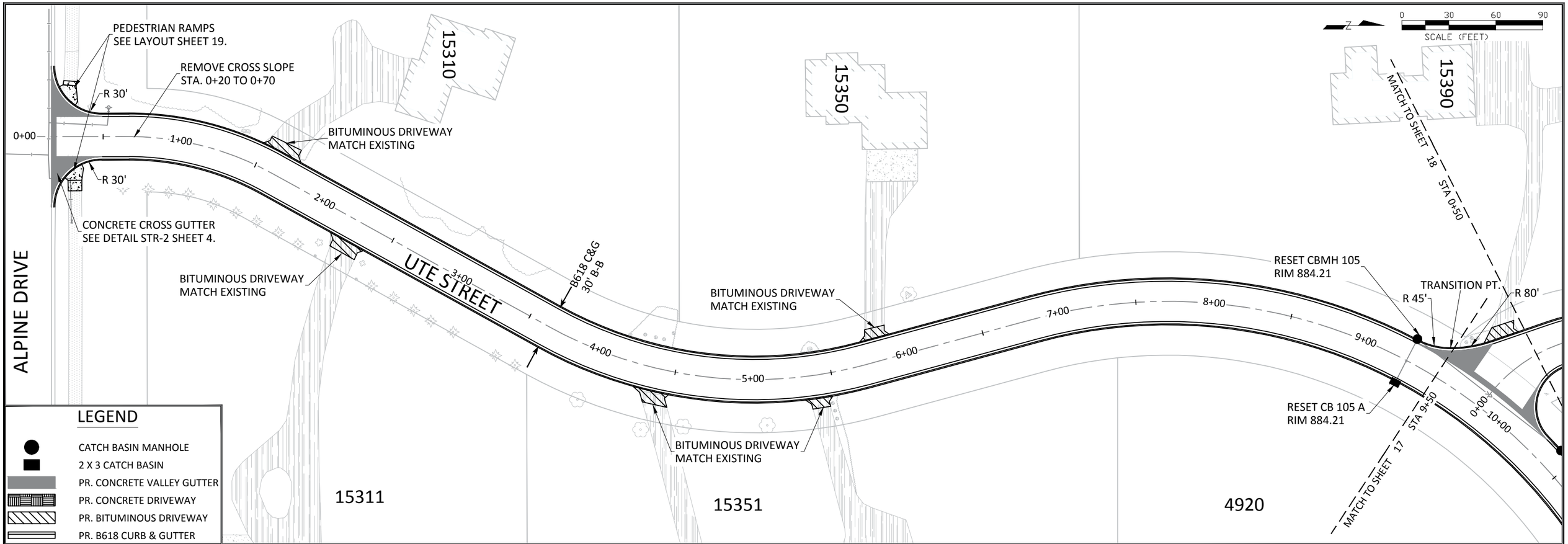
DESIGNED BY: JJF	
DRAWN BY: JJF	DATE: 2/14/18
CHECKED BY: BRW	FILE No. 18-00

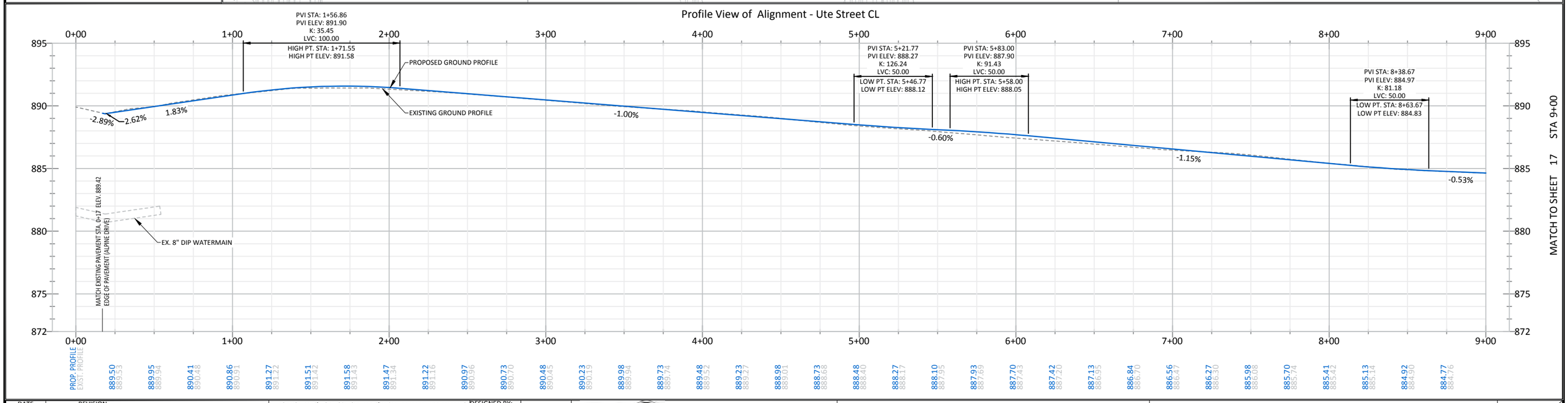
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

ALIGNMENT LAYOUT

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 15 OF 28 SHEETS





DATE	REVISION

Feb 14, 2018 - 3:34pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Street and Storm.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

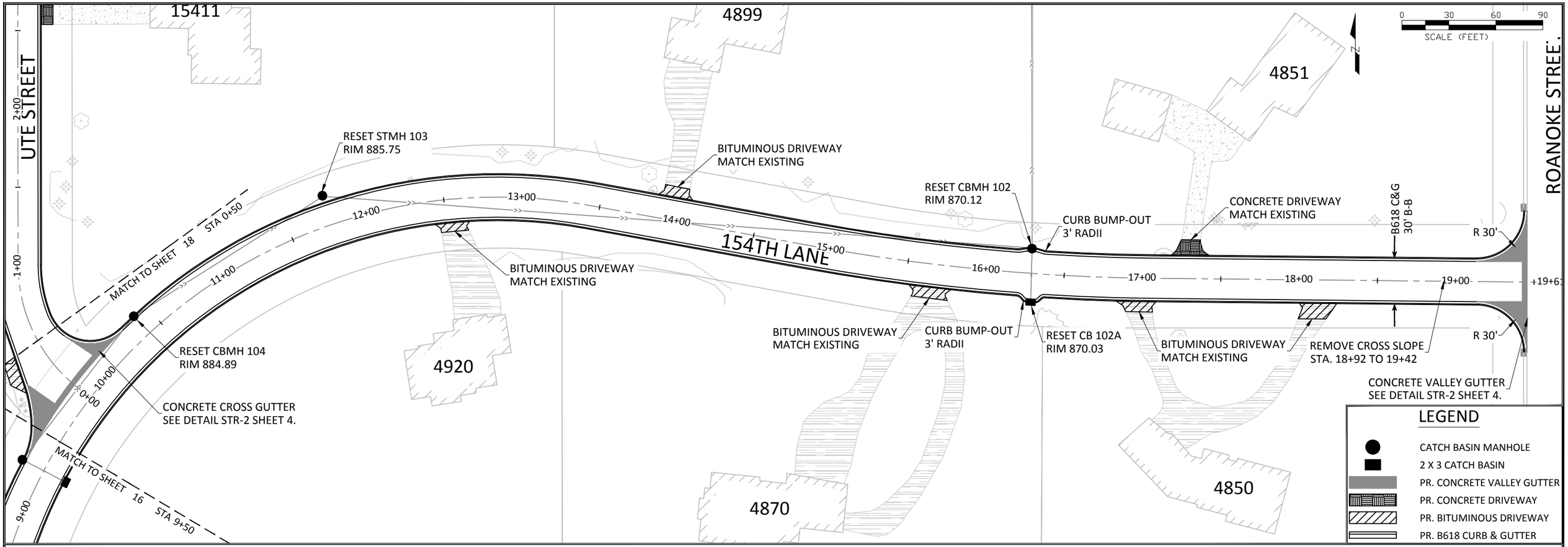
DESIGNED BY:	JJF
DRAWN BY:	JJF
DATE:	2/14/18
CHECKED BY:	BRW
FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

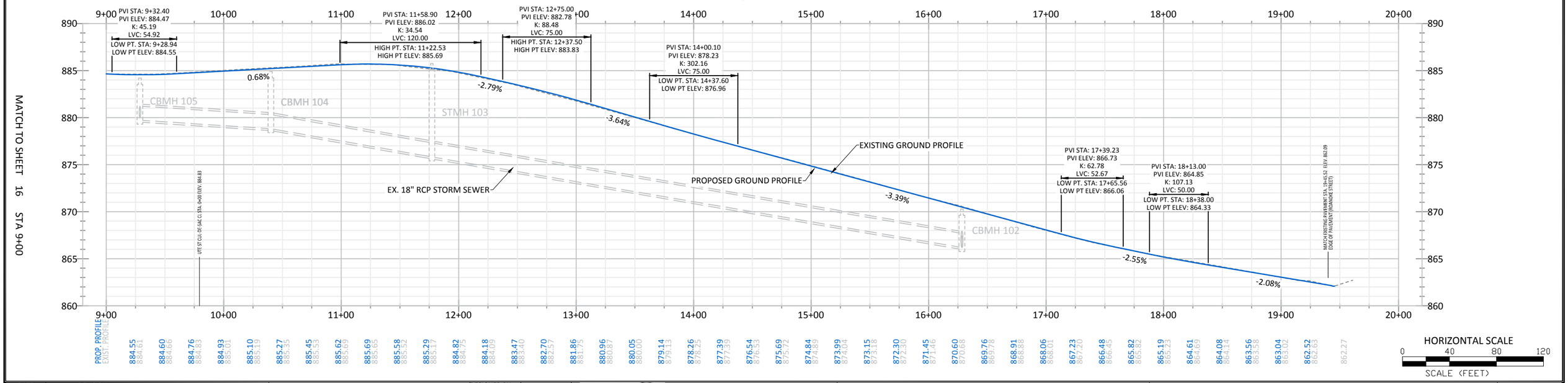
STREET AND STORM - UTE STREET

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 16 OF 28 SHEETS



Profile View of Alignment - Ute Street CL



DATE	REVISION

Feb 14, 2018 - 3:34pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Street and Storm.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

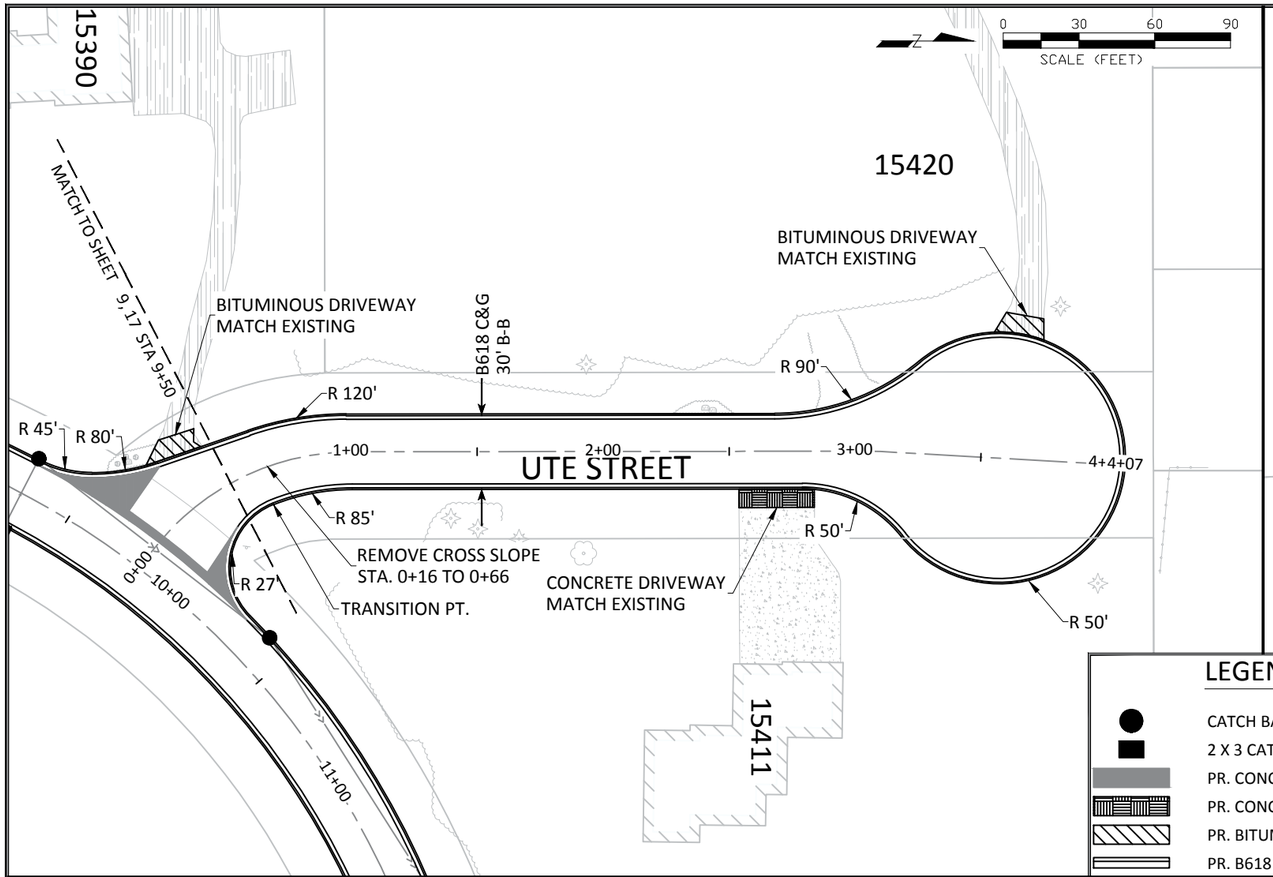
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DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

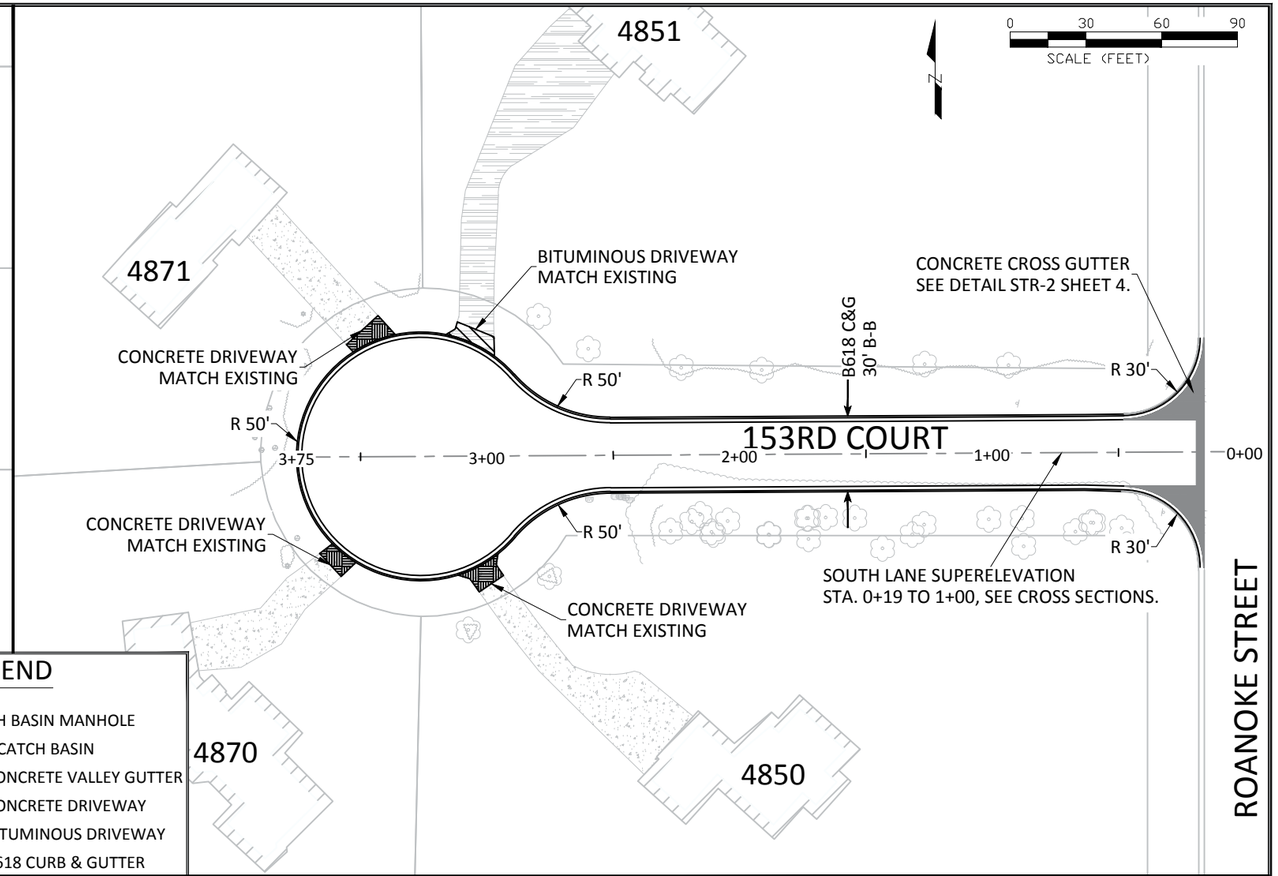
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET AND STORM - 154TH LANE

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 17 OF 28 SHEETS

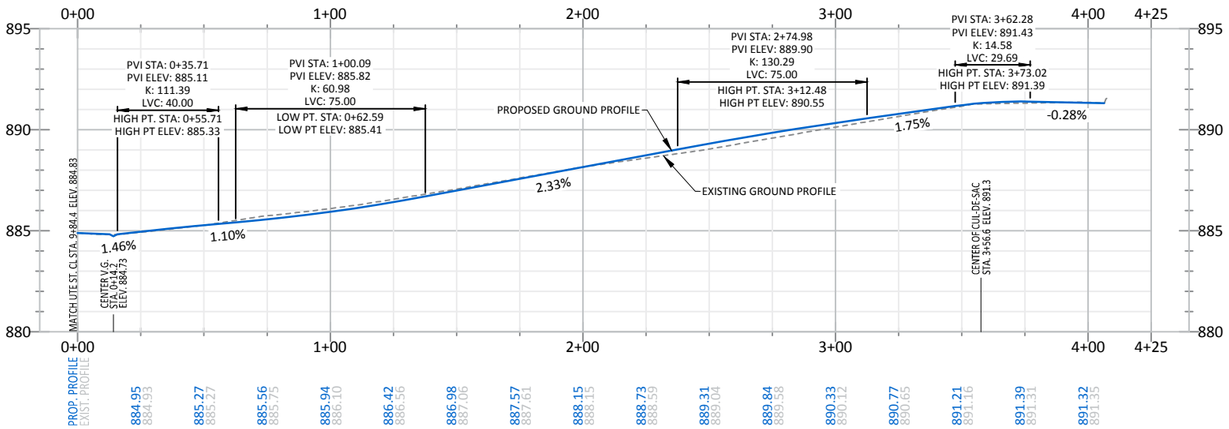




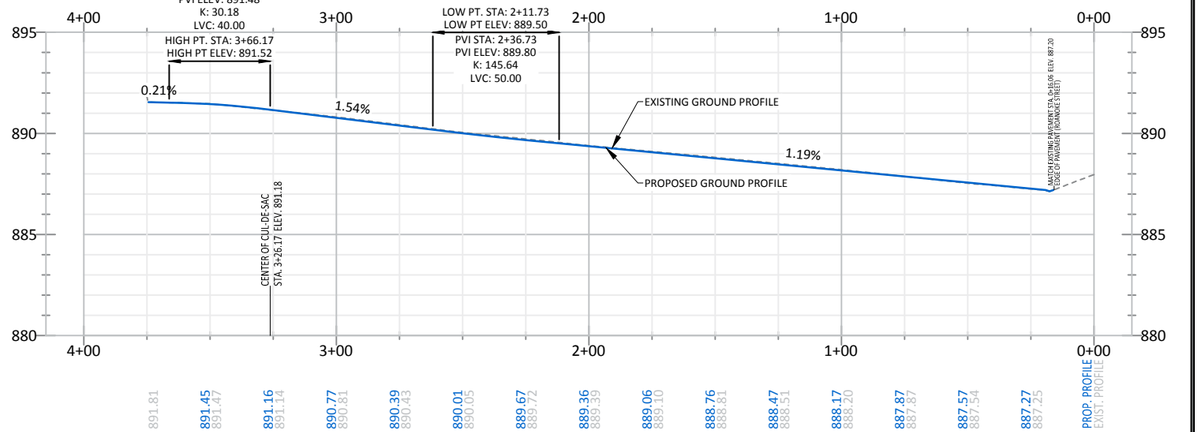
LEGEND

- CATCH BASIN MANHOLE
- 2 X 3 CATCH BASIN
- PR. CONCRETE VALLEY GUTTER
- PR. CONCRETE DRIVEWAY
- PR. BITUMINOUS DRIVEWAY
- PR. B618 CURB & GUTTER

Profile View of Alignment - Ute CDS CL



Profile View of Alignment - 153rd Crt CL



DATE	REVISION

Feb 14, 2018 - 3:35pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Street and Storm.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

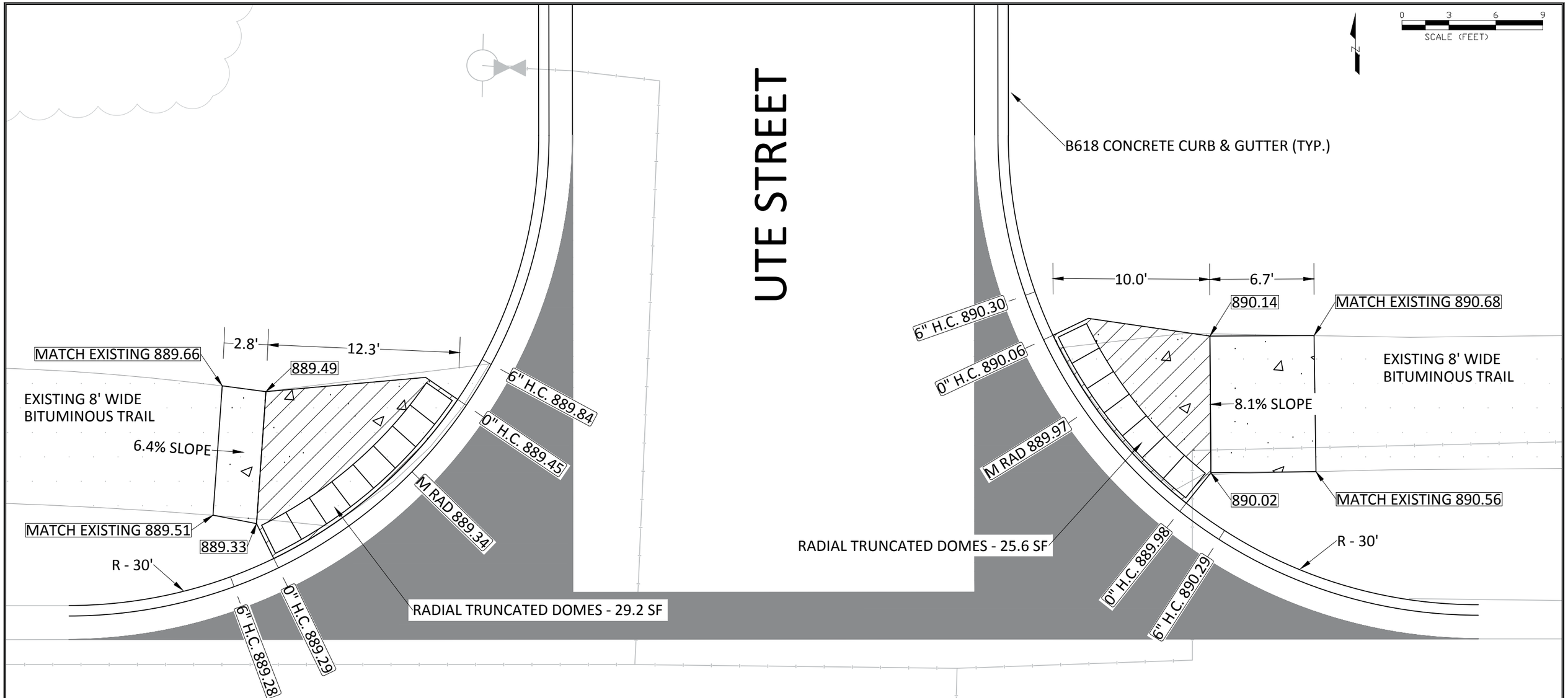
DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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STREET AND STORM - UTE STREET CDS & 153RD COURT

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 18 OF 28 SHEETS



ALPINE DRIVE

LEGEND

0" H.C. XXX.XX	PROPOSED SPOT ELEV. ZERO HEIGHT CURB AT BACK OF CURB
6" H.C. XXX.XX	PROPOSED SPOT ELEV. FULL HEIGHT CURB AT BACK OF CURB
XXX.XX	PROPOSED SPOT ELEV.
	LANDING AREA - MAX 2% SLOPE IN ALL DIRECTIONS.

DATE	REVISION

Feb 14, 2018 - 3:36pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Ped Xing.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

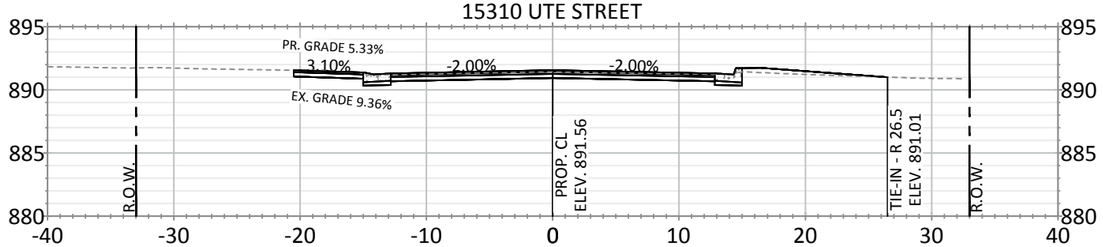
DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

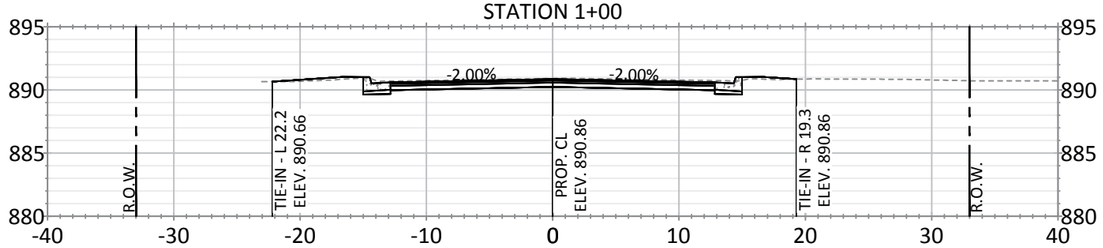
UTE STREET PEDESTRIAN RAMP LAYOUTS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

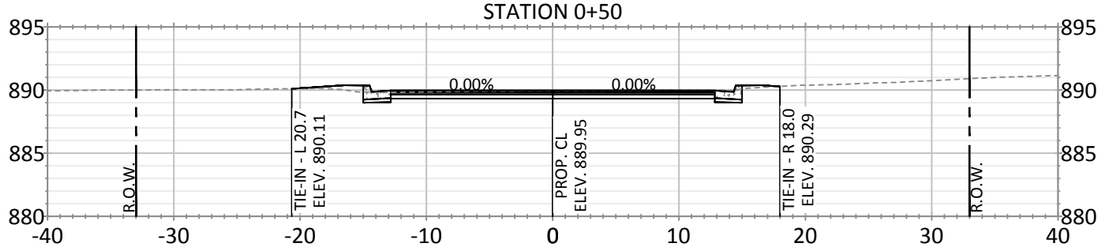
STATION 1+61
15310 UTE STREET



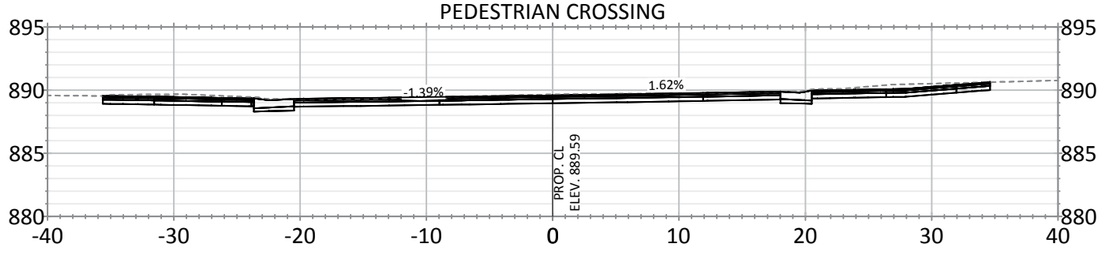
STATION 1+00



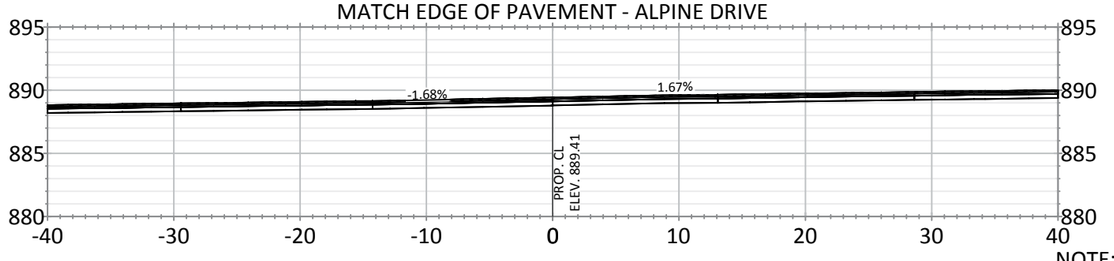
STATION 0+50



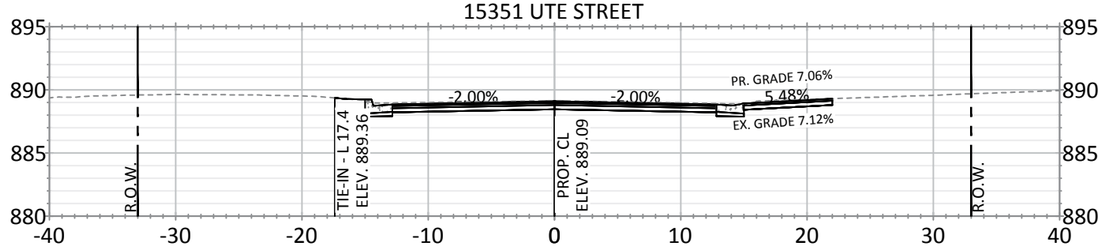
STATION 0+30
PEDESTRIAN CROSSING



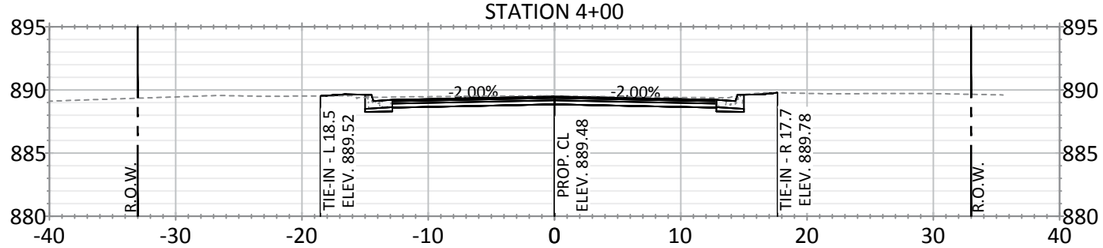
STATION 0+17
MATCH EDGE OF PAVEMENT - ALPINE DRIVE



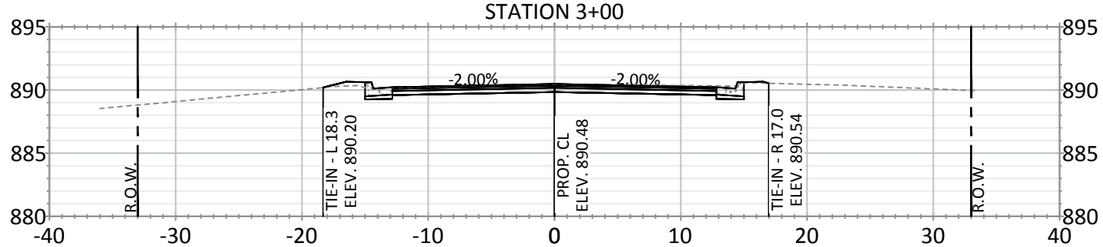
STATION 4+39
15351 UTE STREET



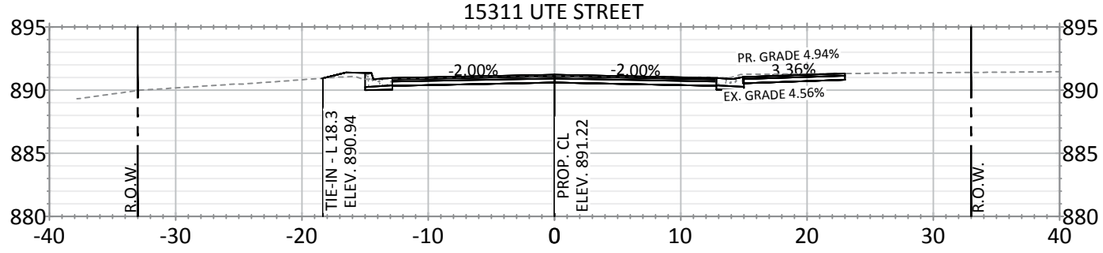
STATION 4+00



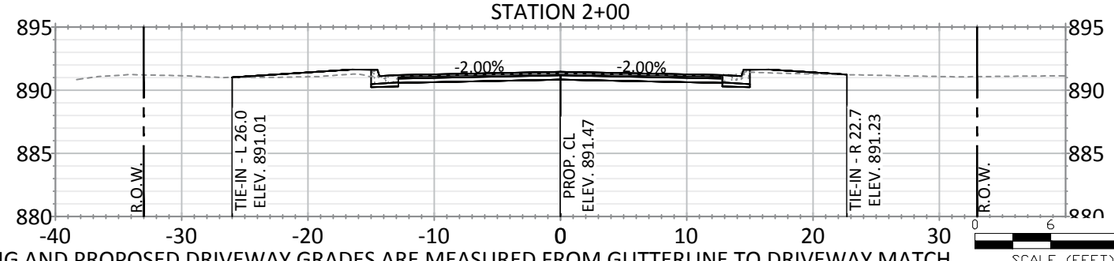
STATION 3+00



STATION 2+25
15311 UTE STREET



STATION 2+00



NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

0 6 12 18
SCALE (FEET)

DATE	REVISION

Feb 14, 2018 - 3:40pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Cross Sections.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

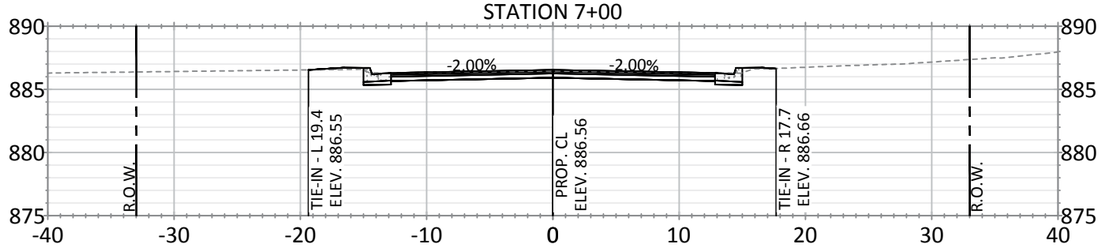
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - UTE STREET & 154TH LANE

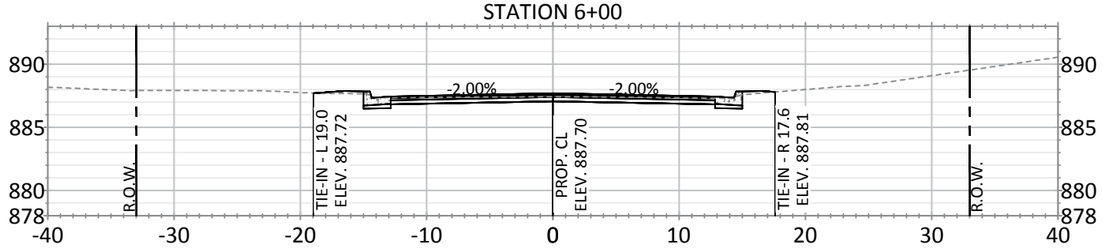
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 20 OF 28 SHEETS

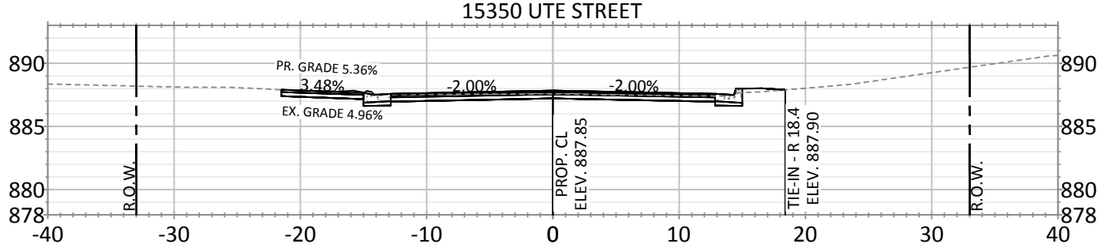
STATION 7+00



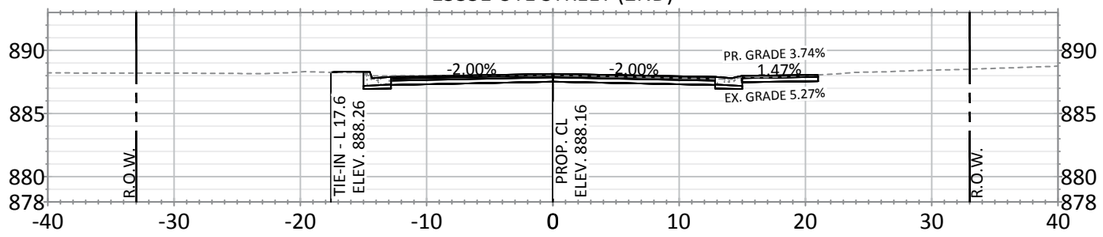
STATION 6+00



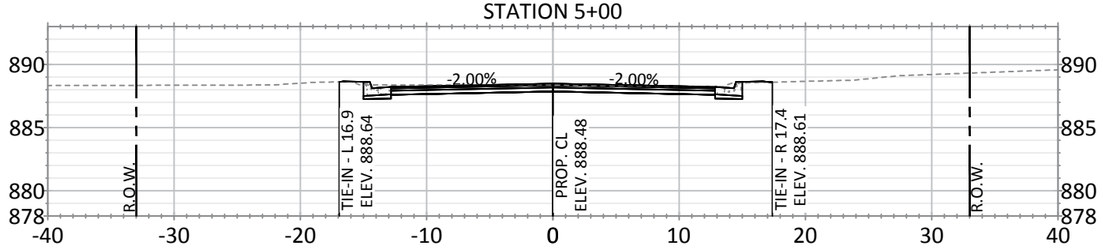
STATION 5+85
15350 UTE STREET



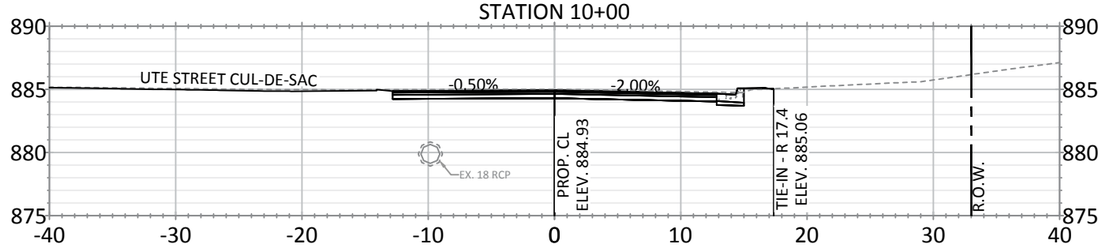
STATION 5+41
15351 UTE STREET (2ND)



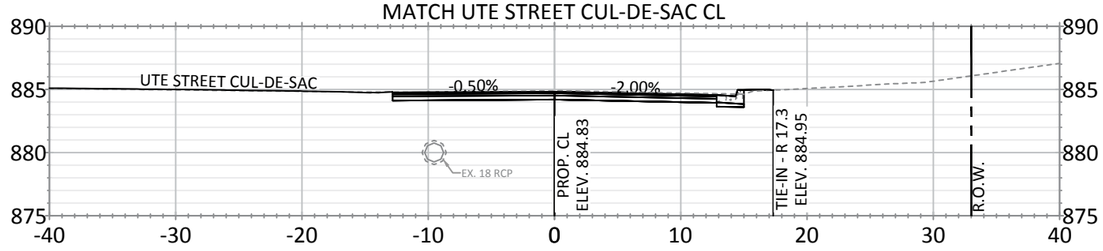
STATION 5+00



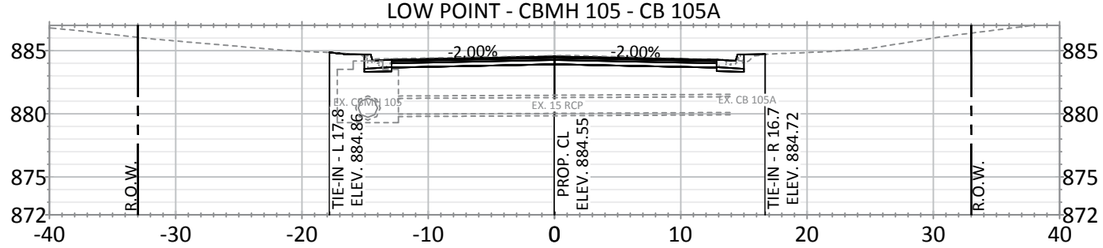
STATION 10+00



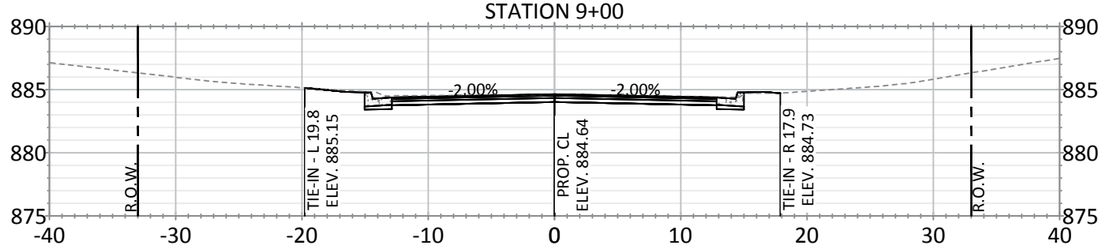
STATION 9+84
MATCH UTE STREET CUL-DE-SAC CL



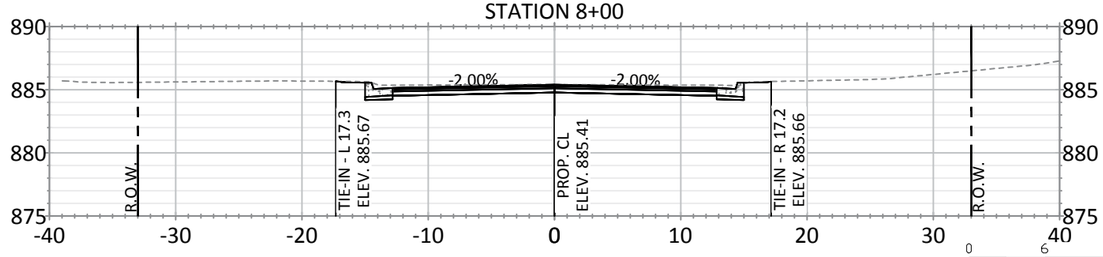
STATION 9+29
LOW POINT - CBMH 105 - CB 105A



STATION 9+00



STATION 8+00



0 6 12 18
SCALE (FEET)

NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

DATE	REVISION

Feb 14, 2018 - 3:40pm
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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - UTE STREET & 154TH LANE

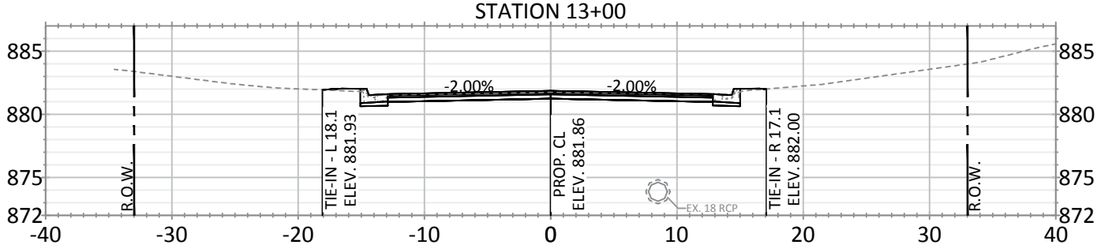
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 21 OF 28 SHEETS

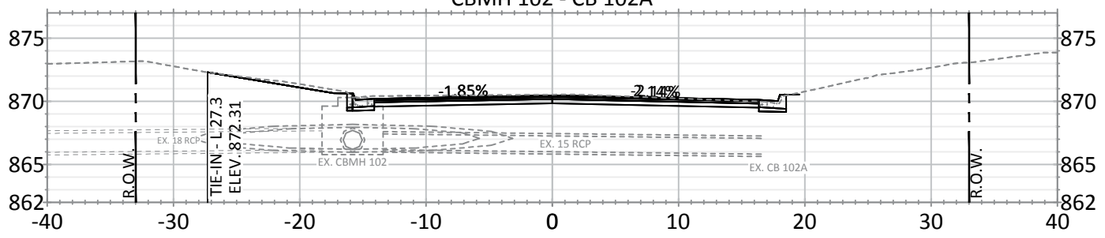
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0 6 12 18
SCALE (FEET)

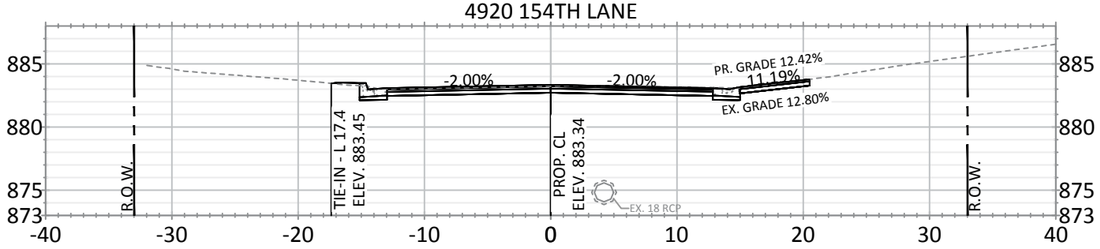
STATION 13+00



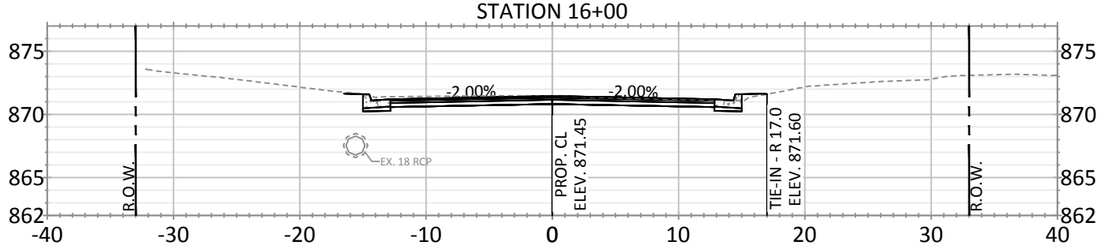
STATION 16+29
CBMH 102 - CB 102A



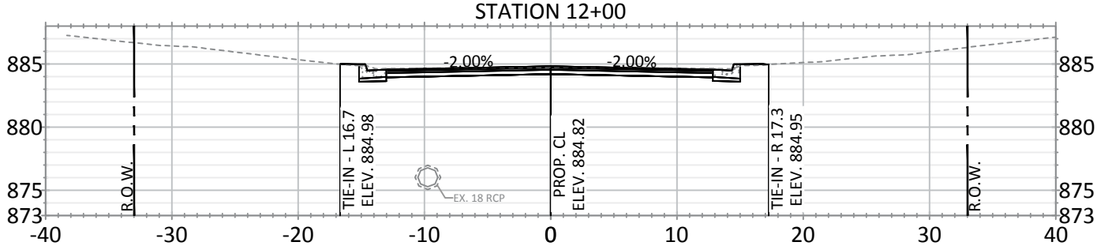
STATION 12+55
4920 154TH LANE



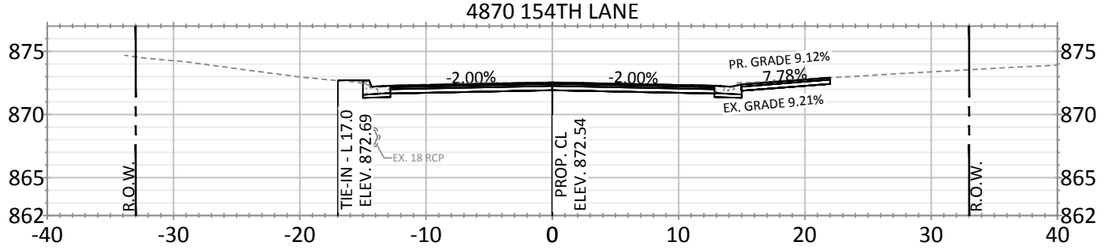
STATION 16+00



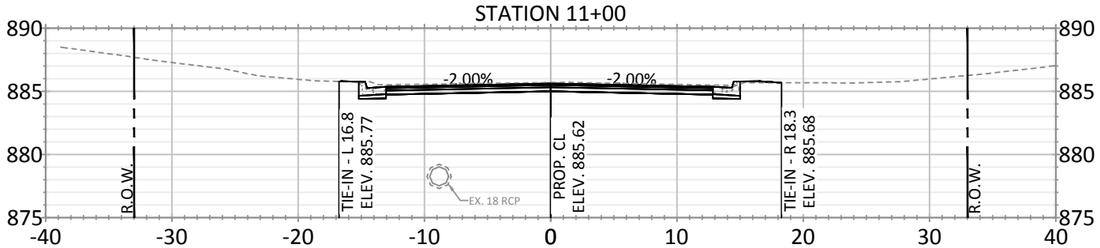
STATION 12+00



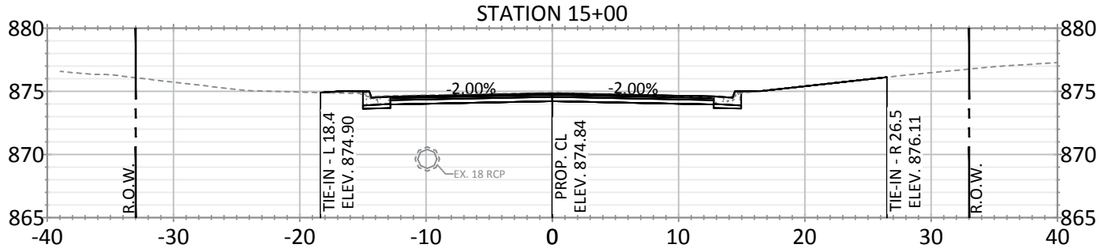
STATION 15+68
4870 154TH LANE



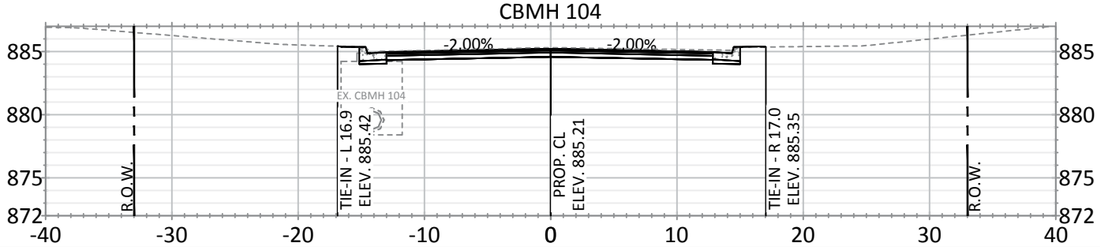
STATION 11+00



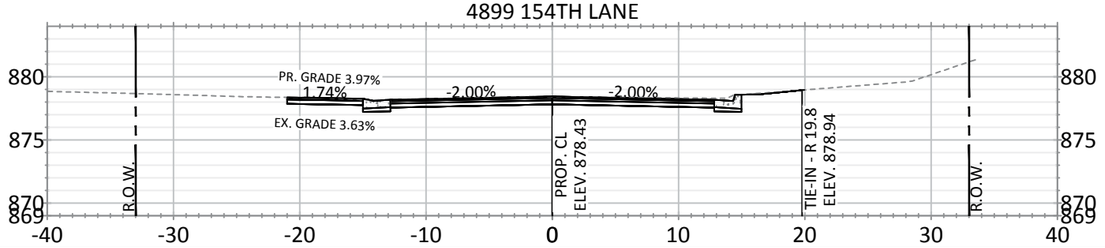
STATION 15+00



STATION 10+40
CBMH 104



STATION 13+95
4899 154TH LANE



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CHECKED BY:	BRW	FILE No. 18-00

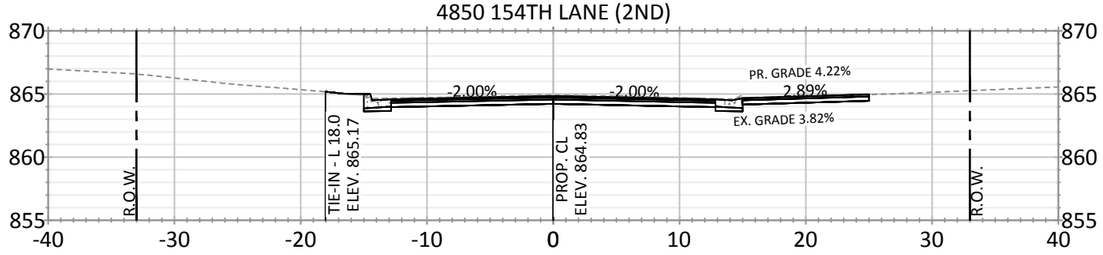
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - UTE STREET & 154TH LANE

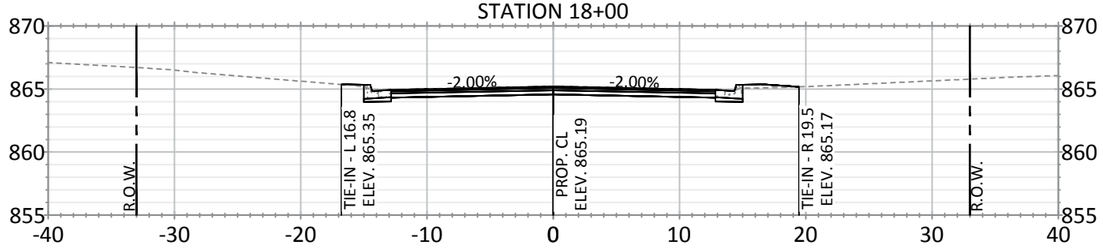
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 22 OF 28 SHEETS

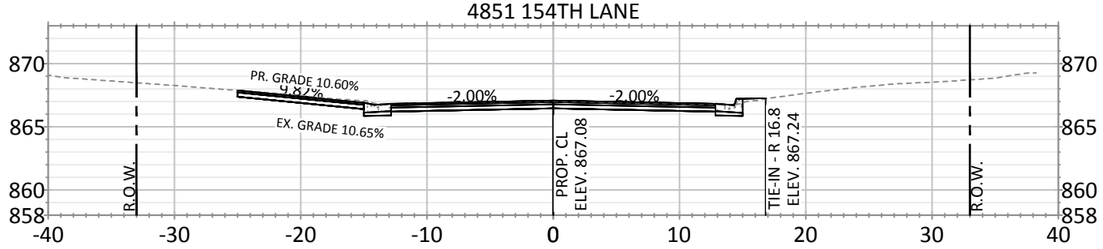
STATION 18+15
4850 154TH LANE (2ND)



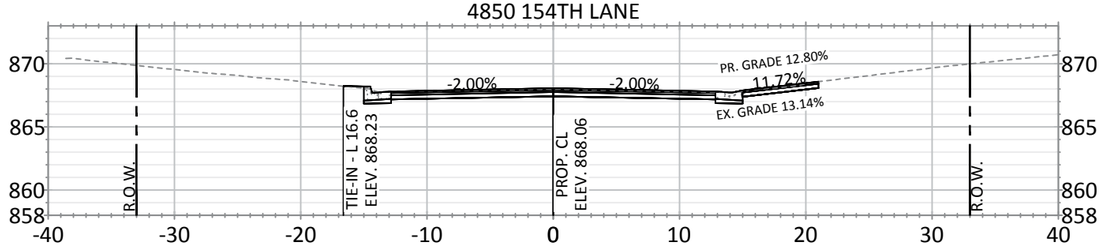
STATION 18+00



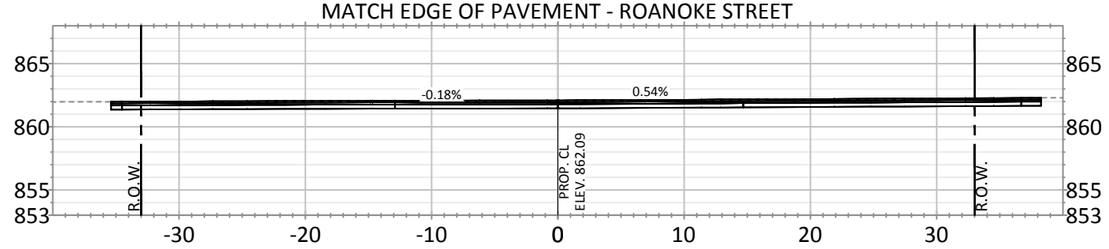
STATION 17+29
4851 154TH LANE



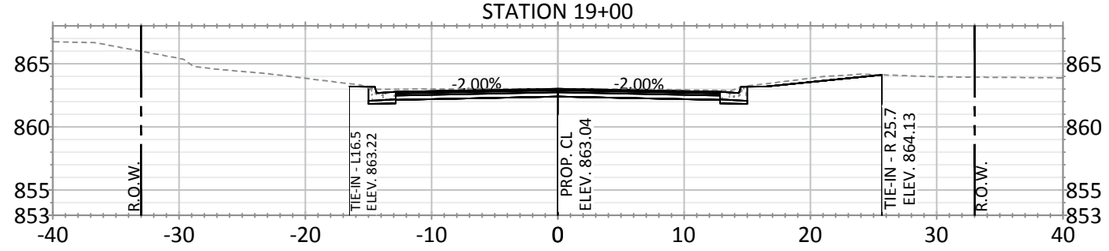
STATION 17+00
4850 154TH LANE



STATION 19+45
MATCH EDGE OF PAVEMENT - ROANOKE STREET



STATION 19+00



NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

0 6 12 18
SCALE (FEET)

DATE	REVISION

Feb 14, 2018 - 3:41pm
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City of RAMSEY

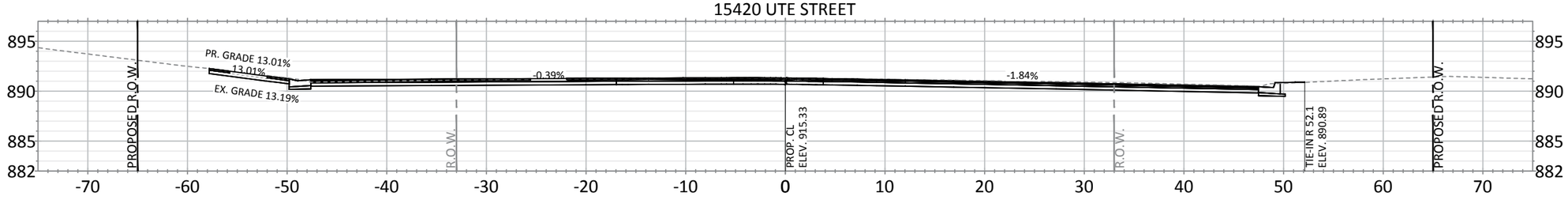
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - UTE STREET & 154TH LANE

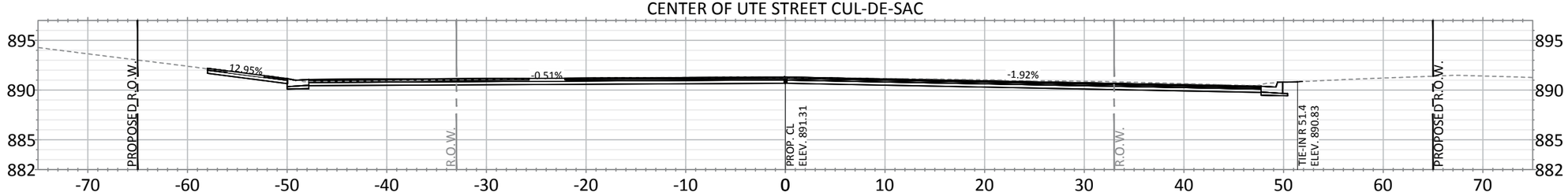
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 23 OF 28 SHEETS

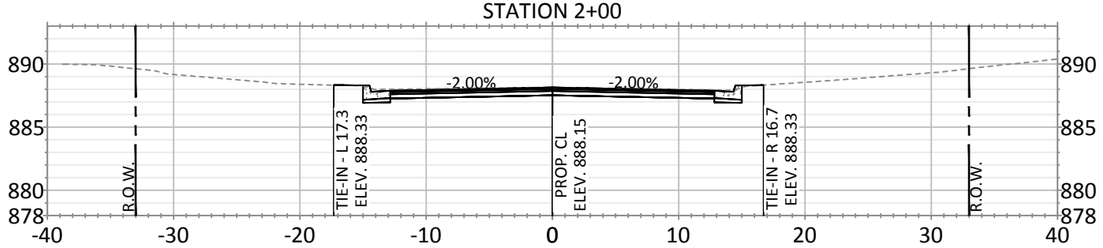
STATION 3+62
15420 UTE STREET



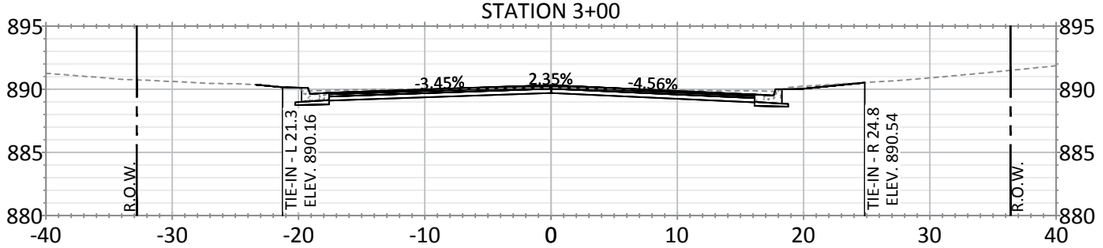
STATION 3+57
CENTER OF UTE STREET CUL-DE-SAC



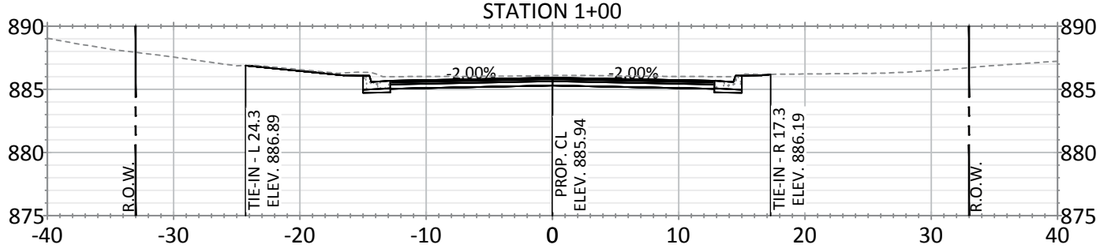
STATION 2+00



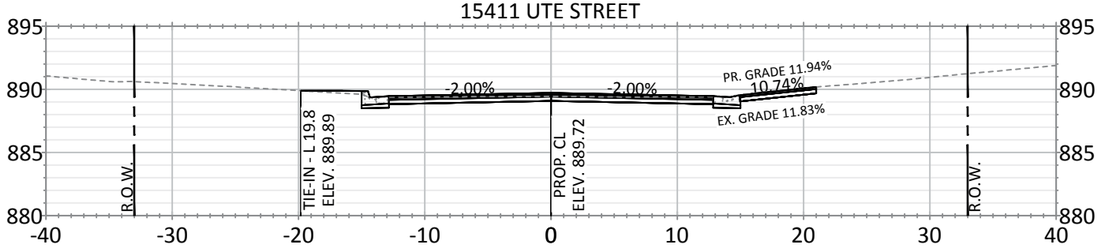
STATION 3+00



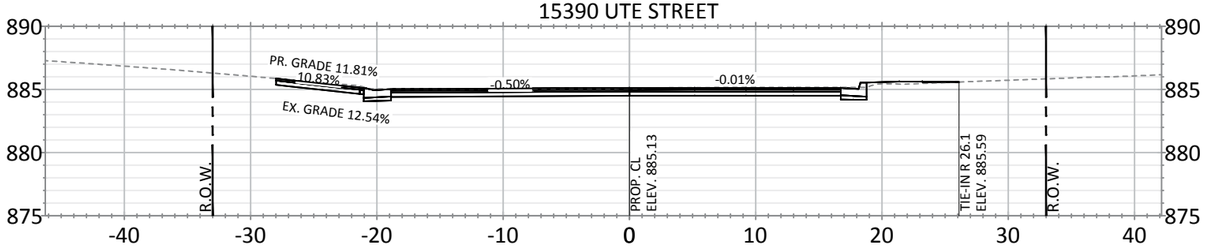
STATION 1+00



STATION 2+69
15411 UTE STREET



STATION 0+38
15390 UTE STREET



NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

0 6 12 18
SCALE (FEET)

DATE	REVISION

Feb 14, 2018 - 3:42pm
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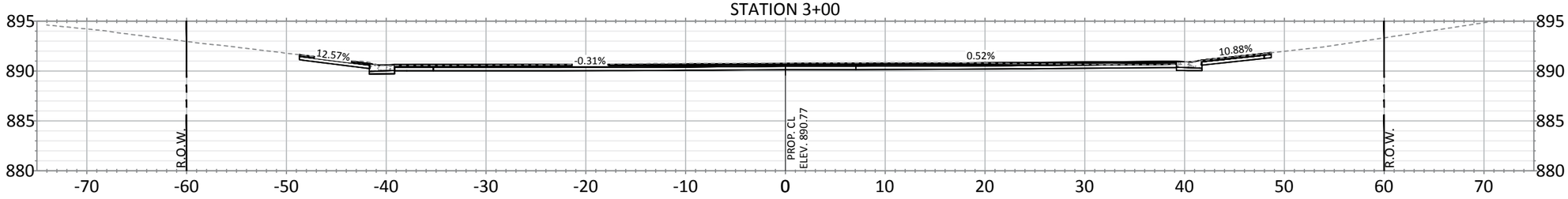
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - UTE STREET CUL-DE-SAC

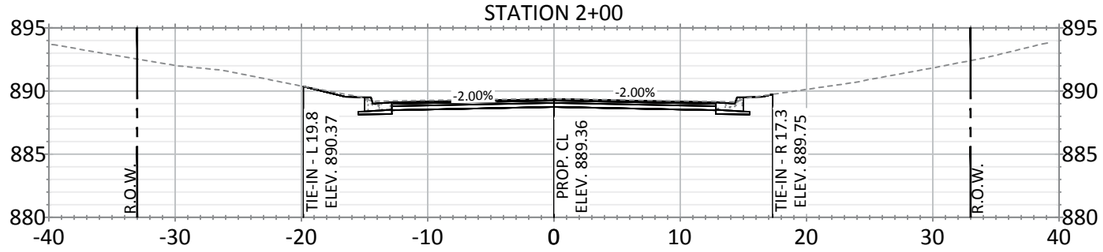
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 24 OF 28 SHEETS

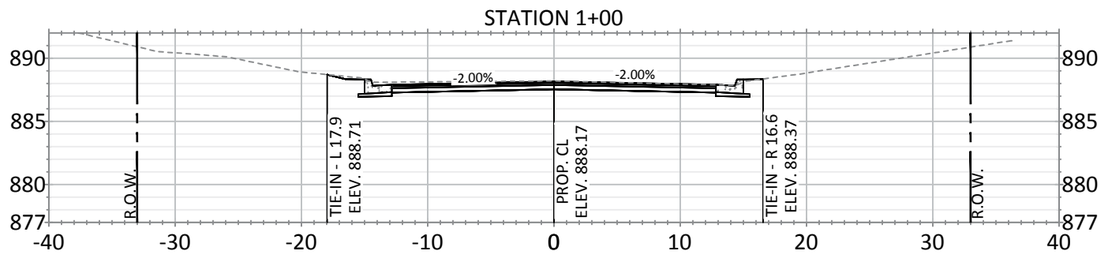
STATION 3+00



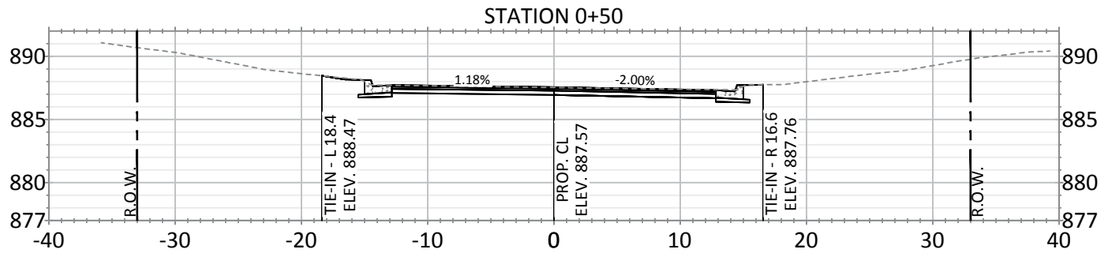
STATION 2+00



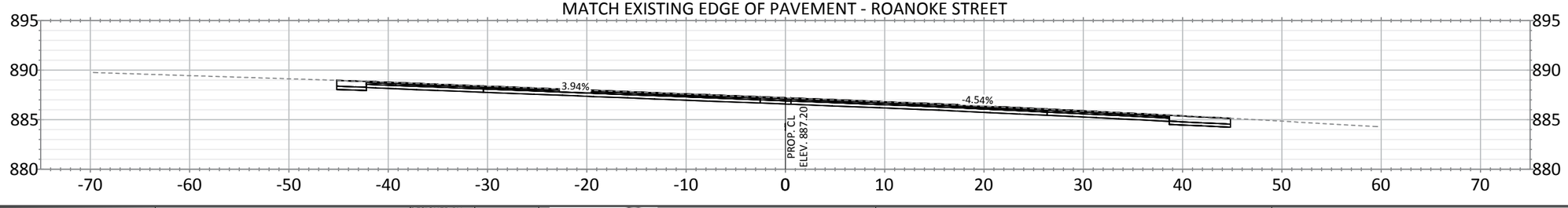
STATION 1+00

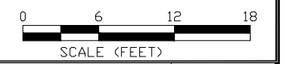


STATION 0+50



STATION 0+17
MATCH EXISTING EDGE OF PAVEMENT - ROANOKE STREET





DATE	REVISION

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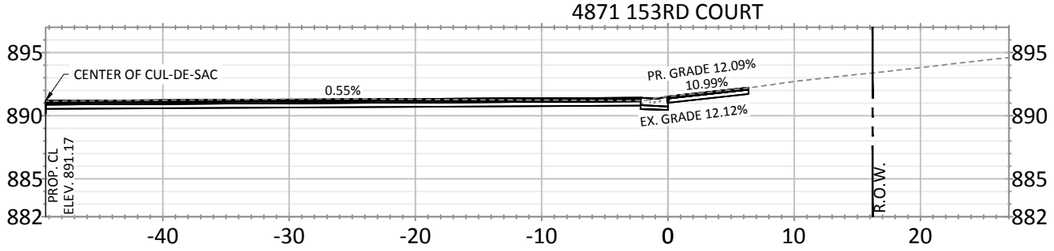
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DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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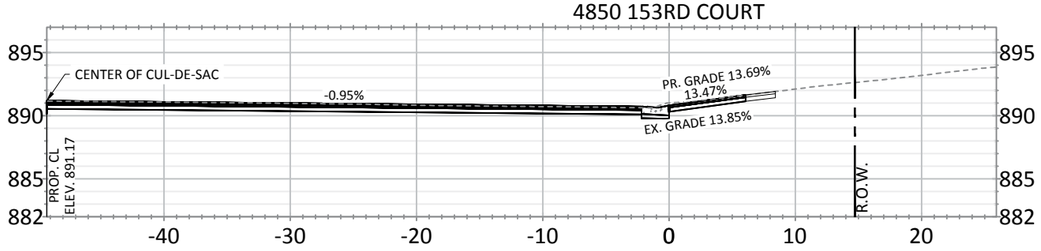
CROSS SECTIONS - 153RD COURT

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

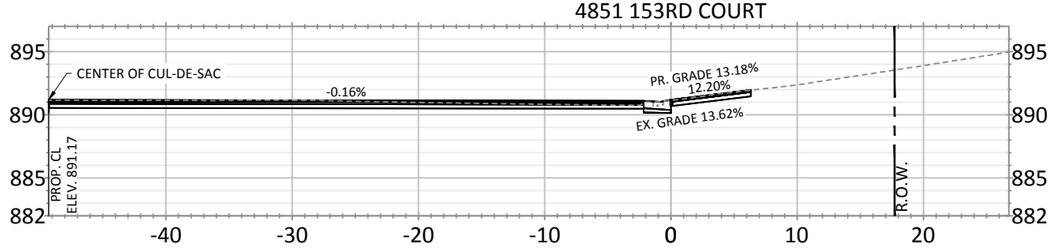
STATION 3+69
153RD COURT CDS - BOC ALIGNMENT
4871 153RD COURT



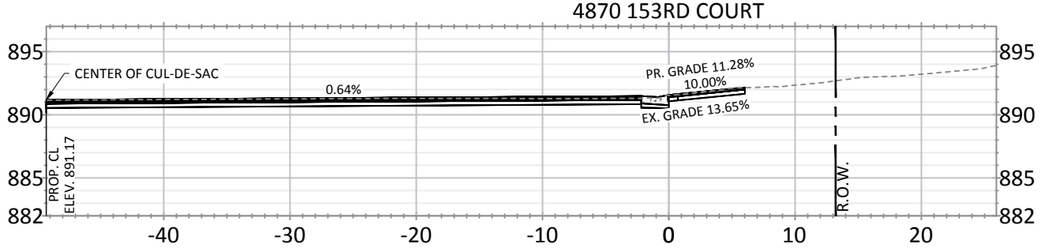
STATION 5+29
153RD COURT CDS - BOC ALIGNMENT
4850 153RD COURT



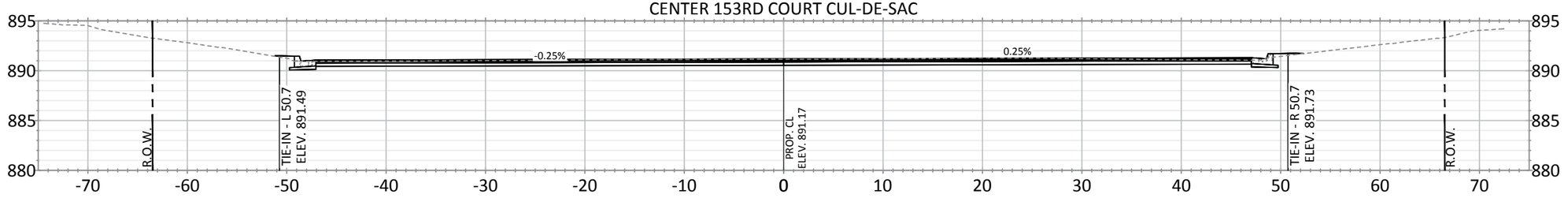
STATION 3+28
153RD COURT CDS - BOC ALIGNMENT
4851 153RD COURT



STATION 4+72
153RD COURT CDS - BOC ALIGNMENT
4870 153RD COURT



STATION 3+26
CENTER 153RD COURT CUL-DE-SAC



NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

0 6 12 18
SCALE (FEET)

DATE	REVISION

Feb 14, 2018 - 3:43pm
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CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - 153RD COURT

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

STANHOPE TERRACE STREET RECONSTRUCTIONS

CITY OF RAMSEY
ANOKA COUNTY, MINNESOTA



RAMSEY,
ANOKA COUNTY,
MINNESOTA

LEGEND

PROJECT LIMITS
SPECIAL WATER

PROJECT AREAS

Total Project Size (disturbed area) =	2.63	acres
Existing area of impervious surfce =	2.08	acres
Post construction area of Impervious surface =	2.08	acres
New impervious surface area created =	0.00	acres

Planned Construction Start Date: June, 2018
Estimated Construction Completion Date: Sept, 2018

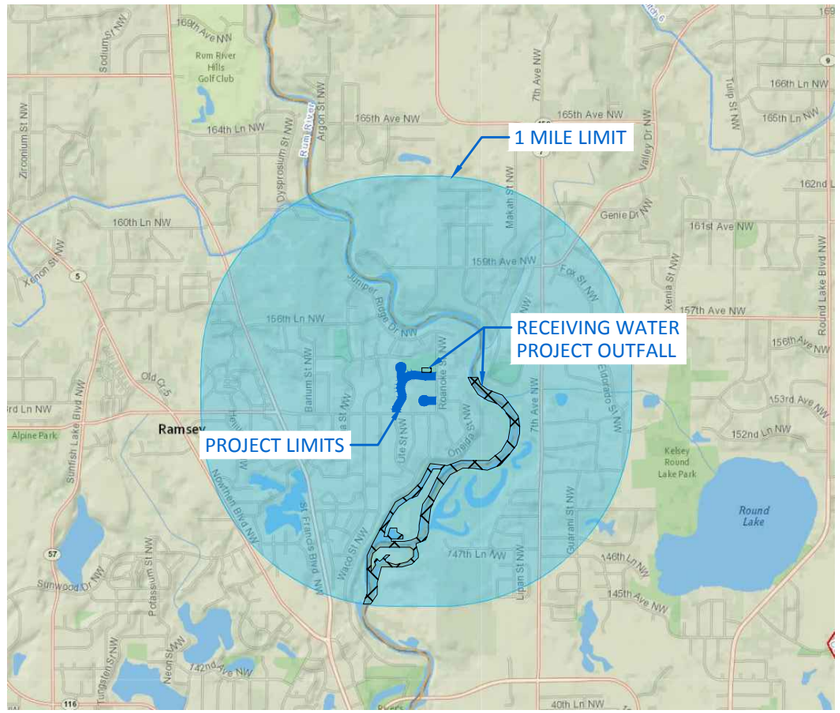
PERMANENT STORMWATER MANAGEMENT SYSTEM
Type of storm water management used if more than 1 acre of new impervious surface is created:
Wet Sedimentation Pond
Infiltration/ Filtration
Regional Pond
Permanent Stormwater Management Not Required

PROJECT LOCATION

County: ANOKA Township: 32 Range: 25 Section: 24 Latitude: 45.2501 Longitude: 93.3907

LOCATION OF SWPPP REQUIRMENETS IN PROJECT PLAN

DESCRIPTION	LOCATION
TEMPORARY EROSION CONTROL MEASURES	SHEETS NO. 13 - 14
FINAL STABILIZATION	SHEETS NO. 13 - 14
STORM SEWER TABULATION	SHEETS NO. 16 - 17
EROSION AND SEDIMENT CONTROL DETAILS	SHEETS NO. 4



CERTIFICATION:
LEONARD LINTON: DESIGN OF CONSTRUCTION SWPPP EXPIRES MAY 31, 2019
INSTRUCTOR UNIVERSITY MN EROSION & STORMWATER MANAGEMENT CERTIFICATION PROGRAM.

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:
Construction activities include: Site grading, storm sewer construction, temporary erosion and sediment control, roadway, and permanent stabilization.

Project description:
The project consists of reconstruction of 0.52 miles of existing bituminous streets with bituminous curb, replacing with concrete curb and gutter and bituminous street to the existing width and grade. The drainage for the existing street flows to a storm water basin located on the north end of the project with runoff flowing to the east through a series of storm sewer and basins, eventually reaching the Rum River. There will be minor repairs to the existing storm sewer system, with no change to the locations of storm sewer structures and outfalls.

RESPONSIBLE PARTIES
The Contractor and Owner must apply for coverage under the MPCA's General Storm Water Permit for Construction Activity as required by the National Pollution Discharge Elimination System (NPDES) Phase II program. Coverage under the permit will begin automatically 7 calendar days after the electronic submittal date or after the postmarked date of a complete application. (Longer time frames will apply to areas that disturb 50 acres or discharge within 1 mile of a special water)

	COMPANY	CONTACT PERSON	PHONE
OWNER:	CITY OF RAMSEY	BRUCE WESTBY, PE	763-433-9825
SWPPP DESIGNER:	CITY OF RAMSEY	LEONARD LINTON, PE	763-433-9834
CONTRACTOR:			
SITE MANAGER:			
PARTY RESPONSIBLE FOR LONG TERM O&M:	CITY OF RAMSEY	BRUCE WESTBY, PE	763-433-9825

Individuals listed above, including the SWPPP preparer, individual overseeing implementation of, revising and amending the SWPPP, individuals performing or supervising the installation, maintenance and repair of BMP's must be trained. At least one individual present on the permitted project, or available within 72 hours shall be trained in the applicable job duties. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Copies of the SWPPP preparer information is included in the Project Manual. The contractor shall provide information for the individual(s) overseeing implementation, supervising installation, maintenance, and repair of BMP's to included in the Project Manual prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

Documentation shall include:
a. Names of trained personnel associated with this project.
b. Dates of training, names of instructor(s) and entity providing training.
c. Content of training course or workshop including the number of hours trained.
d. As an alternative to a, b, and c listed above, a photocopy of the a current Erosion and Stormwater Management card issued by the University of Minnesota can be attached to the SWPPP as suitable documentation of training.

SPECIAL ENVIRONMENTAL CONSIDERATIONS:

Was an environmental review required for this project or any parr of a common plan of development or sale that includes all or any portion of this project?	NO
Does any portion of the site have the potential to affect threatened or endangered species?	NO
Does any portion of this site discharge to a Calcareous fen and the letter of approval from the DNR is located in the Project Manual?	NO
Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a Known or discovered archeological site?	NO
Have any Karst features been identified in the project vicinity?	NO
Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO

GENERAL STORMWATER DISCHARGE REQUIREMENTS
All requirements listed in Part III of the permit for the design of permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:
1. The expected amount, frequency, intensity and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site.
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

DOCUMENT RETENTION
The following documentation will be retained for a period of not less than 3-years from the date of submittal of the NOT in compliance with Part III.E of the permit.
1. The final SWPPP
2. Copies of all stormwater related permits required for the project
3. Records of all inspection and maintenance conducted during construction
4. Copies of all permanent operation and maintenance agreements; including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance, and
5. All required calculations for design of temporary and permanent BMPs.

RECEIVING WATERS
Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, are identified on the USGS 7.5min quad map within 1 mile of the project boundary. Receiving waters that are impaired, the impairment and WLA are listed as follows. All specific BMPs relative to construction activities listed in this permit for special and impaired waters have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	APPENDIX A SPECIAL WATER?	FLOWS TO IMPAIRED WATER WITHIN 1 MILE?	USEPA APPROVED TMDL?
RUM RIVER	RIVER	YES	YES	YES
IMPAIRMENTS: NOT FOR CONSTRUCTION, MERCURY AND FISH CONSUMPTION.				

IMPLEMENTATION SCHEDULE AND PHASING
1. Furnish & install perimeter sediment control and inlet protection.
2. Reclamation / removal of existing bituminous street.
3. Rough grade site.
4. Reset and Grout storm structures
5. Furnish & install concrete curb, bituminous pavement.
6. Add additional temporary BMPs as necessary during construction based on inspection reports
7. Submit Notice of Termination NOT to MPCA within 30 days of final stabilization.

EROSION PREVENTION PRACTICES

1. The permittee(s) must plan for and implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion, so that the inspection and maintenance requirements are complied with. The location of areas not to be disturbed must be delineated (e.G. With flags, stakes, signs, silt fence, etc.) on the development site before work begins.

2. All exposed soil areas must be stabilized as soon as possible, but in no case later than 7 days after the construction area has temorarily or permanently ceased.

DATE	REVISION

Feb 14, 2018 - 3:44pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 SWPPP.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

SWPPP

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 27 OF 28 SHEETS

These areas include constructed storm water management pond side slopes, and any exposed soil areas with a positive slope to a storm water conveyance system, such as a curb and gutter system, storm sewer inlet, temporary or permanent drainage ditch or other natural or man made systems that discharge to a surface water.

3. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge to any surface water. Stabilization must be completed within 24 hours of connecting to a surface water.

4. Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

5. All disturbed areas, except roadways, building areas, parking areas, islands and sidewalk, shall be restored with minimum 6 inches topsoil, seeded and mulched within 7 days of completion of site grading. Seeding shall be in accordance with mn/dot specification 2575 (c)100 lbs/acre (or approved equal). Dormant seeding areas shall be seeded and mulched in accordance with mn/dot specifications. Straw mulching quantity shall be two tons per acre. Where slopes exceed or equal 1:3, a polypropylene netting or wood fiber blanket shall be provided and staked over the mulched area. Fertilizer (15–0–10) shall be applied at a rate of 400 pounds per acre (can be omitted in landscaped areas if landscaped seeding is done concurrently).

6. Refer to landscape plan for areas to be seeded or sodded for erosion control.

SEDIMENT CONTROL PRACTICES

1. Sediment control practices must minimize sediment from entering surface waters, including curb and gutter systems and storm sewer inlets.

A. Temporary or permanent drainage ditches and sediment basins that are designed as part of a treatment system (e.G., ditches with rock check dams) require sediment control practices only as appropriate for site conditions.

B. If the down gradient treatment system is overloaded, additional upgradient sediment control practices must be installed to eliminate the overloading, and the swppp must be amended to identify these additional practices.

C. In order to maintain sheet flow and minimize rills and/or gullies, there shall be no unbroken slope length of greater than 75 feet for slopes with a grade of 1:3 or steeper.

2. Sediment control practices must be established on all down gradient perimeters before any upgradient land disturbing activities begin. These practices shall remain in place until final stabilization has been established.

3. The timing of the installation of sediment control practices may be adjusted to accommodate short–term activities such as clearing or grubbing, or passage of vehicles. Any short–term activity must be completed as quickly as possible and the sediment control practices must be installed immediately after the activity is completed. However, sediment control practices must be installed before the next precipitation event even if the activity is not complete.

4. All storm drain inlets must be protected by appropriate bmps during construction until all sources with potential for discharging to the inlet have been stabilized.

5. Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in surface waters, including storm water conveyances such as curb and gutter systems, or conduits and ditches.

6. Stockpile areas which remain on the site for more than seven days shall be seeded, mulched, and surrounded by silt fence.

7. Vehicle tracking of sediment from the construction site must be minimized by bmps such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such bmps are not adequate to prevent sediment from being tracked onto the street.

8. The permittee must install temporary sedimentation basins as required.

DEWATERING AND BASIN DRAINING

1. Dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) related to the construction activity that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. If the water cannot be discharged to a sedimentation basin prior to entering the surface water, it must be treated with the appropriate bmps, such that the discharge does not adversely affect the receiving water or downstream landowners. The permittee(s) must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural rock riprap, sand bags, plastic sheeting or other accepted energy dissipation measures. Adequate sedimentation control measures are required for discharge water that contains suspended solids.

2. All water from dewatering or basin draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in wetlands causing significant adverse impact to the wetland.

INSPECTIONS AND MAINTENANCE

1. The permittee(s) (either the owner or operator, whoever is identified in the swppp) must routinely inspect the construction site once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24–hours after a rainfall event, the next inspection must be conducted within 7 days.

2. All inspections and maintenance conducted during construction must be recorded in writing and these records must be retained with the SWPPP. Records of each inspection and maintenance activity shall include:

a. Date and time of inspections;

b. Name of person(s) conducting inspections;

c. Findings of inspections, including recommendations for corrective actions;

d. Corrective actions taken (including dates, times, and party completing maintenance activities);

e. Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours; and

f. Documentation of changes made to the SWPPP as required in part iii.A.4.

3. Where parts of the construction site have undergone final stabilization, but work remains on other parts of the site, inspections of the stabilized areas may be reduced to once per month. Where work has been suspended due to frozen ground conditions, the required inspections and maintenance must take place within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever comes first.

4. All erosion prevention and sediment control BMP's must be inspected to ensure integrity and effectiveness. All nonfunctional BMP's must be repaired, replaced, or supplemented with functional bmps. The permittee(s) must investigate and comply with the following inspection and maintenance requirements:

a. All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access.

B. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access.

C. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment being deposited by erosion. The permittee(s) must remove all deltas and sediment deposited in surface waters, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The permittee shall use all reasonable efforts to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access. The permittee is responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work.

D. Construction site vehicle exit locations must be inspected for evidence of off–site sediment tracking onto paved surfaces. Tracked sediment must be removed from all off–site paved surfaces, within 24 hours of discovery, or if applicable, within a shorter time.

E. The permittee(s) are responsible for the operation and maintenance of temporary and permanent water quality management BMP's, as well as all erosion prevention and sediment control BMP's, for the duration of the construction work at the site. The permittee(s) are responsible until another permittee has assumed control over all areas of the site that have not been finally stabilized or the site has undergone final stabilization, and a not has been submitted to the MPCA.

F. If sediment escapes the construction site, off–site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off–site impacts (e.G., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

5. All infiltration areas must be inspected to ensure that no sediment from ongoing construction activities is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.

6. Storm sewer pipes and structures to be inspected and cleaned out.

POLLUTION PREVENTION MANAGEMENT MEASURES

The permittee(s) shall implement the following pollution prevention management measures on the site:

1. Solid waste: collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with mpca disposal requirements.

2. Hazardous materials: oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with mpca regulations.

3. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.

FINAL STABILIZATION

The permittee(s) must ensure final stabilization of the site. The permittee(s) must submit a not within 30 days after final stabilization is complete, or another owner/operator (permittee) has assumed control over all areas of the site that have not undergone final stabilization. Final stabilization can be achieved in one of the following ways:

1. All soil disturbing activities at the site have been completed and all soils must be stabilized by a uniform perennial vegetative cover with a density of 70 percent over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;

a. All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion;

b. All temporary synthetic, and structural erosion prevention and sediment control bmps (such as silt fence) must be removed as part of the site final stabilization; and

c. The permittee(s) must clean out all sediment from conveyances and from temporary sedimentation basins that are to be used as permanent water quality management basins. Sediment must be stabilized to prevent it from being washed back into the basin, conveyances or drainageways discharging off–site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.

2. Final vegetation cover shall be in Project Specifications.

3. For residential construction only, final stabilization has been achieved when temporary erosion protection and down gradient perimeter control for individual lots has been completed and the residence has been transferred to the homeowner. Additionally, the permittee must distribute the MPCA "Homeowner fact sheet" to the homeowner to inform the homeowner of the need for, and benefits of, final stabilization.

SEQUENCE OF CONSTRUCTION

Construction shall proceed in the following sequence:

1. Contractor shall schedule and conduct a pre–construction meeting with the city.
2. Contractor shall secure all necessary permits and licenses.
3. Furnish & install erosion control measures.
4. Maintain erosion control measures, i.e., silt fence, temporary rock construction entrance.
5. Reclaim existing bituminous pavement and base. Remove reclamation material.
6. Reset catch basins per plan.
7. Prepare base, furnish & install class 5 aggregate, grade and compact aggregate.
8. Furnish & install concrete curb, base course of bituminous pavement
9. Grout catch basins per plan.
10. Furnish & install wear course of bituminous pavement.
11. Remove erosion control after vegetation is established.

ADDITIONAL STORMWATER POLLUTION PREVENTION, GRADING PLAN ANS SCHEDULE NOTES

1. All slopes to be 1:4 unless approved by the city engineer.
2. Below grade structures shall be protected and meet drainage requirements per the city engineer.
3. Construction operation hours are from 7:00am–10:00pm Mon.–Sat.
4. Call Gopher State One Call for utility locations prior to any work at 1–800–252–1166.
5. Permittee may need to modify SWPPP if the general objectives of controlling pollutants is not being met.
6. Operator shall implement these and any other bmp's that may be required to meet the general permit requirements.
7. Site is not in karst area or pollution or remediation site.
8. Silt fence to be installed downhill from any grading activity.
9. If tracking onto adjacent streets occurs a street sweeper shall be used to clean streets within 8 hours or as directed by the engineer.
10. Dust control may be necessary during rough grading. No grading can take place if wind speed exceeds 25 mph.
11. Solid waste shall be collected and disposed of properly and must comply with MPCA disposal requirements.
12. Hazardous materials shall be stored properly to prevent spills and vandalism
13. No engine degreasing is allowed on site. External washing of vehicles shall be limited to a defined area (bone yard) on site.
14. Permitee(s) shall adhere to all SWPPP specifications on this plan and other mpca permit requirements.

DATE	REVISION

Feb 14, 2018 - 3:44pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 SWPPP.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

SWPPP

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 28 OF 28 SHEETS

Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

CC Regular Session **7. 7.**

Meeting Date: 03/27/2018

By: Len Linton, Engineering/Public Works

Information

Title:

Adopt Resolution #18-056 Authorizing Preparation of Feasibility Study for COR Infiltration Basin Improvements, Improvement Project #18-09

Purpose/Background:

The City made the decision to place their municipal wells in the western part of the City where development was expected to happen in the mid 1990's. The area around the wells was selected as the site of Ramsey Town Center (RTC) in the early 2000's and development began.The state required development of a well head protection plan for the wells in the late 2000's. This plan included delineation of a Drinking Water Supply Management Area (DWSMA) and 10 year capture zones for each well. The DWSMA and 10 year capture zones cover most of the RTC properties. The City acquired the foreclosed RTC properties in 2009 and began marketing the properties as The COR.

The City is part of the Lower Rum River Watershed Management Organization (LRRWMO) which is tasked with maintaining water quality through regulating stormwater discharges. The LRRWMO Third Generation Plan was adopted in 2012. Their plans must be updated every 10 years just like the City Comprehensive Plan. The Third Generation plan required infiltration of the first one (1) inch of runoff from all impervious surfaces (roofs and paving) on new projects. The infiltration guidelines discourage or prohibit infiltration in wellhead protection areas. The Third Generation Plan has a provision that projects can pay into an infiltration mitigation fund if they cannot infiltrate on site.

Most of the COR area to be developed is in the area where infiltration is not permitted. All projects developed in the COR since 2015 have paid into the infiltration mitigation fund. LRRWMO permits were approved for these projects with the condition that the City develop an infiltration basin in an area where infiltration is permitted. The City was required to have the infiltration basin in place by July 1, 2018. Preparing a Feasibility Study is the first step to preparing plans for the infiltration basin to meet this goal.

The basin will be finished with native plants that can tolerate periodic inundation. Topsoil will not be placed in the infiltration area because our specified topsoil is designed to retain water, not allow it to pass through.

The project will require acquisition of approximately 0.8 acres of easement and/or property from the adjacent land owner. Staff has started a conversation with this land owner regarding this acquisition, and will be prepared to discuss this in more detail at the time Council is asked to accept the Feasibility Study and authorize plans and specifications, which is tentatively scheduled for April.

This case was reviewed at the March 20, 2018 Public Works Committee meeting. The Committee passed a motion to recommend the City Council authorize preparation of a feasibility study for the project.

Observations/Alternatives:

Observations:
Construction of the infiltration basin is necessary to fulfill City obligations incurred with LRRWMO approval of projects in the COR since 2015 and to provide capacity for future development to occur. **Alternatives:**
Alternative #1 – Motion to adopt Resolution #18-056 authorizing preparation of a Feasibility Study for COR Infiltration Improvements, Improvement Project #18-09.

Alternative #2 – Motion to deny adoption of Resolution #18-056 at this time.

Funding Source:

The City has collected infiltration mitigation funds from all developments in the COR since 2015. These funds will pay approximately 1/4 of the cost of the project. The City will pay for the remainder of the project now and be reimbursed as future development occurs. The source will be the storm water fund.

The estimated cost for the improvements is $850,000, excluding easement/property acquisition costs, if required.

Recommendation:

Staff recommends the City Council authorize preparation of a Feasibility Study for the COR Infiltration Basin Improvement, Improvement Project #18-09.

Action:

Motion to authorize preparation of a Feasibility Study for the COR Infiltration Basin Improvement, Improvement Project #18-09.

Attachments

Resolution 18-056
Cor Parcel Status
Existing 10 year Capture
Proposed 10 yr Capture
Easement Status
Basin Plan

Form Review

Inbox	Reviewed By	Date
Bruce Westby	Bruce Westby	03/21/2018 06:53 PM
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:46 PM
Form Started By: Len Linton		Started On: 03/21/2018 10:04 AM
Final Approval Date: 03/22/2018		

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

RESOLUTION #18-056

RESOLUTION ORDERING FEASIBILITY STUDY FOR COR INFILTRATION BASIN IMPROVEMENTS IMPROVEMENT PROJECT #18-09

WHEREAS, the City of Ramsey proposes to construct a regional stormwater infiltration basin in the southeast corner of The COR to protect the groundwater of existing municipal water supply wells.

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

That the proposed improvements, designated as Improvement Project No. 18-09, be referred to the City Engineer for study, and that the City Engineer is instructed to report to the Council with all convenient speed advising the Council in a preliminary way as to whether the proposed improvements are necessary, cost-effective, and feasible; whether they should best be made as proposed or in conjunction with some other improvement; the estimated cost of the improvements as recommended; and a description of the methodology used to calculate individual assessments for benefitted properties.

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 27th day of March, 2018.

_____

Mayor

ATTEST:

_____

City Clerk

2018 COR Parcel Analysis



2018 COR Infiltration Exhibit

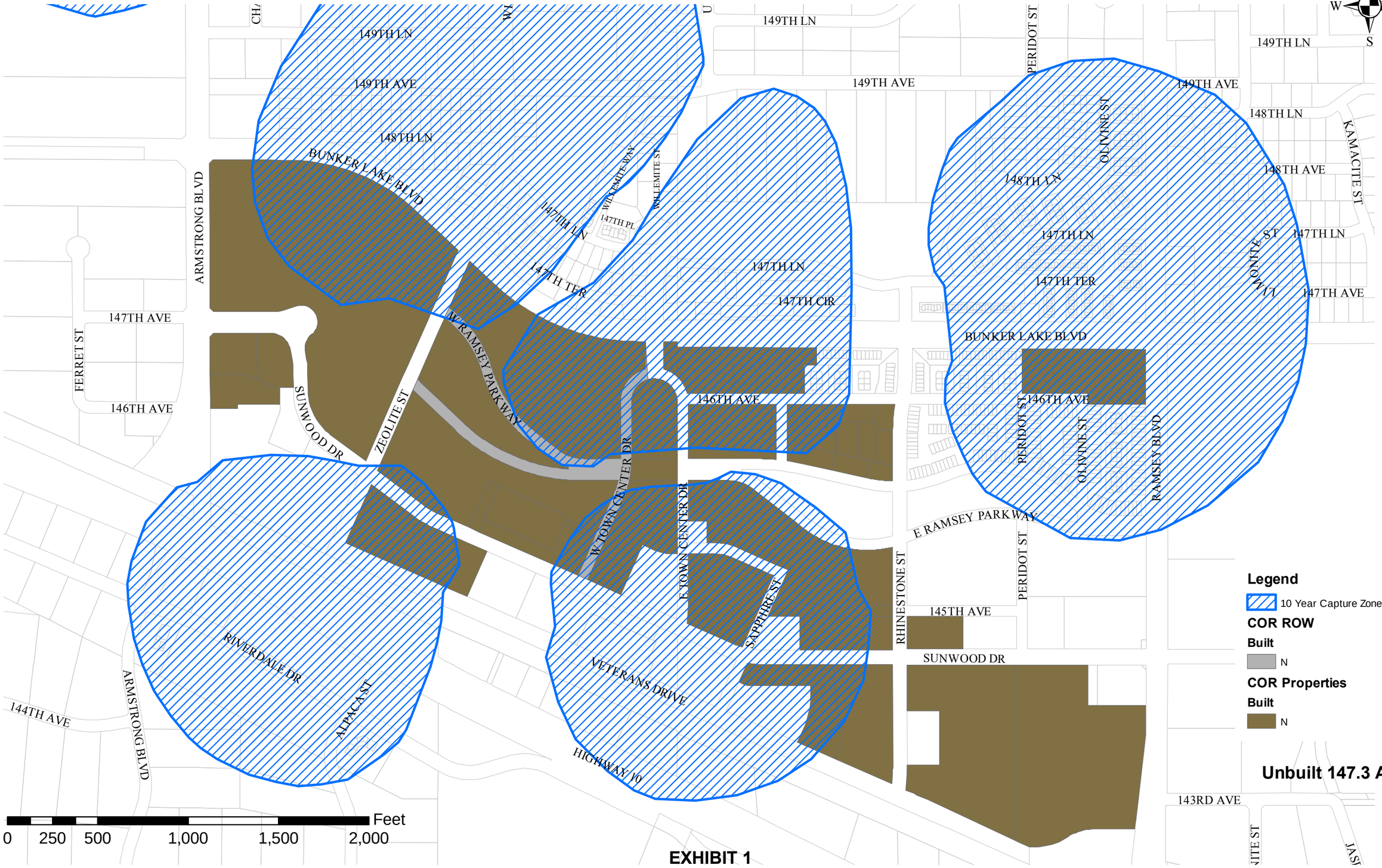


EXHIBIT 1

2018 COR Infiltration Exhibit

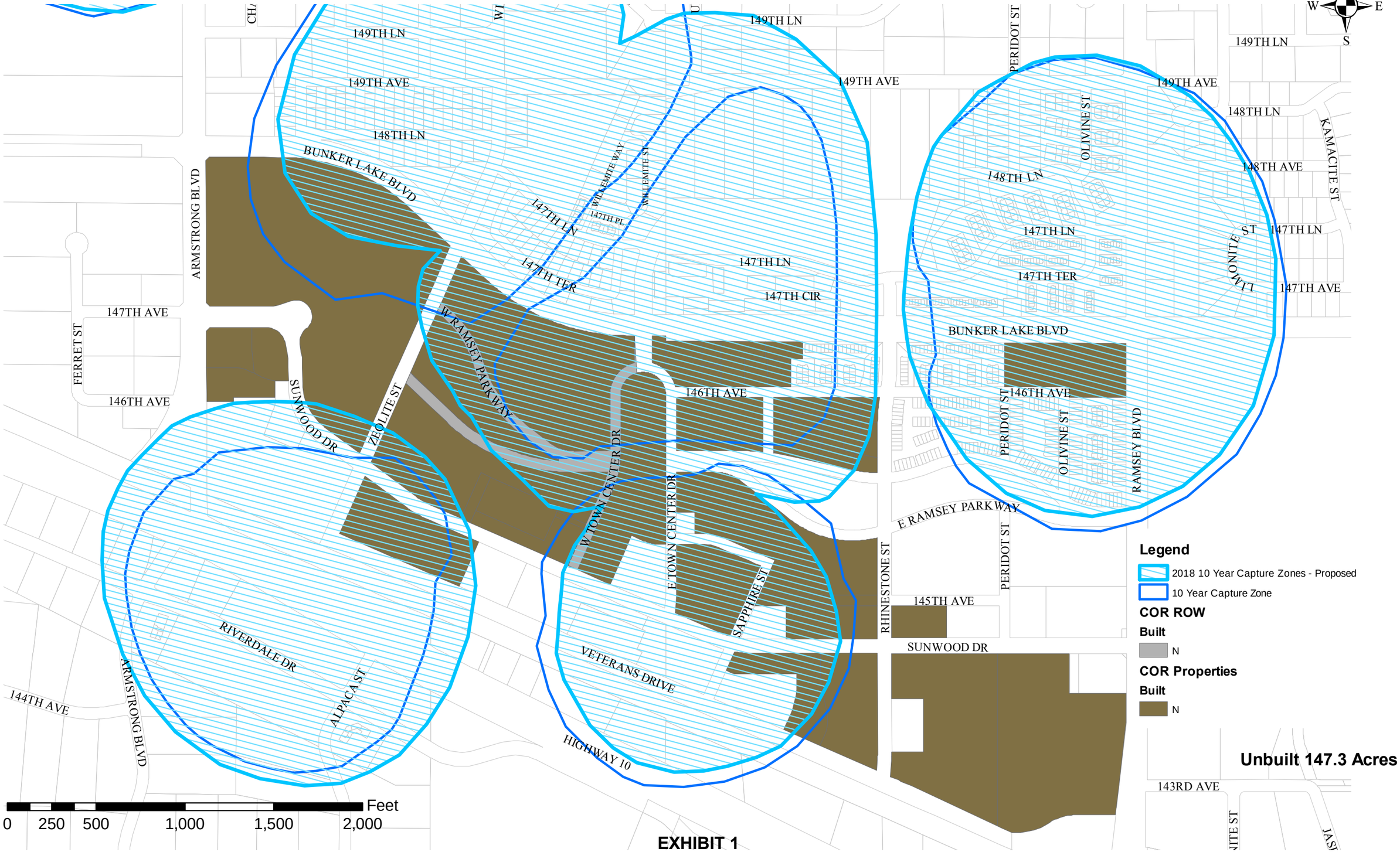
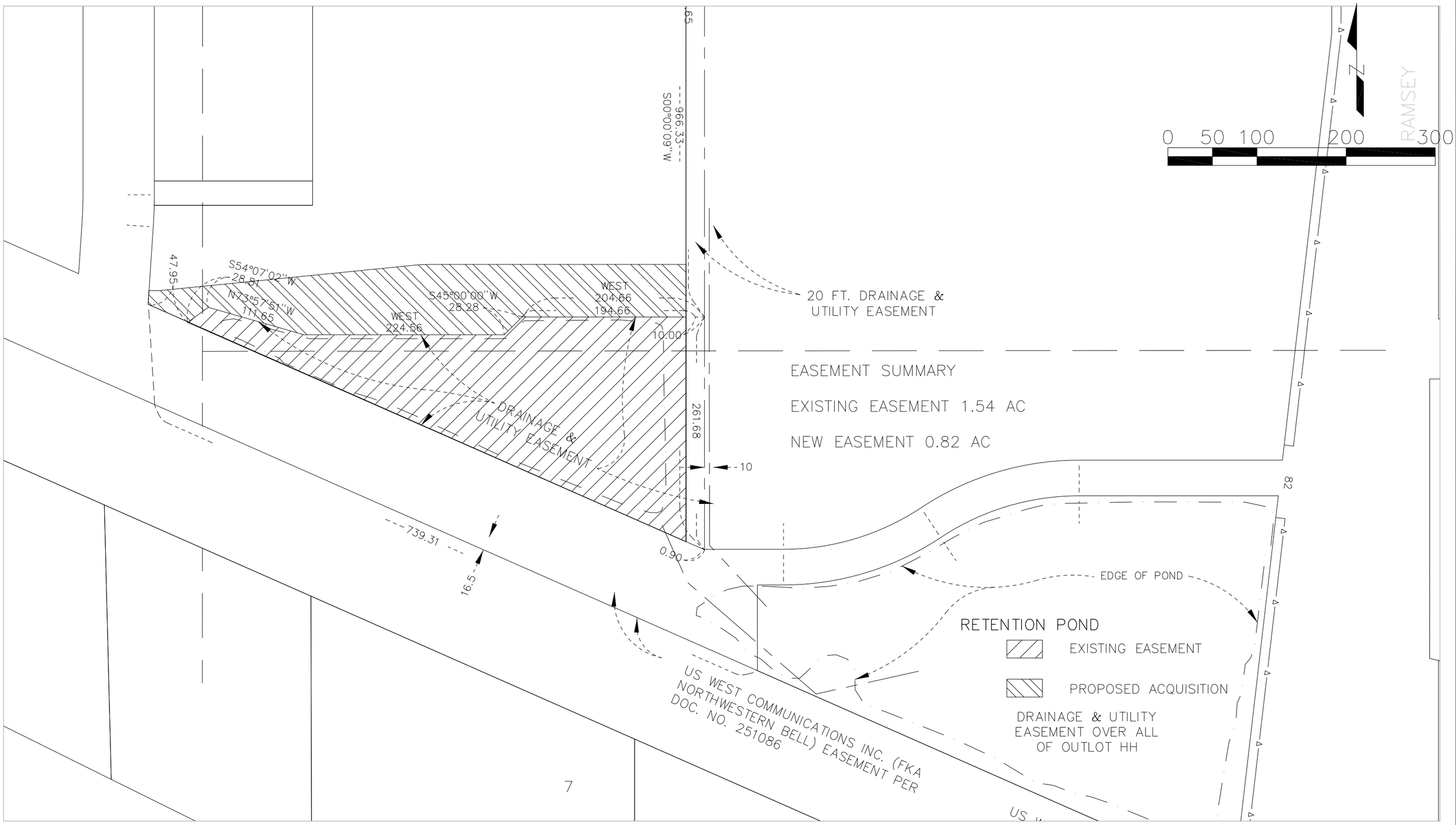


EXHIBIT 1



EASEMENT SUMMARY

EXISTING EASEMENT 1.54 AC

NEW EASEMENT 0.82 AC

DATE	REVISION

Mar 21, 2018 - 9:11am
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

LEONARD L. LINTON Date 3/21/18 Lic. No. 21112

DESIGNED BY:	LLL		
DRAWN BY:	LLL	DATE:	3/21/18
CHECKED BY:	LLL	FILE NO.	####

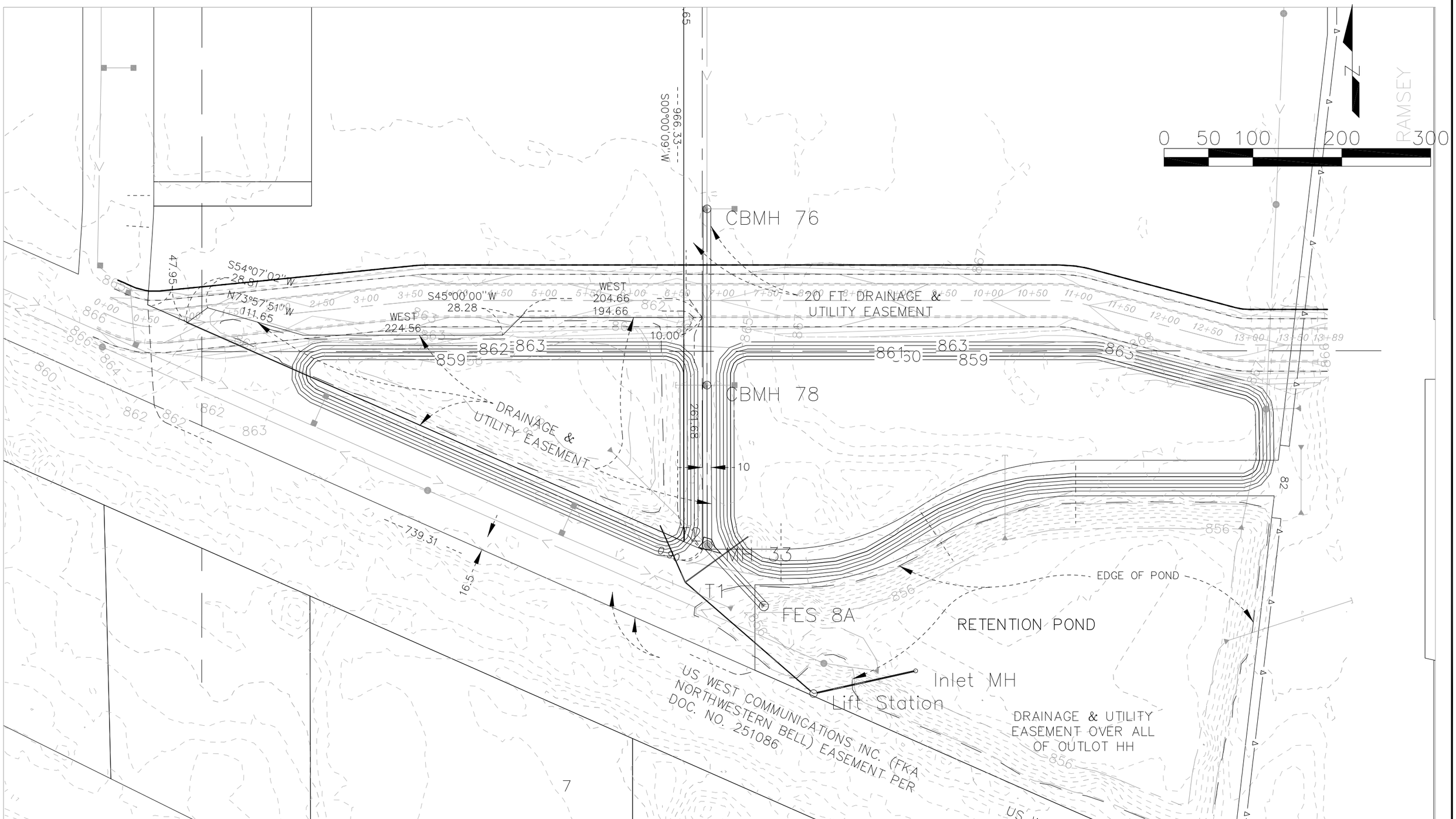
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

COR INFILTRATION PROJECT

EASEMENT EXHIBIT
RAMSEY CITY PROJECT NO. 18-09
CITY OF RAMSEY, MINNESOTA

SHEET 2 OF SHEETS



DATE	REVISION

Mar 15, 2018 – 2:00pm
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

LEONARD L. LINTON
Date 3/13/18 Lic. No. 21112

DESIGNED BY:	
LLL	
DRAWN BY:	DATE:
LLL	3/13/18
CHECKED BY:	FILE NO.
LLL	####

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

COR INFILTRATION PROJECT

INFILTRATION PONDS
RAMSEY CITY PROJECT NO. 18-09
CITY OF RAMSEY, MINNESOTA

SHEET 3 OF SHEETS

Our Mission: To work together to resposibly grow our community, and to provide quality, cost-effective, and efficient government services.

CC Regular Session **7. 8.**

Meeting Date: 03/27/2018

By: Colleen Lasher, Administrative Services

Information

Title:

Adopt Resolution #18-065 Appointing and Re-appointing Board and Commission Members

Purpose/Background:

The purpose of this case is to appoint and re-appoint members to the City's Boards and Commissions.

The City Council is responsible for appointing board and commission members to the Economic Development Authority, the Environmental Policy Board, the Park and Recreation Commission and the Planning Commission.

Staff conducted the annual boards and commissions recruitment process for terms beginning April 1, 2018. Vacancies were advertised in the Ramsey Resident, the Anoka County Union, on the City's website, on the City's community sign, on QCTV, on the City's Facebook, and via the City's email notification system.

Board or commission members with terms set to expire on March 31, 2018, were contacted and asked if they desired reappointment or not. If yes, each member submitted a letter of interest and the Chair, Vice-chair or senior member of the respective commission was invited to submit their recommendations.

The City Council reviewed the incumbents' materials and it was the consensus of the City Council to re-appoint the following incumbent members to new terms beginning April 1, 2018.

•Shane Bennett to the Park and Recreation Commission for a 4-year full term
•Randy Bauer to the Planning Commission for a 4-year full term
•Gary Van Scoy to the Planning Commission for a 4-year full term

Four new candidates were interviewed by City Council. By consensus, the City Council recommends the following individuals be appointed to the City's boards and commissions.

•Laura Moore to the Environmental Policy Board for a 4-year full term
•Daniel Onyambu to the Planning Commission for a 1-year partial term

Funding Source:

Funding for the City's boards and commissions is included in the 2018 General Fund Budget; therefore, there are no additional budgetary implications associated with making the recommended appointments.

Recommendation:

The following appointments are recommended: to the Environmental Policy Board, Ms. Laura Moore to a 4-year full term; and to the Park and Recreation Commission, Mr. Shane Bennett to a 4-year full term, and to the Planning Commission, Mr. Randy Bauer to a 4-year full term and Mr. Gary Van Scoy to 4-year full term and Mr. Daniel Onyambu to a 1-year partial term.

Action:

Motion to adopt resolution #18-065 appointing the following board and commission members, effective April 1, 2018:
1) to the Environmental Policy Board, Ms. Laura Moore to a term ending March 31, 2022; and
2) to the Park and Rec.Commission, Mr. Shane Bennett to a term ending March 31, 2022; and
3) to the Planning Commission, Mr. Randy Bauer to a term ending March 31, 2022; and
4) to the Planning Commission, Mr. Gary Van Scoy to a term ending March 31, 2022;and
5) to the Planning Commission, Mr. Daniel Onyambu to a term ending March 31, 2019.

Attachments

Resolution_18065

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	03/22/2018 02:49 PM
Form Started By: Colleen Lasher		Started On: 03/22/2018 10:07 AM
Final Approval Date: 03/22/2018		

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

RESOLUTION #18-065

RESOLUTION APPOINTING AND RE-APPOINTING BOARD AND COMMISSION MEMBERS

WHEREAS, there are open seats on the City's boards and commissions as of April 1, 2018; and

WHEREAS, the vacancies were advertised in the Ramsey Resident, the Anoka County Union, on the City's website, on the City's community sign, on QCTV, on the City's Facebook, and via the city's email notification system; and

WHEREAS, the City Council conducted interviews on March 20, 2018; and

WHEREAS, the City Council agreed by consensus to the following appointments to the boards and commissions, as follows:

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

Motion to adopt resolution #18-065 appointing the following board and commission members, effective April 1, 2018:

1) to the Environmental Policy Board, Ms. Laura Moore to a term ending March 31, 2022; and
2) to the Park and Rec.Commission, Mr. Shane Bennett to a term ending March 31, 2022; and
3) to the Planning Commission, Mr. Randy Bauer to a term ending March 31, 2022; and
4) to the Planning Commission, Mr. Gary Van Scoy to a term ending March 31, 2022;and
5) to the Planning Commission, Mr. Daniel Onyambu to a term ending March 31, 2019.

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 27th day of March, 2018.