City of Rosemount
2030
Comprehensive Plan

November, 2009

ROSEMOUNT
MINNESOTA

2030 COMPREHENSIVE LAND USE PLAN

May, 2009

ROSEMOUNT
MINNESOTA

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Table of Contents

CHAPTER 1: EXECUTIVE SUMMARY

The City of Rosemount adopted the *Rosemount 2020 Comprehensive Plan* (*2020 Plan*) on February 15, 2000. Realizing that the 2020 Plan was not addressing the level of residential development that the City was experiencing, the City began a major amendment to the Comprehensive Plan that was titled the *County Road 42-US Highway 52 Corridor Plan* (*42-52 Plan*). The *42-52 Plan* resulted in four major changes to the *2020 Plan:*

1. Residential development west of Akron Avenue;
2. A medium density residential land use category;
3. A commercial district at the County Road 42 and US Highway 52 interchange; and
4. Increased population and household forecasts by the Metropolitan Council.

The *42-52 Plan* was adopted by the City Council on July 19, 2005 by Resolution Number 2005-84. Since its adoption, the City has created an alternative urban areawide review (AUAR) for the residential areas north of Bonaire Path and east of Akron Avenue. In 2007, the City approved the first preliminary plat within the AUAR that included 50 acres of commercial property and 583 residential units. The City has used the planning work done during the *42-52 Plan* as the basis for the Land Use Plan of the 2030 Comprehensive Plan.

The City Council charged the Planning Commission (with important help from the other City committees, commissions, and the public) to create the Comprehensive Plan. To guide the creation of the Comprehensive Plan, the City Council determined nine over-arching goals.

Nine Over-arching Goals

1. Maintain a manageable and reasonable growth rate that does not adversely impact the delivery of services but allows the community to grow and become more diverse from now until 2030.

2. Preserve the existing rural residential areas designated in the Comprehensive Plan and increase housing opportunities in the community to attain a balance of life cycle housing options.

3. Promote commercial renewal and rehabilitation in the Downtown and along Highway 42 while accommodating new commercial development along appropriate transportation corridors such as Akron Avenue and County Highway 42; County Highway 46 and MN Highway 3; and County Highway 42 and US Highway 52.

4. Encourage additional high quality and tax base generating industrial development in the northeast portion of the community and within the Rosemount Business Park.

5. Preserve natural resources and open space within the community and ensure development does not adversely impact on-going agricultural uses until urban services are available.

6 Promote use of renewable resources by creating sustainable development and building green.

7. Collaborate and provide connections between the City and surrounding cities, townships, Dakota County and public and private schools in the area.

8. Work with the University of Minnesota to create a neighborhood that can successfully integrate into the community while achieving goals of health, energy, and education.

9. Collaborate and provide services (such as libraries, community center, senior center, etc.) to all groups of residents.

The Planning Commission conducted numerous public meetings throughout 2007 and 2008 to review the various issues addressed within the Plan. The Utility Commission created the Comprehensive Sewer and Water Plan. The Parks and Recreation Commission created the Parks and Open Space Plan. The Port Authority created the Economic Development chapter. To gather public input throughout the creation of the Comprehensive Plan, the City conducted six public open houses. At these open houses, specific issues were presented to the public and the public provided comments to guide the policies of the Comprehensive Plan. The dates of the six open houses and the topic discussed are listed below.

Public Open Houses

Date	Topic
April 10, 2007	Comprehensive Plan Kick-off Meeting
June 18, 2007	Rural Residential Northwest Rosemount
July 23, 2007	Parks and the Environment
October 9, 2007	Industrial East Side
January 10, 2008	Housing and Economic Development
April 3, 2008	Draft Comprehensive Plan

The 2030 Comprehensive Plan provides detailed descriptions of the goals of the City and its expectation of future development. The majority of these goals and expectations are similar to those as those expressed in the *2020 Comprehensive Plan* and the *42-52 Plan*. The 2030 Comprehensive Plan expands other previous plans in three major areas:

- No significant changes are proposed to the existing developed areas.
- Residential development is expected east of US Highway 52 after 2020.
- Additional detail is provided for the types of commercial development expected.

CHAPTER 2: COMMUNITY BACKGROUND

Rosemount History

The first settler of European ancestry was William Strathen who arrived in the Rich Valley of Rosemount in 1853 and claimed land within the northeast quarter of Section 13, which is located by the present day Flint Hills Refinery. Other settlers followed. The first religious service being conducted in 1854 by Reverend Kidder. Andrew Keegan, a surveyor , was the first postmaster 1855. In 1857, the Rich Valley post office was established, with C.H. Carr serving as postmaster.

In 1858, the Board of County Commissioners official designated Township 115 North, Range 19 West (the portion of the present City located west of US Highway 52) by the name Rosemount. The portion of the present City east of US Highway 52 was annexed by an act of legislation in 1871. The name Rosemount was chosen to honor a village in Ireland. A small school was also constructed in 1858.

In the 1860's, 52 men served in the Civil War. The Village of Rosemount was formally platted in 1866 by James A. Case and in 1867 the first grain elevator was constructed by the railroad.

The Village of Rosemount was incorporated in 1875 and the first town hall was constructed a year later.

The 1880's saw the Village of Rosemount became a viable business area. Many businesses opened and 2 story brick buildings were built. In 1881, Rosemount erected the first gas street lamps in the Downtown area.

The first school district building was built is 1896 and taught grades 1 through 8. In 1918, the first high school was built and taught grades 1 through 12. In 1922, the school had 50 high school students and began a football program. The high school building still exists today and is a part of the Rosemount Middle School complex on the northwest corner of 143rd Street West and South Robert Trail. Dakota County Technical College opened 1970 with the first graduating class in 1971.

Rosemount Middle School

With WWII in full swing, the War Department of the federal government, in 1942, acquired 11,500 acres of farmland within Rosemount and Empire Township for the construction of the Gopher Ordnance Works. The plant was built to produce white smokeless gunpowder.

At the end of the war, the government found the ordnance work unnecessary and sold some of the property to farmers, but the majority of the property was sold to the University of Minnesota for research. The property is currently called UMore Park, and is still owned and managed by the University.

Rosemount has a long and successful business history. The First State Bank of Rosemount was granted a charter in 1909. Rosemount Engineering was established in 1955 as a result of the aeronautical research conducted at the University research facilities. Rosemount Engineering first made total temperature sensors and eventually additional aeronautical components. Rosemount Engineering first relocated to Bloomington, then was renamed to Rosemount Inc. and it now operates worldwide. Brockway Glass, which was located east of South Robert Trail between Connemara Trail and Bonaire Path, began operation in 1961, but closed in 1984. The Harmony subdivision now exists at the former Brockway Glass site.

Great Northern Oil Refinery began construction in 1954 and began operation in September of 1955 at an operating capacity of 25,000 barrels per day. The refinery was purchased by Koch Industries in 1969 and renamed Flint Hills Resources in 2002. The crude oil processing capacity of the refinery in 2007 was about 320,000 barrels per day. The facility primarily refines Canadian crude into petroleum products such as gasoline, diesel, propane and butane.

The Township and Village of Rosemount merged in 1971 and the City Hall was moved to the 1300 block of 145th Street East, directly north of the Dakota County Technical College. In 1972, the first Comprehensive Plan and Zoning Ordinance were adopted. In 1975, Rosemount became a statutory city with a mayor-council form of government. In 1987, the current City Hall at 2875 145th Street West was constructed and in 1992, the Rosemount Community Center/National Guard Armory was built.

Rosemount Population and Resident Demographics

The City of Rosemount has experienced continual growth throughout its history. The City nearly doubled its population from 1990 to 2000, and is anticipated to double its population again from 2000 to 2010. The expected population for 2030 is 42,000, more than double the 2006 population estimate of 20,207.

i. Table 2.1: Population

Year	Population
1900	807 [a]
1950	1,375 [a]
1960	2,012 [a]
1970	4,034 [a]
1980	5,083
1990	8,622
2000	14,619
2010	23,750 [b]
2020	33,050 [b]
2030	42,000 [b]

[a] Combined Rosemount Village and Rosemount Township populations
[b] City of Rosemount forecast

The population of Rosemount is predominately young families. Table 2.2 shows that more than one third of the population is between 25 and 44, with an additional one quarter of the population being their school aged children. The population of retirement age is a small proportion of the City at approximately 5%, but their percentage of the total population is expected to increase over time as the existing population ages. This trend is shown by their share of the population increasing by 1.3% during the 1990s.

One age group that is consistently lower than the others is the number of college age adults within the community. One factor that causes this characteristic is the lack of four-year colleges in the area. High school students who graduate from Rosemount often leave the area to attend college. This is a concern to Rosemount if these young adults do not return to Rosemount after attending college. This trend is commonly referred to as a "brain drain" because the bright students taught at Rosemount High School end up living in other communities without returning the benefit of their quality education to the community.

These population trends are common of a growing suburban community.

ii. Table 2.2: Age Groups

Age Group	1990		2000	
Under 5 Years Old	939	10.9%	1,380	9.4%
School Age (5-17)	2,026	23.5%	3,751	25.6%
College Age (18-24)	808	9.4%	914	6.3%
Young Workers (25-44)	3,266	37.9%	5,332	36.5%
Mature Workers (45-64)	1,230	14.3%	2,458	16.8%
Retired and Semi-retired (65 and Older)	353	4.1%	784	5.4%
Total Population	8,622	100%	14,619	100%

Source: U.S. Census Bureau

Rosemount is a community of young families, as shown in Table 2.3 by its high average persons per household. In 2000, Rosemount's households averaged 3.08 persons per household, while in comparison Dakota County averaged 2.70 and Minnesota averaged 2.52 persons per household. As Rosemount's population ages, the average person per household is expected to decline, but the number is expected to remain higher than average as long as Rosemount remains a growing community.

iii. Table 2.3: Persons per Household

	1990	2000
Population in Households	8,613	14,609
Total Households	2,779	4,742
Average Persons per Household	3.10	3.08

Source: U.S. Census Bureau

Table 2.4 shows that Rosemount's households predominately have children with over 52% of households having children residing in the homes. This number is similar to the amount in 1990 when 54% of households that had children residing in the homes. This figure is expected to decline over time as the population ages and children grow up and move out to start their own families, but households with children will likely remain a significant portion of the population.

iv. Table 2.4: Household Type

Household Type	Total Number of Households		Households with Children		Households without Children	
	1990	2000	1990	2000	1990	2000
Families – Married	1,990	3,326	1,226	2,045	764	1,281
Families – Mother Only	283	430	234	329	49	101
Families – Husband Only	75	176	50	113	25	63
Total Families	2,348	3,932	1,510	2,487	838	1,445
Non-Family Households	428	810	N/A	76	N/A	734
Total Households	2,779	4,742		2,563		2,179

Source: U.S. Census Bureau

Rosemount has a highly educated population with almost 19 of 20 adults having high school diplomas in 2000. This is a significant increase from 1990 when less than 9 of 10 adults had high school diplomas. The number of college graduates has also increased significantly with almost 3 of 10 adults having a bachelor's degree in 2000, while less than 1 in 5 adults had degrees in 1990.

v. Table 2.5: Highest Level of Education[1]

	1990		2000	
No High School Diploma	495	10.2%	508	5.9%
High School Diploma	3,393	70.0%	5,573	64.8%
Bachelor's Degree	750	15.5%	2,000	23.3%
Graduate or Professional Degree	214	4.4%	518	6.0%

[1] Persons 25 years or older

Source: U.S. Census Bureau

Rosemount residents have relatively high incomes. The median family income in 2000 was $68,929 compared to median Minnesota family income of $56,874. The median Dakota County family income was slightly larger than Rosemount's at $71,062. The amount of Rosemount residents with incomes below the poverty line dropped from 5.0% in 1990 to 3.3% in 2000.

vi. Table 2.6: Income

	1990	2000
Per Capita Income	$14,931	$23,116
Median Household Income	$41,992	$65,916
Median Family Income	$43,726	$68,929
Percent of Individual below the Poverty Line	5.0%	3.3%

Source: U.S. Census Bureau

The amount of time that people spend in their cars traveling to work has increased. In 1990, nearly 70% of residents spent more than 15 minutes in travel time to work, with almost 30% of residents traveling more than 30 minutes. In 2000, over 74% of residents spent more than 15 minutes in travel time to work, with over 35% of residents traveling more than 30 minutes. Due to the increased congestion on roadways over the last two decades, this may not mean that Rosemount residents are working farther from home than in the past, but may mean that it is just taking residents longer to get to the same destination due to the increased congestion. This trend may continue in the future as congestion is expected to increase.

The number of Rosemount residents working from home in 2000 decreased both in number and percentage from 1990. This may partially have to do with the number of farms that have been developed during that period because farmers typically make up a large portion of the population who work from home. It is anticipated that the number and percentage of the population who work from home will increase in the future due to the advances in technology that may allow people to telecommute to work.

vii. Table 2.7: Travel Time to Work[1]

	1990		2000	
Work from Home	239	5.2%	176	2.3%
Less than 15 Minutes	1,171	25.5%	1,785	23.4%
15 to 29 Minutes	1,838	40.0%	2,949	38.6%
30 to 44 Minutes	967	21.0%	1,861	24.4%
45 Minutes or More	380	8.3%	863	11.3%

[1] Persons 16 years or older
Source: U.S. Census Bureau

CHAPTER 3: HOUSING

Rosemount Housing Characteristics

Rosemount has grown by 43% from 2000 to 2006. Rosemount has been stable in its housing growth with a vacancy rate of only 2.1% in 2000. Many of the residents of the new housing are young families, as depicted by the average household size of 3.08 persons per household, higher than the average household size of the entire Dakota County at 2.59 persons per household.

Rosemount has experienced significant levels of growth during the early 2000s, as shown by the continued increase in the number of building permits issued, from 285 residential building permits in 2000 to a high of 551 residential building permits in 2004. Growth in residential permits was also setting record numbers both regionally and nationally. Residential construction stayed steady in 2005 with 454 building permits, but building permits have significantly declined since 2006 due to the national decline in housing sales. Housing experts expect building permits to stay low while builders are selling excess inventory homes. Inventory homes are homes that were built without a homeowner by the developer on speculation that the housing market would continue to stay strong. It is anticipated the number of building permits will rise after the excess inventory homes are sold, but probably not returning to the record national levels of 2004. Rosemount expects an average of between 350 and 400 residential building permits between the period of 2007 to 2020.

viii. Table 3.1: Population and Households

Year	Population	Households
2000[a]	14,619	4,742
2001[b]	15,270	4,997
2002[b]	16,110	5,289
2003[b]	16,794	5,571
2004[b]	17,740	6,004
2005[b]	19,418	6,508
2006[c]	20,207	6,805
2007[c]	20,917	7,104

[a] U.S. Census Bureau as of April 1
[b] Metropolitan Council estimate as of July 1
[c] Metropolitan Council estimate as of April 1

ix. Table 3.2: Residential Building Permits

Year	Single Family Units	Multiple Family Units	Total Units
2000	130	155	285
2001	201	103	304
2002	181	149	330
2003	261	179	440
2004	300	251	551
2005	189	265	454
2006	100	124	224
2000-2006	1,362	1,226	2,588

Type of Housing

In 2000, Rosemount was predominately a community of single family houses. Multiple family housing primarily consisted of townhouses along 151st Street W; townhouses on the northeast corner of Biscayne Avenue and County Road 42; townhouses and apartments in the triangle formed by Dodd Boulevard, 145th Street W and Shannon Parkway; and the senior apartment building Downtown.

From 2000 to 2006, Rosemount has experienced near equal construction of single family and multiple family housing. In the last seven years, multiple family housing has consisted of townhouses within the Bloomfield neighborhood, along Chippendale Avenue south of County Road 42, or within a ½ mile of the intersection of Connemara Trail and South Robert Trail. High density housing consisted of the two 55-unit four story buildings of Bard's Crossing. Apartments have received preliminary approval within the Harmony neighborhood but have yet to be constructed.

x. Table 3.3: Type of Housing

	Single Family Units		Multiple Family Units		Total Units	
Year	Number	Percent	Number	Percent	Number	Percent
2000	3,757	77.6%	1,086	22.4%	4,843	100%
2007	5,119	68.9%	2,312	31.1%	7,431	100%

Tenure

Tenure is a term to describe the difference between a house that the owner resides in and a house that the owner rents to another family. Rosemount's tenure by housing type is projected to be single family homes consisting of 96% ownership and 4% rental, and multiple family homes consisting of 42% ownership and 58% rental.

xi. Table 3.4: Tenure per Type of Community

	Rental		Homeownership	
	Dakota County	Growth Communities[1]	Dakota County	Growth Communities[1]
Single Family	4.5%	3.7%	95.5%	96.3%
Multiple Family	51.8%	63.4%	48.2%	36.6%

[1] Growth Communities in Dakota County are Apple Valley, Farmington, Hastings, Lakeville and Rosemount

Census 2000 Tenure: 88.3% Homeownership and 11.7% Rental
Tenure of the 2000-2006 growth: 70.4% Homeownership and 29.6% Rental
2007 Tenure: 82.1 % Homeownership and 17.9% Rental
Tenure of the 2007-2030 growth: 65.0% Homeownership and 35.0% Rental
2030 Tenure: 72.8% Homeownership and 27.2% Rental

Condition of the Existing Housing Stock

Due to the significant growth that has occurred over the last three decades, the majority of the housing stock within Rosemount is relatively new. Only about 12% (898 units) of Rosemount's housing stock is over 35 years old, the age at which major maintenance efforts need to take place such as furnace or roof replacements. Over the next twenty years, the amount of houses over 35 years old will increase by about 1,800 homes. The City will need to monitor carefully the condition of the aging housing stock to ensure that it is maintained.

xii. Table 3.5: Age of Housing Unit

	Number	Percent
2000 – 2006	2,588	34.8%
1990 – 1999	2,139	28.8%
1980 – 1989	1,265	17.0%
1970 – 1979	541	7.3%
1960 – 1969	473	6.4%
Before 1960	425	5.7%

Housing on Individual Septic Systems

There are approximately 600 homes in Rosemount that are on their own individual septic system. Predominantly, these homes are located in the rural residential area in northwest Rosemount. Most of the rural residential area has lots that are 2.5 acres or larger, but there are a number of lots that are less than one acre in size. The 2.5 acre plus lots are large enough to provide multiple drain fields should any one system fail, but the lots less than one acre would have difficulty locating a secondary drain field should their existing septic system fail. The City would assist the neighborhoods with less than one acre lots to hook onto a municipal system should the neighborhood request the assistance.

Rosemount Senior Housing

In 2006, Rosemount had 410 senior focused units, ranging from the two 55-unit four story buildings of Bard's Crossing to the 150 detached townhouses units of Evermoor Crosscroft. 44 of the 410 units are owned by the Dakota County Community Development Agency as affordable senior housing. In addition, a 60-unit senior apartment building is planned within the Harmony neighborhood and 136 (67 detached townhomes and 69 tri-plex units) senior focused units are proposed within the Prestwick Place neighborhood.

Bards Crossing

Rosemount expects additional senior units to be constructed in the future as the baby boomers retire and current Rosemount residents age.

xiii. Table 3.6: Location of Senior Housing

Name	Location	Number of Units
Bard's Crossing	SW Corner of Connemara Trail and S. Robert Trail	110
Evermoor Crosscroft	Connemara Trail and Evermoor Parkway	150
Harmony Senior Housing[1]	NE Corner of Connemara Trail and S. Robert Trail	60
Rosemount Plaza	145th Street and Burma Avenue	21
Rosemount Plaza 2nd Add.	146th Street and Burma Avenue	39
Cameo Place	Cameo between 146th and 147th	44
Wachter Lake	Chippendale Avenue south of 150th (County Road. 42)	46

[1] Harmony Senior Housing has received Planned Unit Development approval but has not been constructed to date.

Affordable Housing

The Metropolitan (Met) Council estimated that there were 1,010 affordable housing units (14% of all units) within Rosemount in 2005. The Dakota County Community Development Agency (CDA) estimated that there were 298 affordable rental units within Rosemount in 2006, 44 of which are CDA owned senior units and 32 CDA owned family units. The Met Council determined Rosemount's share of the regional affordable housing need at 1,000 new affordable units between 2011 and 2020. Rosemount should be able to meet this need in cooperation with the CDA and the continued development of multiple family housing and small single family homes within planned unit developments (PUDs).

Projected Housing Growth

The Metropolitan (Met) Council projects that Rosemount will construct 3,500 additional housing units between 2010 and 2020. In 2005, the Dakota County Community Development Agency (CDA) hired Maxfield Research to create a Comprehensive Housing Needs Assessment for all of Dakota County. The Maxfield Research findings for Rosemount are provided on Table 3.7. These projections show an increasing percentage of multiple family homes over the next 25 years. This trend is consistent with the observation that communities develop with more density as they grow and land becomes more valuable. These Maxfield projections are used to construct the projected housing demand within Rosemount through 2030.

xiv. Table 3.7: Housing Growth Projections

	Dakota County Community Development Agency[1]					Met Council[2]
	Single Family		Multiple Family		Total	Total
	Number	Percent	Number	Percent	Number	
2000-2010	1,850-1,950	54%	1,515-1,680	46%	3,365-3,630	5,458
2010-2020	1,350-1,450	43%	1,765-1,945	57%	3,115-3,395	3,500
2020-2030	650-725	30%	1,545-1,670	70%	2,195-2,395	0
2000-2030	3,850-4,125	44%	4,825-5,295	56%	8,675-9,420	8,958

[1] Comprehensive Housing Needs Assessment for Dakota County, Minnesota (Nov. 2005) for the Dakota County Community Development Agency prepared by Maxfield Research

[2] Metropolitan Council 2030 Regional Development Framework – Revised Forecasts, January 3, 2007

Rosemount expects to construct 8,070 new housing units between 2008 and 2030. The breakout of the expected housing types constructed is 3,068 single family units; 3,774 townhomes; and 1,228 apartments units. The term "apartment" is used generally to apply to all multiple story residential buildings regardless of rental apartment units or ownership condominiums. The information on Table 3.8 will be used within the Land Use Element to determine the proper location of these additional housing units.

xv. Table 3.8: Additional Housing Units

	Single Family	Townhouses	Apartments	Total
2008-2010	318	194	108	620
2010-2020	1,640	1,760	350	3,750
2020-2030	1,110	1,820	770	3,700
2008-2030	3,068	3,774	1,228	8,070

Housing Element Goals and Policies

1. **Design subdivisions to create independent neighborhoods.**
   A. Facilitate neighborhood planning for improvements which reinforce neighborhood unity, safety, and identity.
   B. Natural corridors or buffer yards shall be utilized along boundaries of dissimilar housing types and densities by maximizing the use of existing landforms, open space, and vegetation to enhance neighborhood identity and integrity.
   C. All transitional residential areas shall provide a unique urban/rural character with a mixture of housing types, but with a relatively low average net density of 2.0 dwelling units per acre, with a lower density along areas guided for rural residential use.
   D. Encourage the use of planned unit developments to protect and enhance natural features, open space, and to provide appropriate neighborhood transitions.

2. **Provide recreational opportunities within and between neighborhoods.**
   A. Implement the Parks System Plan when locating parks and recreational facilities within neighborhoods.
   B. Incorporate pedestrian-friendly neighborhoods with sidewalks and trails as important design elements.
   C. Provide pedestrian and recreational trail connections with the adjacent land uses.
   D. Trails shall be planned to connect public areas and create pedestrian pathways within natural corridors.
   E. Design medium density housing with private amenities and open space for the residents of the medium density housing.

3. **Design neighborhoods to incorporate the existing environment and natural resources.**
   A. Streets shall be designed to follow the natural contour of the property and shall provide necessary vehicle connections throughout the geographic area.
   B. Steep slopes shall be protected from development.
   C. Development near wetlands and woodlands shall follow the Wetland Management Plan and Tree Preservation Ordinance to ensure their preservation/protection and incorporation into the natural landscape design of each development.
   D. Clustering of housing units shall be designed into planned unit developments and the transitional residential area to conserve the land's natural resources.

4. **Provide a mixture of rental and home ownership opportunities to provide life cycle housing.**
   A. Encourage the construction of a variety of single family home sizes and styles to increase home ownership opportunities.
   B. Encourage the development of owner occupied medium density housing.
   C. Provide ownership opportunities for seniors with access to transit and public/institutional facilities.
   D. Provide rental opportunities for young adults and recent college graduates returning to Rosemount.
   E. Provide an opportunity for student housing near Dakota County Technical College.
   F. Implement a rental inspection program to ensure that properties are maintained.

5. **Locate the different housing styles within the appropriate areas.**
   A. Disperse medium density residential throughout the community to avoid entire neighborhoods of medium density residential.
   B. Disperse high density residential in appropriate areas throughout the community to avoid entire neighborhoods of high density residential.
   C. Locate high density residential with access to the collector and arterial street network.
   D. Locate high density residential in conjunction with Downtown and the commercial areas along County Road 42 to create mixed use neighborhoods and transit oriented districts.
   E. Provide opportunities for seniors to live near their children and families.

6. **Provide workforce and affordable housing opportunities through cooperative effort with other agencies.**
   A. Work with the Dakota County Community Development Agency (CDA) and other state and federal agencies to provide workforce and affordable housing opportunities.
   B. Work with Habitat for Humanity and similar organizations, along with Dakota County Community Development Agency (CDA) and other state and federal agencies, to provide affordable housing opportunities and to redevelop and rehabilitate older homes in the City.

7. **Maintain the rural character of northwest Rosemount.**
   A. Discourage the placement of structures on top of exposed ridge lines.
   B. Allow clustering where natural areas and active agriculture can be retained.
   C. Maximize the retention of vegetation, maintain natural landforms, and minimize lawn areas.
   D. Define, during the platting process, building envelopes that avoid the location of structures in areas needing to be preserved.
   E. Protect open space or conservation areas with conservation easements. These tools are intended to be used for environmental and scenic resource protection, not public access.

CHAPTER 4: ECONOMIC DEVELOPMENT

Rosemount Employment Base and Resident Employment

Rosemount is uniquely situated in the Twin Cities with the four lane, north to south running, US Highway 52 connecting Rosemount with the Minneapolis St. Paul Airport and downtown St. Paul; the four lane, east to west running, County Road 42 connecting Rosemount to Hastings and Burnsville and connecting to the major routes leading into downtown Minneapolis; and the Mississippi River on Rosemount's northeast boundary, including three barge terminals. The location of Rosemount's economic base is also uniquely situated compared to its population base. The majority of Rosemount's households are located in the western third of the City, while Rosemount businesses, industry, and institutions are spread through the community. Taking advantage of these economic development opportunities during the next 20 years will be the purpose of the Economic Development Element of the Comprehensive Plan.

Table 4.1 shows the ten businesses and institutions that employ the most workers within Rosemount. Two of the top three employers are the educational institutions of Independent School District #196 and Dakota County Technical College. It will be important for Rosemount to maintain cooperative relationships with these institutions, not only because of their importance as employers within the City, but also to ensure that their education programs prepare trained workers for current and future Rosemount businesses. Table 4.1 also shows that seven of the remaining eight employers are manufacturing or industrial in nature. This illustrates the importance of industrial business for employment within the community, but also should caution the City that Rosemount is currently dependent on one sector of the economy. Rosemount should encourage additional retail commercial and professional office commercial into the community to provide balance to the economic landscape.

xvi. Table 4.1: Rosemount Top Ten Employers in 2007

	Product or Service	Employees
Flint Hills Resources	Oil Refining	850
Independent School District #196	Education	767
Dakota County Technical College	Education	300
Cannon Equipment	Metal Manufacturing	150
Wayne Transports	Trucking	140
Webb Properties, LLC	Advertising	131
Spectro Alloys	Aluminum Smelting	109
Endres Processing	Recycled Food Products	90
Greif Brothers Paper	Multiwall Bags	85
City of Rosemount	Municipal Government	80

Source: City of Rosemount

Table 4.2 shows that 7,929 Rosemount residents were employed in 2004 while there were only 6,144 jobs offered by the businesses within Rosemount, which results in almost 1,800 people required to leave Rosemount to find employment. In looking at the various industries in which residents are employed, the disparity between where residents work and what employment opportunities are available in Rosemount is most prevalent in four industries: Wholesale Trade; Transportation, Warehousing and Utilities; Finance, Insurance and Real Estate; and Professional, Scientific, Management and Administration.

Within the wholesale trade industry, there are 1,639 Rosemount residents employed while there are only 221 jobs available within the City, creating an employment pool of 1,418 workers. Table 4.3 shows the average yearly wage in Rosemount for a worker in wholesale trade is $45,335, while the metro area average yearly wage is $62,299. Wholesale trade businesses would typically be located within the business park and industrial/mixed use land use designations of the Comprehensive Plan.

Within the transportation, warehousing and utility (transportation) industry, there are 555 Rosemount residents employed while there are only 236 jobs available within the City, creating an employment pool of 319 workers. Table 4.3 shows the average yearly wage in Rosemount for a worker in transportation is $48,675, while the metro area average yearly wage is $51,490. Transportation businesses would typically be located with the general industrial land use designations of the Comprehensive Plan. It should be noted that Rosemount currently has a significant amount of transportation businesses in town that have some less desirable land use characteristics, such a low employee to land area ratio and high demand for outdoor storage.

Within the finance, insurance and real estate (FIRE) industry, there are 1,034 Rosemount residents employed while there are only 110 jobs available within the City, creating an employment pool of 924 workers. Table 4.3 shows the average yearly wage in Rosemount for a worker in FIRE is $32,261, while the metro area average yearly wage is $74,294. FIRE businesses would typically be located with the commercial or corporate campus land use designations of the Comprehensive Plan.

Within the professional, scientific, management and administration (professional) industry, there are 517 Rosemount residents employed while there are only 231 jobs available within the City, creating an employment pool of 286 workers. Table 4.3 shows the average yearly wage in Rosemount for a worker in a professional field is $30,894, while the metro area average yearly wage is $58,288. Professional businesses would typically be located with the commercial, corporate campus or business park land use designations of the Comprehensive Plan.

The City should recruit businesses in the wholesale trade, FIRE and professional industries to locate within Rosemount, while providing land for additional warehousing and utility businesses. There is a significant amount of Rosemount residents employed in these fields from which new businesses could draw their employees. The establishment of these businesses would create jobs that can support households and provide a market for other local businesses.

xvii. Table 4.2: Comparison of Employees to Employers within Rosemount in 2004

	Rosemount Residents Employed by each Industry	Number of Employees in Rosemount Businesses by Industry	Deficiency of Jobs within Rosemount to match Resident's Place of Employment
Agriculture, Forestry, Fishing, Hunting and Mining	26	32	-6
Construction	715	811	-96
Manufacturing	1,246	1,264	-18
Wholesale Trade	1,639	221	1,418
Retail Trade	191	325	-134
Transportation, Warehousing and Utilities	555	236	319
Information	107	75	32
Finance, Insurance and Real Estate	1,034	110	924
Professional, Scientific, Management and Administrative	517	231	286
Educational, Health and Social Services	1,103	2,240	-1,137
Arts, Entertainment, Recreation and Food Service	427	439	-12
Other Services (Except Public Administration)	141	117	24
Public Administration	228	43	185
	7,929	6,144	1,785

Source: Minnesota Department of Employment and Economic Development and US Census Bureau

xviii. Table 4.3: Rosemount Industries in 2004

	Establishments	Employees	Total Wages	Average Weekly Wage	Average Yearly Wage
Agriculture, Forestry, Fishing, Hunting and Mining	4	32	$1,846,751	$1,127	$57,711
Construction	59	811	$46,605,926	$1,105	$57,467
Manufacturing	23	1,264	$89,294,259	$1,359	$70,644
Wholesale Trade	23	221	$10,019,071	$871	$45,335
Retail Trade	34	325	$7,118,038	$422	$21,902
Transportation, Warehousing and Utilities	14	236	$11,487,253	$936	$48,675
Information	6	75	$2,210,703	$564	$29,476
Finance, Insurance and Real Estate	30	110	$3,548,670	$620	$32,261
Professional, Scientific, Management and Administrative	68	231	$7,136,551	$594	$30,894
Educational, Health and Social Services	39	2,240	$74,420,020	$639	$33,223
Arts, Entertainment, Recreation and Food Service	32	439	$4,450,177	$195	$10,137
Other Services (Except Public Administration)	28	117	$2,340,009	$384	$20,000
Public Administration	3	43	$2,279,736	$1,020	$53,017
	363	6,144	$262,757,164	$822	$42,766

Source: Minnesota Department of Employment and Economic Development

Rosemount Port Authority

In 1979, the City of Rosemount established the Rosemount Housing and Redevelopment Authority (HRA) which conducted a number of projects, most notably the Rosemount Plaza block located southeast of the intersection of 145th Street West and South Robert Trail. In 1991, the City converted the HRA into the Rosemount Port Authority for the purpose of undertaking housing, economic development and redevelopment activities within the City. The Port Authority has seven members consisting of the Mayor, three City Council members, and three appointed residents.

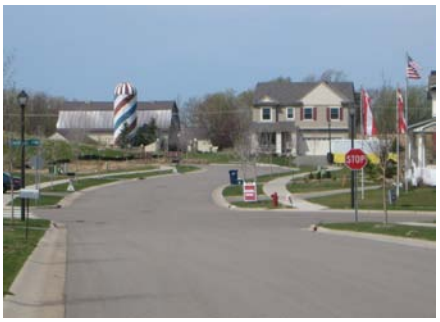
The Port Authority sets the economic development policy for the City, acquires and demolishes buildings on blighted and underutilized land for redevelopment, and recruits new businesses to locate within Rosemount, among many other responsibilities. Many of the programs described within the Economic Development Element, such as Downtown Redevelopment and the establishment of the Rosemount Business Park, have been or are being accomplished through the work of the Port Authority. The Port Authority is responsible for implementing the Goals and Objectives of the Economic Development Element, as well as continuing to monitor the economic health of the City while recruiting new businesses and encouraging the growth of existing businesses.

Downtown Redevelopment

The City of Rosemount adopted a redevelopment plan for downtown Rosemount in 2004 entitled the *Development Framework for Downtown Rosemount*. The *Framework* covers the properties in the historic Downtown, roughly described as the blocks on both sides of South Robert Trail from 143rd Street West on the north to approximately 148th Street on the south. The *Framework* addresses eight focus areas within Downtown: St. Joseph's Church, Crossroads North; Crossroads South; Core Block West; Core Block East; Legion Block; Genz-Ryan; and Fluegel's.

To help accomplish the Downtown redevelopment, the City has established the Downtown-Brockway Redevelopment Tax Increment Financing (TIF) district. The TIF district uses the increased tax income (also known as tax increment) from the former Brockway Glass factory redevelopment into the Harmony residential neighborhood to pay for t he land acquisition, land clearing, and infrastructure costs associated with Downtown redevelopment.

Brockway Glass Factory



Harmony Neighborhood

TIF funds have been instrumental in land assembly in Core Block East and will be used for infrastructure and parking space construction for the proposed redevelopment.

The City has received almost $1.6 million from the Metropolitan Council's Livable Community Demonstration Account (LCDA) grant for land acquisition costs and infrastructure improvements for the Core Block East project. The Core Block East project is a three story mixed use building with 106 apartment units and 12,000 square feet of commercial space on the South Robert Trail frontage and is being developed by Stonebridge Development and Acquisition. The Dakota County Community Development Agency (CDA) is providing bonding for the project with the requirement that 20% (21 units) of the 106 units will be affordable from persons making less than 50% of the metro area median income. Additional LCDA and CDA grant opportunities will be explored as future downtown redevelopment projects are proposed.

Core Block East, May 2008

Rosemount Mixed-Use Development
Northwest Pespective

The City owns the former Genz-Ryan property located on the west side of the 14700 block of South Robert Trail. The property is currently used as short term office and storage space for numerous businesses within Rosemount. The *Framework* development concept for this block is for new office commercial space. The City has, and will continue to, solicit requests for proposals (RFPs) for the redevelopment Genz-Ryan block.

St. Joseph's Church

The City has been active in the redevelopment of other focus areas to improve the lifestyle and work setting of downtown Rosemount. The City has purchased the former St. Joseph's Church and School. The church has since moved to the southeast corner of Biscayne Avenue and Connemara Trail, and the school moved to the campus in 2009. The City gave the south half of the old St. Joseph's campus to Dakota County for the construction of the Robert Trail Library. The existing church and school building are planned to be converted into a multiple use community space, such as a senior, teen, and cultural center. In addition, the City has applied for federal SAFETYLU funds for the construction of a park and ride or transit station in the location of the Legion focus area.

Robert Trail Library

The City has established the Downtown Code Improvement Program that provides grant funding for improvements to bring the existing downtown buildings into compliance with the building code. The program is available to any business or property owner whose building is listed within the *Framework* and is making exterior and façade improvements to the building in accordance with the *Downtown Rosemount Design Guidelines*. To encourage the reinvestment in the façade improvements, business and property owners who pay with their own funds for the façade improvement can request grant funds to pay for code improvements to their building.

Business Recruitment, Assistance, and Retention

The City participates in the Twin Cities Community Capital Fund (TCCCF), which is a cooperative venture by numerous metropolitan cities and development financing organizations. Through the TCCCF, revolving loan funds and other economic development funds are pooled together to have the ability to issue larger loans and funding than what would be available independently. Loans, with participation from a financial institution, generally range from $50,000 to $1,000,000 for fixed assets, including land and building purchase, building construction, leasehold improvements and renovations, acquisition, renovation or moving machinery and equipment.

The City advertises the economic development opportunities available through a number of mechanisms including direct mailings to business and commercial brokers; advertisements in trade journals; CD and paper newsletters containing recent growth statistics and available commercial space; and video presentations of the City's economic development programs. In addition, the City has solicited for a number of RFPs for projects such as Core Block East and Genz-Ryan.

The City's relationships with the educational institutions within Rosemount, such as Rosemount School District #196 and Dakota County Technical College, and the greater region, such as Inver Hills Community College and the University of Minnesota, are important for business recruitment and the health of the local economy. Businesses that are looking to locate within Rosemount have concerns that there is an existing base of well educated employees to recruit from, as well as local educational institutions that have training programs to create new worker and provide continuing training and education to existing employees. It is important for Rosemount to work with the local educational institutions to ensure that their training programs will support needs of the existing businesses within Rosemount and provided a well educated employee pool for future businesses to draw from.

Rosemount Business Park

The City has established the Rosemount Business Park, which contains about 280 acres of contiguous land roughly bounded by County Road 42 to the north, a line one quarter of a mile north of County Road 46 to the south, Biscayne Avenue to the east, and the Union Pacific rail line and South Robert Trail to the west. The Rosemount Business

Park was initiated with the City purchasing the northern 80 acres of the business park and establishing a TIF district to provide the initial infrastructure to the park. The original 80 acres have since been developed with seven new buildings housing businesses such as Webb Advertising, Cannon Equipment, and Associated Wood Products. In 2005, the TIF district was retired and the remaining 195 acres of the business park will be developed with private financing.

Retail Commercial

The City currently has about 100 acres of land developed with retail commercial uses. The retail businesses are predominately located either in downtown Rosemount or in a district west of South Robert Trail and south of County Road 42. The retail businesses are predominately small service retail businesses, several restaurants, and two grocery stores. The vacant retail commercial space in town is located within several Downtown buildings, small portions of newly constructed multiple tenant commercial strips, and the former Knowlan's grocery store.

There are no general merchandise, home improvement, or other types of big box stores in Rosemount. For this reason, most Rosemount residents are required to leave the City to fulfill their daily or weekly shopping needs, typically to the communities to the west and north, such as Eagan, Apple Valley, Burnsville, and Lakeville. Recent efforts to solicit big box businesses to Rosemount have been unsuccessful for a number of reasons, but businesses most commonly cited the lack of direct controlled access to major roads and the lack of residential households. Nearly 9,000 additional households are expected to be constructed by 2030, which is an increase of 120% over the nearly 7,500 households within Rosemount today. The Land Use Element of the Comprehensive Plan should consider locating future retail commercial land uses near these new households and adjacent to controlled accesses to major roads.

Office Commercial

Rosemount has minimal office space, with the current office supply normally occupied with either professional office, such as dentists or insurance agents, or associated with existing manufacturing or industrial businesses. In 2007, a 25,000 square foot multiple tenant office building was constructed on the southeast corner of Chippendale Avenue and Carrousel Way. The only other significant office construction in Rosemount during 2007 occurred in conjunction with the maintenance shop expansion at Flint Hills Resources.

As shown in Table 4.3, there are over 1,000 Rosemount residents who are working in the finance, insurance, and real estate (FIRE) field, while Rosemount FIRE businesses employ only 110 people. This deficiency of about 900 residents who need to leave Rosemount to work in the FIRE field would indicate that there is a need for additional office space within Rosemount. Table 4.3 also shows a deficiency of almost 300 residents who need to leave Rosemount to work in the professional, scientific, management, and administrative field. The Comprehensive Plan should designate commercial and corporate campus land not only to support independent stand-alone office buildings, but also to ensure the ability to provide office space needed in conjunction with manufacturing and industrial businesses as well.

Industrial

Rosemount has a long history of industrial development, from manufacturing facilities near the Downtown, such as Greif Paper and the former Brockway Glass factory, to heavier industrial on the east near US Highway 52, such as Flint Hills Refinery (formerly known as the Great Northern Oil Refinery and the Koch Refinery), Continental Nitrogen, and CF Industries. More recently, junk car parts and propane storage industrial development has occurred near the intersection of South Robert Trail and County Road 46; office/warehouse and manufacturing industrial within the Rosemount Business Park; trucking terminals near the interchange with US Highway 52 and County Road 42; and smelting and food recycling businesses along Minnesota Highway 55.

Flint Hills Resources

Rosemount has become increasingly concerned about its image within the region due to the heavy industrial uses on the east side of Rosemount and the proliferation of low tax base industrial sites requiring large amounts of outdoor storage, such as truck terminals and junk car parts providers. Within the last five years, the City has changed its general industrial zoning to limit the amount of outdoor storage and require a minimum building size and has implemented a heavy industrial zone that will allow the existing heavy industrial uses to invest in their businesses but discourage a proliferation of new heavy industrial uses.

While Rosemount is discouraging new heavy industrial or other industrial businesses that require significant amounts of outdoor storage, Rosemount does encourage new manufacturing, warehousing, and trade industrial businesses to locate within Rosemount. These businesses bring jobs that can support an entire family while providing a significant industrial property tax base. In addition, Table 4.3 shows that more than 1,400 Rosemount residents in the wholesale trade field need to leave Rosemount to work everyday, as well as over 300 people in the transportation, warehousing, and utility fields. Providing sufficient business park and industrial/mixed use land within the Comprehensive Plan would allow these businesses to locate within Rosemount.

UMore Park

The University of Minnesota owns about 5,000 contiguous acres of land, 3,000 acres of which is located in southern Rosemount and 2,000 acres of which are located in northern Empire Township. The University currently uses the land as a research farm named the University of Minnesota Outreach, Research and Education (UMore) Park. Within this Comprehensive Plan, UMore Park will continue to be designated as Agricultural Research, but the University has begun planning efforts to evaluate the possible development of a mixed use, full service community.

For the first step of the planning process, the University hired Sasaki and Associates to develop the *UMore Park Strategic Plan*. The plan that Sasaki generated proposes a community of 16,000 households mixed in with retail commercial, employment centers, and institutional uses. The Sasaki plan calls for approximately 2,500,000 square feet of commercial and industrial (500,000 square feet of retail, 1,000,000 square feet of office, and 1,000,000 square feet of industrial) development, mostly located on the eastern third of UMore Park.

The University has initiated the second phase of the planning by hiring Design Workshop, based in Denver, Colorado, to construct a design guidebook to facilitate the development of the mixed use community. The City is working in cooperation with the University and the other interested parties to ensure that the plans for the development of UMore Park are compatible with the goals of the Comprehensive Plan. This work will not be completed in time to be submitted with this Comprehensive Plan. Before the University chooses to proceed with development, the City will submit a Comprehensive Plan amendment and required environmental review documents covering the proposed development for approval by the Metropolitan Council and other applicable agencies. The City shall determine the appropriate environmental review process based on the magnitude of the development, the potential impacts, and State agency guidance on the appropriate level of review.

Fiscal Disparity

In the seven county Twin Cities metropolitan (metro) area, the tax base gained from new commercial or industrial growth is shared by the entire metro area, not solely by the community in which the economic development occurs. This commercial and industrial (C/I) tax base sharing program is called fiscal disparity. Since 1971, 40% of the tax base of any new C/I development is taken from the local community and given to a common metro area pool. This common pool is then redistributed to all the communities based on their total tax base (commercial, industrial, residential, and agricultural). Essentially, fiscal disparity takes tax base from communities that have seen significant economic development since 1971 and gives it to communities in which post-1971 commercial/industrial development is a small percentage of their total tax base. Various justifications are given for this program, most notably to discourage individual communities from competing for the same new businesses.

Fiscal disparity generally takes C/I tax base from the first and second ring suburbs along the I-494 and I-694 strip that have seen significant growth since 1971 (Bloomington, Minnetonka, Eagan) and gives it to the inner cities that had significant C/I tax base before 1971 (Minneapolis and Saint Paul) or to suburban communities that have lower levels of C/I tax base compared to their total tax base (Cottage Grove, Apple Valley, Prior Lake). Table 4, attached to this executive summary, shows that Minnetonka lost $6.8 million in tax base while Saint Paul gained $19 million and Cottage Grove gained $2.1 million in tax base due to fiscal disparity. Rosemount is affected fairly neutrally by fiscal disparity, receiving only about $100,000 in tax base.

xix. Table 4.4: Fiscal Disparity of Select Cities Payable in 2006

	Pre-1971 C/I Tax Base	Post-1971 C/I Tax Base	Total 2006 Tax Base	2004 Population	Fiscal Disparity Tax Base Adjustment	Post-1971 C/I Tax Base as a percentage of Total 2006 Tax Base
Prior Lake	$278,935	$1,328,800	$22,294,144	21,156	$1,360,601	5.96%
Cottage Grove	$537,275	$3,721,645	$28,043,619	31,774	$2,118,313	13.27%
Lakeville	$1,215,214	$8,574,915	$55,545,397	49,097	$1,277,635	15.44%
Apple Valley	$1,113,396	$8,269,598	$52,279,631	48,875	$1,434,275	15.81%
Rosemount	$702,215	$3,929,398	$21,645,806	17,740	$101,288	18.15%
Saint Paul	$25,299,251	$42,687,458	$224,854,823	287,410	$19,039,665	18.98%
Minneapolis	$56,441,944	$81,946,785	$387,469,064	382,400	$6,799,501	21.15%
Minnetonka	$3,361,788	$25,599,440	$90,431,553	51,480	-$6,851,418	28.30%
Eagan	$2,654,377	$25,160,598	$85,077,507	65,764	-$4,186,797	29.57%

Source: Minnesota House of Representatives Research Department

Economic Development Element Goals and Policies

1. Provide local shopping opportunities for residents to purchase their daily and weekly needs within Rosemount.

a. Work with the Dakota County Regional Chamber of Commerce to recruit more retail commercial businesses to locate within Rosemount.
b. Provide retail commercial land adjacent to planned controlled accesses onto major roads.
c. Provide retail commercial land near existing and planned households.
d. Continue to use the Downtown Code Improvement Plan, Twin Cities Community Capital Fund, and similar programs to assist businesses to improve existing retail commercial buildings.
e. Continue to actively market Rosemount to commercial brokers and retail businesses through the Rosemount marketing strategy to expand the retail opportunities within the City.

2. Expand Rosemount's employment base to provide jobs that can support an entire household.

a. Provide office commercial land to support businesses with the financial and professional fields.
b. Provide additional light industrial land to support wholesale trade, warehousing, and utility businesses.
c. Work cooperatively with the Dakota County Technical College, Rosemount School District #196 and other educational institutions within Dakota County to train workers with the skills needed for existing and future Rosemount businesses.
d. Pursue outside funding sources to develop or redevelop land for commercial and industrial uses, such as Metropolitan Council Livable Communities Demonstration Account and Tax Base Revitalization Account, Dakota County Community Development Agency, Minnesota Department of Employment and Economic Development, and other applicable grants.

e. Continue to actively market Rosemount to commercial brokers and appropriate businesses through the Rosemount marketing strategy to recruit businesses that provide wages to support an entire household.

3. Expand Rosemount's employment base to provide employment opportunities for all residents.

a. Provide land that would support a variety of commercial and industrial businesses to ensure a sufficient mix of employment opportunities for all skilled Rosemount residents.
b. Work cooperatively with the Dakota County Technical College, Rosemount School District #196 and other educational institutions within Dakota County to train workers with the skills needed for existing and future Rosemount businesses.
c. Pursue outside funding sources to develop or redevelop land for commercial and industrial uses, such as Metropolitan Council Livable Communities Demonstration Account and Tax Base Revitalization Account, Dakota County Community Development Agency, Minnesota Department of Employment and Economic Development, and other applicable grants.
d. Continue to actively market Rosemount to commercial brokers and appropriate businesses through the Rosemount marketing strategy to recruit additional businesses.

4. Balance economic growth within the overall tax base of Rosemount.

a. Provide land available for a balance of commercial and industrial businesses, including expanding the retail and office commercial sectors while continuing to support industrial businesses.
b. Work cooperatively with the Dakota County Technical College, Independent School District #196 and other educational institutions within Dakota County to train workers with the skills needed for existing and future Rosemount businesses.
c. Continue to provide for additional residential growth to serve as an expanding employee pool for Rosemount business, a growing market to attract additional retail establishments, and balanced tax base when considering the regional Fiscal Disparity program.

5. Provide for economic development opportunities that create a vibrant Downtown that maintains a home town feel.

a. Continue Port Authority involvement in redevelopment projects that implement the *Development Framework for Downtown Rosemount.*
b. Pursue outside funding sources to redevelop downtown properties, such as Metropolitan Council Livable Communities Demonstration Account and Tax Base Revitalization Account, Dakota County Community Development Agency, Minnesota Department of Employment and Economic Development, and other applicable grants
c. Continue to use the Downtown Code Improvement Plan, Twin Cities Community Capital Fund, and similar programs to assist businesses to improve existing retail commercial buildings and implement the *Development Framework for Downtown Rosemount* and *Downtown Design Guidelines*.

CHAPTER 5: COMMUNITY FACILITIES ELEMENT

City of Rosemount Facilities

Community Center and National Guard Armory

The mission of the Rosemount Community Center is to provide a central gathering place, a focal point for the citizens of Rosemount and the surrounding communities to experience social, cultural, educational and recreational opportunities which enhance community wellness and promote growth. The Community Center has a multi-purpose arena, banquet room, auditorium, gymnasium, and classrooms that can accommodate groups and gather from 25 to 1,000 people. Common activities at the community center include hockey and broomball games, wedding, anniversaries, reunions, trade and craft shows.

The Minnesota National Guard Armory shares the same building as the Rosemount Community Center. The Armory is the headquarters and Main Command Post for the 34th Infantry Division of the Army National Guard, also known as the "Red Bulls". The Red Bulls has brigades in eight states and its 1st Brigade has distinction of the longest continuous deployment of 16 months during Operation Iraqi Freedom.

Family Resource Center

In 1998, the City of Rosemount constructed the Family Resource Center and leased the facility to the Community Action Council (CAC). The CAC is a nonprofit dedicated to helping families in crisis get back on their feet, through the work of over 2,000 volunteers working out of more than 50 locations in Dakota and Scott Counties. The CAC lease to the Family Resource Center states that the facility will be used for serving children and families in the community through services such as crisis intervention, providing food, clothing, housing assistance, parenting support, and academic support through mentorship, child care assistance, violence prevention, outreach and recreation.

City Hall/Police Station

City Hall and the Police Station are currently housed jointly in a two-story building located at 2875 145th Street W. The City Hall is located on the upper level and the Police Station in the lower level. City Hall houses all the City Departments other than the Police Department, Public Works, Fire Department, and Parks and Recreation. The Police Department is housed in the lower level of the same building and Public Works is housed in the adjacent Public Works Garages. The Fire Department is housed at the Fire Stations and the Parks and Recreation Department is housed in the Community Center.

As the City grows, it is expected that all City Departments will need additional facilities to serve the needs of the growing population. Short term growth may be accomplished by expansions of current facilities. Long term growth may require the relocation of at least one of three facilities (City Hall, Police Station, or Public Works Garage) to accommodate the growth of the other two facilities.

Fire Stations

The City currently has two fire stations. Fire Station #1 is located at the northeast corner of Dodd Boulevard and Shannon Parkway and is situated to serve the developed western portion of the City. Fire Station #2 was constructed in 2006 and is located at Connemara Trail and Azalea Avenue. It is situated near the Connemara Trail bridge over the Union Pacific rail line to allow fire protection to the east side of the City without needing to wait at a railroad crossing if a train is running through town. Future fire stations will be sited as needed to serve the growing population.

Fire Station No. 2

Former St. Joseph's Complex

The City purchased the former St. Joseph's complex on South Robert Trail in 2004. The southern third of the site has been subdivided for the construction of the Robert Trail Library. The City formed the St. Joseph's Task Force to study the future of the former school and church buildings.

Public Works Facilities

The Public Works Department has two facilities, the Public Works Garage located northwest of City Hall on Brazil Avenue and the Public Works Storage Yard located at the former Village of Rosemount Dump west of South Robert Trail and north of Canada Circle. The Public Works Garage houses all the public works employees and equipment, while Public Works Storage Yard houses the large quantity of supplies needed by the City, such as sand, gravel, and mulch.

The City is considering the development of the former dump along with the adjacent land into light industrial uses. Should this development occur, a new location will need to be found for the storage yard. Consideration should be given to find a central location to house a common Public Works Garage and Storage Yard that will support needs of the City through its ultimate development.

Public Schools

The City of Rosemount is a part of four school districts, Independent School District (ISD) #196, ISD #199, ISD #200, and ISD #917.

ISD #196

Rosemount-Apple Valley-Eagan ISD #196 serves the majority of the City of Rosemount. ISD #196 has two elementary schools (Rosemount and Shannon Park), one middle school (Rosemount) and one high school (Rosemount) within the City of Rosemount. All Rosemount middle and high school students attend Rosemount Middle School and Rosemount High School. According to 2006-2007 attendance boundaries, Rosemount elementary students are split among four elementary schools. Generally, students north of 145th Street W. and east of Biscayne Avenue attend Red Pine Elementary in Eagan, while students south of County Road 42 and around Downtown attend Rosemount Elementary. Generally, the remaining students attend Shannon Park Elementary, while a small neighborhood west of Shannon Parkway and between County Road 42 and 145th Street W. attends Diamond Path Elementary in Apple Valley.

ISD #196 officials believe that they do not need to construct a new middle school nor high school within the timeframe of the Comprehensive Plan. Eagan's student population is declining and Apple Valley's student population is stagnant which leads school officials to anticipate changing middle and high school attendance boundaries rather than constructing new facilities. New elementary school construction will be dependant on the rate of growth and increases in student population within the new neighborhoods.

ISD #199

Inver Grove Heights ISD #199 covers parts of the Flint Hills refinery and the industrial area directly east of the refinery. Any students within this area attend Pine Bend Elementary, Inver Grove Middle School or Simley High School. Rosemount is not expected to add any significant number of housing units within the ISD #199 area during the 2030 Comprehensive Plan.

ISD #200

Hastings ISD #200 covers about 320 acres in the extreme southeast corner of Rosemount. Any students within this area attend Pinecrest Elementary, Hastings Middle School or Hastings High School. Rosemount is not expected to add any significant number of housing units within the ISD #200 area during the 2030 Comprehensive Plan.

ISD#917

ISD #917 is an educational partnership to provide vocation and special education to students of need from the Burnsville, Farmington, Hastings, Inver Grove Heights, Lakeville, Randolph, Rosemount, South St. Paul, and West St. Paul school districts. ISD #917 has constructed a school at the location of the former Dakota County Public Works Garage on the east side of Biscayne Avenue and south of the railroad tracks. The school was constructed for approximately 100 students and house offices for itinerate teachers. The itinerate teachers specialize in Braille,

ISD #917, May, 2008

sign language, or other skills needed by students with special needs. These itinerate teachers spend most of their time at the different schools of the member school districts, but will have their offices within the ISD #917 school in Rosemount.

Dakota County Technical College

The Dakota County Technical College (DCTC) is currently a two-year community college and technical school and is a part of the Minnesota State Colleges and University System. DCTC is located at the southeast corner of Akron Avenue and County Road 42. Currently, DCTC has a full time equivalent enrollment of 2,245 students and offers student athletics including baseball, soccer, softball, and wrestling, but no student housing. DCTC has only one softball field located on the north side of County Road 42 and plays most of its games at other facilities. DCTC has a long term expansion plan that includes the possibility of additional athletic fields, student housing, and development of four-year college programs.

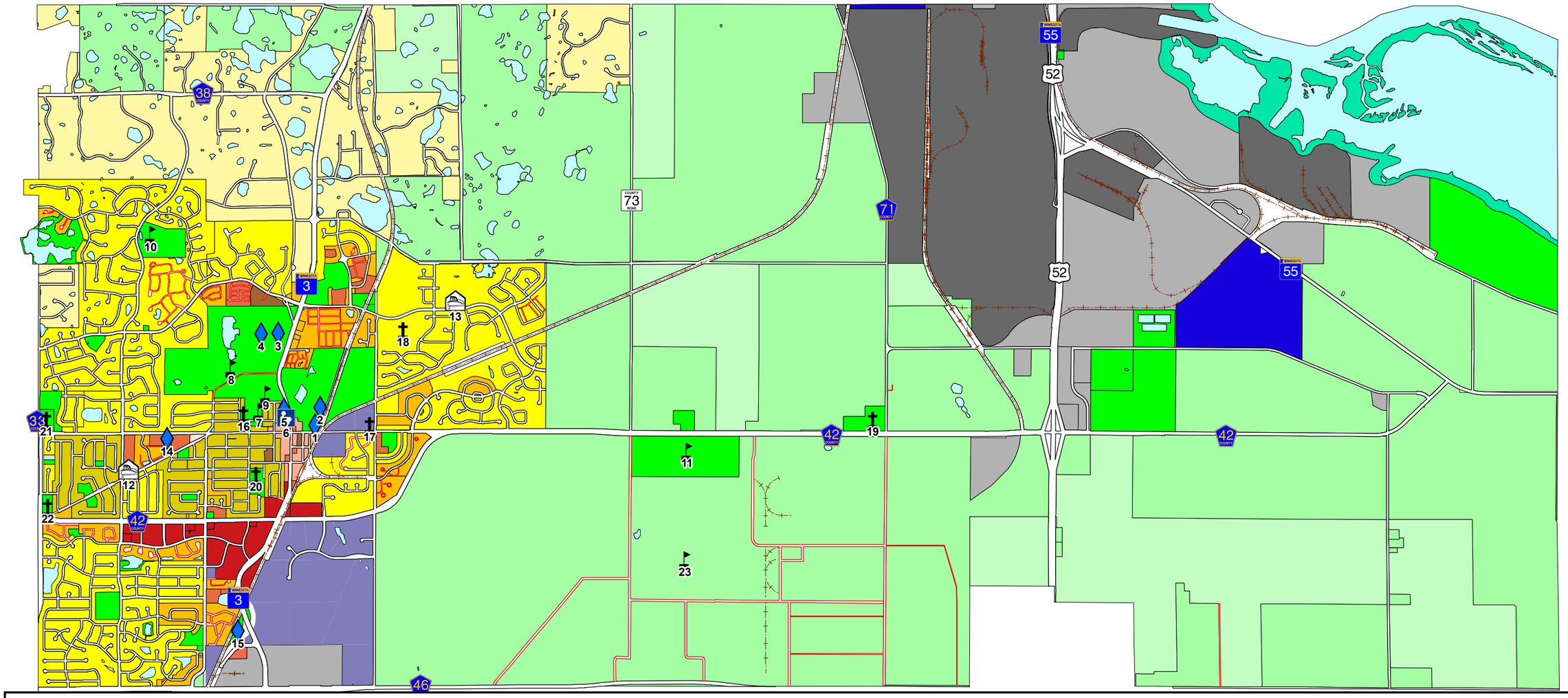
University of Minnesota

The University of Minnesota has one facility within Rosemount, the University of Minnesota Outreach, Research, and Education (UMore) Park. UMore is 7,686 acres, approximately 3,300 of which are located within Rosemount and the remaining acres are located south of the City in Empire Township. UMore is the research and outreach component of the College of Food, Agriculture, and Natural Resource Sciences. UMore also houses the Rosemount Research Center which is a self-supporting department that leases land to local farmers, police departments, other University departments and private entities.

The University is currently performing strategic planning for the future use of the land within UMore. In 2006, Sasaki and Associates created the UMore Park Strategic Plan that plans for a mixed use community on approximately 5,000 acres within Rosemount and northern Empire Township. The Sasaki study contains development scenarios of approximately 16,500 dwelling units and 41,000 residents at full development. The University Board of Regents has approved a concept plan that will be the basis for future development discussions and plans. If the University chooses to go forward with the development of a community, Rosemount will submit a Comprehensive Plan Amendment to the Metropolitan Council.

Figure 5.1 Community Facilities

ROSEMOUNT
2030 COMPREHENSIVE PLAN UPDATE



1- City Hall/Police Station	6- Robert Trail Library	11- Dakota County Technical College	16- Lighthouse Community Church	21- First Baptist Church/School
2- Public Works Garage	7- Rosemount Elemenary	12- Firestation #1	17- Community of Hope Church	22- Lutheran Church of Our Savior
3- Community Center/Armory	8- Rosemount High School	13- Firestation #2	18- St. Joseph's Catholic Church/Future School Site	23- UMore Park
4- Irish Sports Dome	9- Rosemount Middle School	14- Family Resouce Center	19- St. John's of Rich Valley Lutheran Church	
5- Former St. Joseph's Complex	10- Shannon Park Elementary	15- Public Works Storage Yard	20- Rosemount United Methodist Church	

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April 2008

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Private Schools

Currently, there are two private schools within the City of Rosemount. The First Baptist Church, located at the northeast corner of 145th Street West and Diamond Path, operates a kindergarten through 12th grade school. St. Joseph's Catholic Church operates a kindergarten through 8th grade school. The St. Joseph's school moved to the current church location at the southeast corner of Biscayne Avenue and Connemara Trail in 2009 school year.

Churches

Community of Hope Church

The Community of Hope Church is a mission congregation of the Evangelical Lutheran Church of America. In 2001, congregations from Burnsville, Lakeville, Eagan, and Apple Valley committed to combine resources to create a church in Rosemount. Community of Hope Church began worshipping at the Rosemount Middle School in 2002 and moved to the current location at the northwest corner of 145th Street W. and Biscayne Avenue in 2005.

First Baptist Church

First Baptist Church began in 1959 with services in the old St. John's Lutheran Church. In 1970, First Baptist constructed its current church at the northeast corner of 145th Street W. and Diamond Path. In 1971, the First Baptist School began, initially as a kindergarten through 4th grade. Currently, the school serves students from kindergarten through 12th grade.

Lighthouse Community Church

Over 100 years old, the church was founded as St. John's Lutheran Church. In the 1990's, the church became St. John's Lighthouse, then the Lighthouse Community Church. Lighthouse Community Church is an inter-denominational Christian church under the apostolic covering of the International Ministerial Fellowship.

Lutheran Church of Our Savior

Our Savior held its first worship services in 1964, and constructed its first church on the corner of Diamond Path and County Road 42 in 1967. The church has had two building additions since 1967, including the most recent in 2006 to add a gymnasium and remodeling the education wing. The church offers a Christian preschool that presently serves 140 students ages three through five.

Rosemount United Methodist Church

Formal incorporation took place in 1868 under the name German Methodist Episcopal Church with services in private homes. In 1874, a church was constructed at the corner of 146th Street W. and Burma Avenue. In 1962, an adjacent 2.5 acres were purchased and the current church was constructed in 1963. The official name of the church was changed to the Rosemount United Methodist Church (RUMC) in 1968. RUMC is currently planning for a $3.5 million expansion to double the size of the church.

St. John's Lutheran of the Unaltered Augsburg Confession

St. John's Lutheran Church was founded in 1911 at the corner of Blaine Avenue and 145th Street East (County Road 42) as a member congregation of the Lutheran Church – Missouri Synod. The current church was constructed in 1977 and the 1911 church was moved ½ mile east to property owned by a member of the congregation.

St. Joseph's Catholic Church

Founded in 1856 with services in private homes, the first church building was constructed in 1868 about three miles southwest of Rosemount. After the first church was destroyed by a cyclone, the second church was constructed in 1881 on the east side South Robert Trail south of 143rd Street W. in downtown Rosemount. In 1924, the brick church was constructed at the same site. St. Joseph's Parish School was constructed in 1953. St. Joseph's moved to its current location at the southeast corner of Connemara Trail and Biscayne Avenue in 2003. The school moved to the site of the new church in 2009.

Private Recreation Providers

The Irish Sport Dome is a private recreation provider that is located on the grounds of the Rosemount High School, directly west of the Rosemount Community Center/National Guard Armory. The Irish Sports Dome is enclosed within an inflatable fabric roof that allows for multiple configurations that includes softball, baseball, soccer, and football. The Rosemount High School uses the facility for practices during the school year, while youth recreation leagues use the facility during the remaining times. The Irish Sports Dome has a long term lease for the school property and the Rosemount High School will receive the dome at the completion of the lease.

The City will encourage additional private recreational providers to locate within Rosemount, particularly for indoor recreation. The City will also evaluate partnerships with other entities, such as ISD #196, the Boys and Girls Club, and the YMCA, to provide additional community facilities when it benefits all parties.

Community Facilities Goals and Objectives

1. Provide community facilities for all age groups.

A. Encourage indoor recreation by private providers or public/private partnerships.
B. Work with ISD #196, the Boys and Girls Club, the YMCA and other interested agencies to evaluate the feasibility of a teen center.
C. Annually review the services provided for seniors and explore partnerships opportunities with other agencies.
D. Periodically review the community interest of an aquatic center.
E. Periodically review the community interest of a multi-purpose arena with the capability for additional sheet(s) of ice.
F. Work with Dakota County to construct the Robert Trail Library and License Center.
G. Explore possible developers of or partnerships for a conference center.
H. Work with Dakota County, churches, and civic organizations to provide services for residents in need.
I. Locate community facilities near their target population.

2. Encourage the reuse or redevelopment of historic or culturally significant buildings.

A. Evaluate the reuse or redevelopment of the St. Joseph's Complex on South Robert Trail for public benefit.
B. Work with the Rosemount Historical Society to record and document historic and culturally significant buildings and artifacts.

3. Provide municipal services that meet the needs of our growing population.

A. Evaluate expanding or relocating City Hall when service demands warrant.
B. Locate fire and emergency services to provide responsive service to urban residents.
C. Evaluate the police facilities needed to meet the demands of the community.
D. Determine the appropriate location for a centralized public works garage and storage yard.

4. Encourage the establishment of citywide coverage of private utilities.

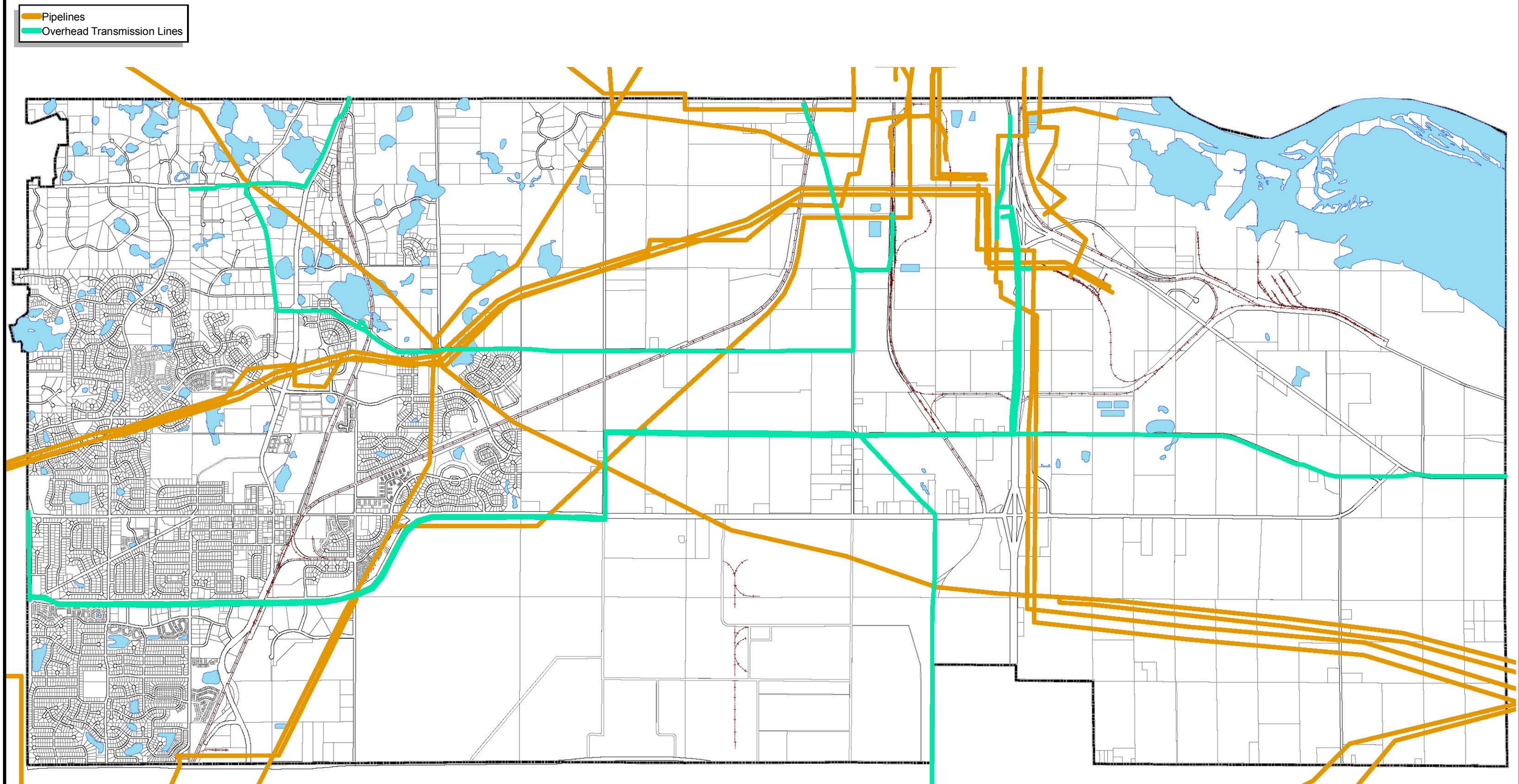
A. Encourage the installation of state of the art telecommunication infrastructure into business parks and commercial areas to facilitate high technology businesses to locate within Rosemount.
B. Encourage the establishment of private utilities that allow residents to work from home, telecommute, or otherwise reduce the need to commute to work.

5. Locate private utilities where they have the least impacts. (See Major Private Utility Corridors, Figure 5.2)

A. Install new utilities underground and bury existing utilities where possible when land is developed.
B. Encourage future utility transmission facilities or expansions to co-locate within existing utility corridors to limit encumbrances on property owners and future development.
C. Encourage private utilities to co-locate or joint trench to limit the need for utility easements and maximize the use of private property.

Figure 5.2 Major Utility Corridors

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS



April 2008

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CHAPTER 6: ENVIRONMENT AND NATURAL RESOURCES

INTRODUCTION

This chapter of the Comprehensive Plan addresses the management of the community's environment and natural resources. This plan makes the case for protecting environment and natural resources, develops a context for establishing Rosemount's environment and natural resource vision, provides a generalized Natural Areas Assessment, recommends goals and objectives and concludes by identifying tools and strategies to implement the community's environment and natural resources vision.

Importance of Environment and Natural Resource Protection

Minnesota in general, and Rosemount specifically, has an abundance of natural resources. Lakes, rivers, wetlands, woodlands, prairies and bluffs define the area's landscape and are the basis for why we live, work and play in this community. These natural areas and their associated benefits contribute to the community's popularity and are a key factor its growth. However, this same popularity and growth if not managed wisely could threaten many of these same natural features and negatively impact the community's overall quality of life. Managing the community's growth in such a way as to preserve, protect, and restore its environment and natural resources offers numerous benefits including: increasing property values, supporting overall economic growth while reducing our depends on foreign energy sources, providing low-cost storm water management and flood control, supplying a purification system for drinking and surface water, providing habitat and biological diversity, contributing to air purity, and creating a sense of place and identity for the community.

Rosemount's Environment and Natural Resource Vision

Rosemount's vision describes the community's environment and natural resource values and how the community wants to utilize these resources as it grows. To assist local communities in the developing their own unique vision, the Metropolitan Council established the overall goal of "working with local and regional partners to conserve, protect and enhance the region's vital natural resources." More commonly, residents may define their goals as clean air and water, parks and open space, and the preservation of wildlife habitats and other natural features. Rosemount's environment and natural resource vision is mostly clearly identified in two of the community's nine over-arching goals, which are:

- Preserve natural resources and open space within the community and ensure development does not adversely impact on-going agricultural uses until urban services are available.

- Promote use of renewable resources by creating sustainable development and building green.

With these two over-arching goals as a guide, this plan identifies five (5) specific environment and natural resources goals to further define Rosemount's natural resource vision. Two key challenges to realizing this vision include balancing it with the community's

continued growth and development and protecting natural systems that cross municipal, state and even national boundaries. Rosemount's Environment and Natural Resources Plan strives to use the community's resources in a sustainable way to promote economic development.

ENVIRONMENT AND NATURAL RESOURCES ASSESSMENT

The natural resource assessment establishes the foundation for creating the environment and natural resources plan. This assessment is broken into three sections: the community's special natural resource areas, key environmental resources, and a generalized inventory of existing natural areas.

Special Natural Resource Areas

The Environment and Natural Resources chapter identifies two (2) special natural resource areas within the City of Rosemount. These resources are the Mississippi National River Critical Area and the Vermillion River Watershed. Each resource is described below.

Mississippi River Critical Area. The Mississippi River Critical Area was created in 1973 by the Minnesota State Legislature and encompasses 72 miles of the Mississippi River, four miles of the Minnesota River and 54,000 acres of adjacent lands. The Area extends from the communities of Dayton and Ramsey on the north to the southern boundary of Dakota County on the west/south side of the river and the boundary with the Lower St. Croix National Scenic Riverway on the east/north side of the river. The portion of the Critical Area within Rosemount is located east of Highway 52 and north of Highway 55.

This special natural resource is governed by the Mississippi River Critical Area Program, a joint local and state program that provides coordinated planning and management of this area of recreational and statewide public interest. The Mississippi River Critical Area Program works in partnership with the Mississippi National River and Recreation Area (MNRRA), part of the National Park System.

In response to these programs, the City of Rosemount adopted a Critical Area Plan and Ordinance in 1980. During the City's 1998 Comprehensive Plan Update, the City replaced the Critical Area Plan with its own MNRAA Plan. The MNRAA Plan is incorporated into Rosemount's Comprehensive Plan as Appendix B. The MNRAA Plan together with the Critical Area Ordinance and the underlying zoning districts serve as the development standards for the area. All three documents should be consulted when reviewing any development proposal in the Mississippi River Critical Area.

The Vermillion River Watershed. Watersheds are areas of land that drain to a body of water such as a lake, river or wetland. The Vermillion River Joint Powers Organization (JPO) encompasses the Minnesota, Mississippi and Vermillion River hydrological watersheds and includes 335 square miles. It is the dominant watershed in the county containing 21 communities in Dakota and Scott Counties; 90% of the area is agricultural but rapid urban development is occurring in the upstream reaches.

The Vermillion River has 45.5 miles of designated trout stream. The major environmental issues associated with this feature include storm water runoff quality and quantity and trout habitat protection. According to Trout Unlimited, the Vermilion River is the only world class trout stream within a major metropolitan area in the United States. In the spring 2006, the Minnesota Department of Natural Resources and the Twin Cities chapter of Trout Unlimited completed a survey of the trout population in the Vermillion River and found the number of trout hatched was higher than in previous years. It is the intent of this plan that the City should work with the JPO and other interested stakeholders to protect this unique natural resources area.

Key Environmental Resources

This plan identifies two (2) key environmental resources within the community including surface water and open space. These resources are major environmental systems that extend throughout the community. As such, these resources are both effected by and have an effect upon environmental resources within and beyond the City limits. Additional resources worthy of consideration in this section include woodlands, prairies, soils and bluff areas.

Surface Water (Lakes, Streams and Wetlands) Management. Rosemount's surface water management plan includes both the Comprehensive Stormwater Management Plan and the Comprehensive Wetland Management Plan.

The Comprehensive Stormwater Management Plan includes the layout of the trunk storm sewer system and ponding areas for the entire City. The ponding areas have been designed with a regional approach in order to control run-off and minimize flooding. The general objectives of the plan are to reduce the extent of public capital expenditures necessary to control excessive volumes and rates of run-off, to prevent flooding, and to improve water quality.

The Comprehensive Wetland Management Plan was originally adopted in 1998 and subsequently amended in both 1999 and 2005. This plan includes an ordinance that outlines the use of lawn and garden chemicals and buffer zones around wetlands and their effect on groundwater recharge. Use of the plan's provisions will maximize the benefit that surface waters can provide to Rosemount residents. The plan also includes an inventory and assessment of wetlands in Rosemount.

Open Space. Residents often cite open space as one of Rosemount's most important and desirable characteristics. Open space consists of undeveloped sites that do not qualify as natural areas (see Natural Areas Inventory below), but still provide habitat, scenery and other community benefits. Examples of open spaces include farm fields, golf courses, utility

corridors, woodlots and simple view sheds with no developments or parkland. The community's open spaces are significant resources worthy of preservation. Several potential methods for protecting the community's open spaces are outlined in the Implementation Tools and Strategies section below.

Natural Areas Inventory

In 2006, the City retained the consulting firm of Hoisington Koegler Group, Inc. (HKGi) to inventory the community's natural areas. This inventory consolidated natural areas into three categories: Highest Priority, Lower Priority, and Other Natural and Greenway Planning Efforts. These three categories are characterized below and illustrated on the attached Natural Areas map. This map and its associated data are intended to serve as a resource for the City to identify natural areas to be preserved, protected or restored during the development process. Additional information about this map, including landownership data and the criteria used to classify an area as either highest or lower priority, may be obtained from the City's GIS Department.

Highest Priority. The Highest Priority classification are areas that are the most important water quality and habitat resources in the City. This classification includes six (6) items: open water; wetlands; seventy-five (75) foot buffer around open water and wetlands; land within the 100 and 500 year floodplains; Natural Community Land (as identified by the Minnesota County Biological Survey); and Natural/Semi-Natural land cover (including at least one of the following: land with native vegetation; presence or habitat for a state endangered or threaten animal or plant; or land within 300 feet of a lake, stream, or water body).

Lower Priority. The Lower Priority classification areas are natural areas that have habitat and water quality value but have experienced some disturbance or are dominated by non-native species. Lower Priority areas includes three (3) items: Natural/Semi-Natural land that does not meet the criteria outlined in the High Priority category; land having man-made impervious surface of less than twenty-five (25) percent and at least fifty (50) acres in size; and areas of significant tree cover (as identified by the City's Parks and Recreation staff).

Other Natural Area and Greenway Planning Efforts. This category includes three proposed greenway or trail locations: the Mississippi River Greenway, the Northern Dakota County Greenway and the Rosemount Interpretive Corridor. The City should work with landowners, adjacent cities and Dakota County to implement these greenways.

According to the American Planning Association's *Planning and Urban Design Standards*, Greenways are lands set aside for preservation of natural resources, open space and visual aesthetic/buffering. Greenways also provide passive-use opportunities, most often in the form of trails and occasionally nature centers. The key focus is on protecting ecological resources and providing wildlife corridors. In the broadest application, greenways form a network of interconnected natural areas throughout a community. They function as part of a borderless system that links together parks, natural open space and trail corridors.

Future/Expanded Natural Areas Inventory. The 2006 Natural Areas Assessment and associated map represent a good generalized inventory of the community's environment and natural resources. However, a goal of this plan should be to expand on this inventory to include additional resources both within and outside Rosemount. An expanded assessment should work to identify additional important resources, classify criteria for ranking important resources, and categorize criteria to create a priority map. Additional important resource could include any of the following nine items: open space/recreation opportunities, bluff areas and slopes, soils (including aggregate), ground water, wildlife/endangered species, woodland/forested areas, non-woody upland vegetation, solar, and wind.

ENVIRONMENT AND NATURAL RESOURCES PLAN

The plan section outlines five (5) environment and natural resources goals and their associated objectives. It also identifies tools and strategies to help implement the community's vision, goals and objectives.

Goals and Objectives

1. Preserve, protect and restore the natural environment with emphasis on the conservation of needed and useful natural resources for the present and future benefit of the community.

    A. Protect wetlands the natural resources identified in the Natural Resource Assessment from environmentally insensitive development.

    B. Establish an Environmental Advisory Committee (EAC) to advise the City Council on environment and natural resource issues.

    C. Encourage and support tree planting and restoration efforts especially plantings of native, non-invasive species.

    D. Work with development and redevelopment to reduce the use of non-renewable resources and to reduce pollution.

    E. Identify methods to quantify and reduce the community's Carbon Footprint.

2. Utilize natural resource areas to provide an overall open space system that satisfies the physiological and psychological needs of both individuals and the community.

    A. Expand the Natural Resources Assessment to identify additional important resources, classify criteria for ranking important resources, and categorize criteria to update the priority map.

    B. Connect and coordinate existing natural resources areas through a continuous greenway network creating a more ecological system of open space.

    C. Encourage through development incentives, the preservation and management of all natural resource amenities.

D. Develop partnerships with non-profit or private organizations, neighborhood groups or other interested parties for the purpose of acquiring targeted open spaces.

E. Support the construction of soft, permeable, low impact trail in natural areas when feasible.

3. Create a livable community where future development respects and integrates the natural, cultural, and historic resources of the community while maintaining or enhancing economic opportunity and community well-being.

   A. Study the development of "Clean Industry" such as biofuel/biomass, solar, and wind energy production.

   B. Use natural resource open space to physically separate uses which are incompatible by scale or function.

   C. Conduct a sustainability audit to identify and develop how the City can enhance livability through sustainable practices.

   D. Promote environmentally friendly design standards such as Active Living, Smart Growth, Leadership in Energy and Environmental Design (LEED) and the like.

   E. Study the feasibility and economic viability of creating a Green Fleet of City vehicles.

4. Encourage activities that reduce the consumption of finite resources and ensure there are opportunities to re-use or recycle natural resources.

   A. Encourage activities that conserve energy and result in less/no pollution output such as waste reduction, alternative transportation modes, alternative energy sources and composting.

   B. Encourage and support sustainable farming practices including Integrated Pest Management (IPM) and the Minnesota Department of Agriculture's "Best Management Practices" for specific crops.

   C. Encourage limited and responsible use of herbicides, pesticides and fertilizers on residential and public lands.

   D. Reduce the waste stream and create a sustainable environment by continuing to provide and encourage curbside recycling of reusable waste materials through educational events, promotional materials and volunteer efforts.

   E. Reduce City government's use of scarce and non-renewable resources and actively support similar efforts throughout the community.

5. Work with federal, state, regional, and local governments as well as with resident groups and nonprofit organizations to protect natural resources both within and around the City of Rosemount.

A. Continue implementation of the Mississippi River Recreation Area (MNRRA) plan.

B. Support and encourage community efforts in environmental awareness, education and stewardship.

C. Establish and maintain conservation areas for wildlife management and education and scientific purposes.

D. Work with Dakota County Technical College and the University of Minnesota at UMore Park to promote environmental education.

E. Promote the extension of natural resource corridors into adjacent jurisdiction.

Implementation Tools and Strategies

The environment and natural resources implementation tools and strategies are divided into eight (8) categories, each of which is detailed below. These are intended to provide examples of tactics to realize this plan. Each category should be reviewed and implemented in compliance with this plan.

1. **Advisory Committee Establishment**. The Environmental Advisory Committee (EAC) would serve as an advisory board to the City Council on environment and natural resource issues. The EAC could review land use and development proposals and recommend policies, ordinances, and procedures to enhance the City's environment and natural resources. The EAC could also provide direction regarding creation of greenways, protection of cultural and ecological assets within the community and guidance concerning community-wide education programs. The City Council could appoint the members of the EAC from residents, members of existing advisory boards or the City Council.

2. **Future/Expanded Natural Areas Assessment**. An expanded assessment should work to identify additional important resources, classify criteria for ranking important resources, and categorize criteria to update the priority map. Additional important resources could include any of the following nine items: open space/recreation opportunities, bluff areas and slopes, soils (including aggregate), ground water, wildlife/endangered species, woodland/forested areas, non-woody upland vegetation, solar and wind.

3. **Economic Development**. Natural Resources are a vital component of economic activity. Uses for natural resources range from raw materials for industrial activity to environments for active and passive recreational opportunities for both residents and tourists. Balancing environmental needs with economic growth is a vital component of environment and natural resource planning. One strategy to attempt this would be to promote the development of "Clean Industry" or "Green Collar" jobs including biomass/biofuel, solar, and wind production. Development of these industries could serve to compliment and diversify Rosemount's existing agriculture and fuel refining industries.

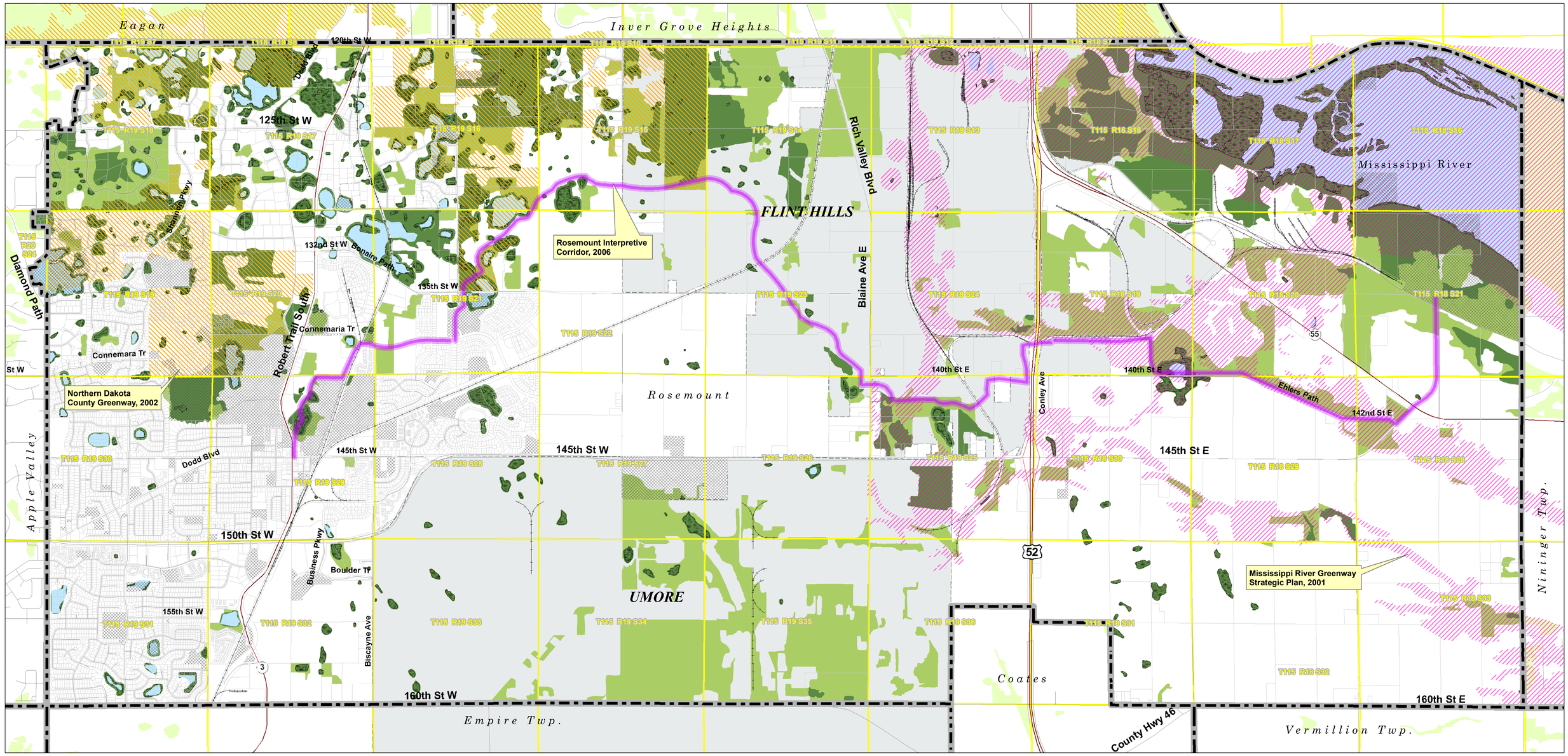
4. **Design Guidelines**. Design guidelines are supplementary documents that further define the community's vision by identifying desired elements for a given development topic or special planning area. For example, Rosemount has already developed design guidelines to help direct the redevelopment of Downtown. Other development topics or special planning areas to consider include: Energy-Efficient Development, Green Infrastructure, LEED - ND (Leadership in Energy and Environmental Design for Neighborhood Design), State of Minnesota Sustainable Building Guidelines, Growth Management, Smart Growth and Active Living. Once guidelines are developed they could be used to create specific zoning standards (see Ordinance Development below). While Active Living policies are further defined in Appendix A, the City should study development of these other tools as part of comprehensive plan implementation.

5. **Ordinance Development**. To date, the City of Rosemount has created several ordinances to implement the community's environment and natural resources vision. These ordinances include: Agriculture Preserve, Shoreland Management, Floodplain, Tree Protection, Wetland Protection and Individual Sewage Treatment ordinances. Additional items for the City to research and consider include: Open-Space Preservation or Clustering, Wellhead Protection, Aggregate Resources Protection and Natural Resource Overlay Ordinances (see Minnesota Environmental Quality Board Model Ordinance).

6. **Open Space Preservation.** The rationale for creating open space or cluster standards is to guide development to preserve contiguous open space and protect natural resources that would otherwise be lost through the typical development process. Examples of these zoning techniques include: Conservation Easements, Transfer of Development Rights, Purchase of Development Rights, Preferential Taxation, Property Acquisition and Land Banking. The intent of these methods is not to alter the overall density of a project but rather to transfer density from desired preservation areas to other developable areas. The result being that private property owners are granted reasonable economic use of their property without adversely impacting the natural or open space resources desired by the community as a whole.

7. **Education Outreach**. Education outreach is an essential yet often underutilized component of environment and natural resource planning. While environmental issues have become more mainstream, many people do not realize how their daily personal habits impact the environment. To this end, the City should develop educational materials and resources for residents in the areas of composting, recycling, landscaping, energy use, personal consumption and other conservation issues. In addition, the City should develop partnerships with organizations whose mission is to educate the public about environmental protection and natural resource management. Potential partners and resources for these two strategies include the Department of Natural Resources, Friends of the Mississippi River, the Metropolitan Council, the Minnesota Sustainable Communities Network, the University of Minnesota (U More Park), Dakota County Technical College, Home Owners' Associations and District 196 schools as well as the Environmental (Zoo) School.

8. **Intergovernmental Cooperation**. Environmental resources span across local, state and international boundaries. Examples of this include the Mississippi River which runs through Rosemount to several other states and into the Gulf of Mexico or the air pollution produce by Rosemount residents and industry which flows into the surrounding region. While Rosemount's impact on the world's water and air resources is relatively small, these examples serve to illustrate the interconnection between local decisions and global environmental resources. As a result, the City of Rosemount should develop partnerships with others (local, regional, state, national and international) groups and agencies committed to environmental and natural resource preservation, protection and restoration.



HIGHEST PRIORITY

Natural areas that are the most important water quality and habitat resources in the City

1. Open water
   Data Source: City of Rosemount
2. Wetlands
   Data Source: City of Rosemount
3. A buffer up to 75' around open water and wetlands
   Data Source: City of Rosemount Wetland Management and Protection Requirements.
4. Land within the 100 and 500 year floodplains.
   Data Source: FEMA
5. The area has been identified by the Minnesota County Biological Survey as a Natural Community.
   Data Source: Dakota County Soil and Water Conservation District, Dakota County Priority Natural Areas
6. Natural/semi-natural land cover* with at least one of the following characteristics:
   a. Land with native vegetation.
   b. Presence or habitat for a state endangered, threatened special concern plant or animal.
   c. Land is within 300' of a lake, stream or water body.
   Data Source: Dakota County Soil and Water Conservation District, Dakota County Priority Natural Areas.
   **Natural/semi-natural land cover as classified in the Minnesota Land Cover Classification for Dakota County developed by the MNDNR.*

LOWER PRIORITY

Lower priority areas are natural areas that have habitat and water quality value but have experienced some disturbance or are dominated by non-native species.

1. The land has natural/semi-natural land cover but does not meet any of the criteria outlined under Highest Priority.
   Data Source: Dakota County Soil and Water Conservation District, Dakota County Priority Natural Areas
2. Lands identified by the Minnesota Land Cover Classification System as having the presence of man-made impervious surfaces but with those surfaces covering less than 25% of the land. The minimum size for these areas to be included is 50 acres.
   Data Source; MN Department of Natural Resources, Minnesota Land Cover Classification System
3. Other areas with significant tree cover.
   Data Source: City of Rosemount Staff

OTHER NATURAL AREA AND GREENWAY PLANNING EFFORTS

- Mississippi River Greenway, 2001
  Data Source: Hosington Koegler Group
- Northern Dakota County Greenway, 2002
  Data Source: Dakota County Soil and Water Conservation District
- Rosemount Interpretive Corridor, 2006
  Data Source: Hosington Koegler Group

INFORMATIONAL ITEMS

- City Boundary
- Publicly Held Land
- Railroad
- Major Land Holders, UMORE & Flint Hills Resources
- Natural / Seminatural Land Cover in Adjacent Communities
- Open Water
- Section Lines

1,500 750 0 Feet

0 0.5 1 Miles

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Natural Areas Map - Figure 6.1

Rosemount Natural Area Identification

October 5, 2006

Hoisington Koegler Group, inc.

CHAPTER 7: LAND USE

Recent Land Use Planning

The City of Rosemount adopted the *Rosemount 2020 Comprehensive Plan* (*2020 Plan*) on February 15, 2000 by Resolution Number 2000-08. The *2020 Plan* is shown in Figure 7.3. The *2020 Plan* expected 7,345 housing units by 2010 (a number that Rosemount has reached in 2007) and 10,200 housing units by 2020 (the number of units in the current Metropolitan Council forecast for 2010). The *2020 Plan* predicted that urban residential growth through 2020 would not occur east of Akron Avenue nor north of Bonaire Path (Old County Road 38). The residential land uses that receive City sewer and water service were limited to two designations, Urban Residential (typically single family housing) and High Density Residential (typically multiple story apartment or condominiums).

Realizing that the *2020 Plan* was not addressing the level of residential development that the City was experiencing, the City began a major amendment to the Comprehensive Plan that was titled the *County Road 42-US Highway 52 Corridor Plan* (*42-52 Plan*). The *42-52 Plan* is shown in Figure 7.4. The *42-52 Plan* resulted in four major changes to the *2020 Plan*. First, residential development was expected to occur north of Bonaire Path and east of Akron Avenue. Second, a Medium Density Residential designation was created that would typically be attached townhomes. Third, additional commercial and industrial land was expected east of US Highway 52 in anticipation of an improved County Road 42 and US Highway 52 interchange. Fourth, the Metropolitan Council forecast was revised to expect 10,200 housing units by 2010 and 13,700 housing units by 2020.

The *42-52 Plan* was adopted by the City Council on July 19, 2005 by Resolution Number 2005-84. Since its adoption, the City has created an alternative urban areawide review (AUAR) for the residential areas north of Bonaire Path and east of Akron Avenue. In 2007, the City approved the first preliminary plat within the AUAR that included 50 acres of commercial property and 583 residential units. The City has used the planning work done during the *42-52 Plan* as the basis for the Land Use Plan of the 2030 Comprehensive Plan.

Metropolitan Council Regional Development Framework

The Metropolitan Council 2030 Regional Development Framework Areas is shown on Figure 7.1. Rosemount has about half of the community within the Developing Area category and about half within the Agricultural Area category. The Developing Areas are located in the urban area west of Akron Avenue and the industrial area of east Rosemount located along US Highway 52. Rosemount anticipates generally developing within the Developing Area before 2020, but development between 2020 and 2030 will occur in the Agricultural Area north of County Road 42 and southeast of the intersection of US Highway 52 and County Road 42. The City requests that the Metropolitan Council change the designation of these two post 2020 development areas to the Developing Area in the Regional Development Framework.

Existing Land Uses

Generally, Rosemount can be summarized into three land uses areas: the urban area of western Rosemount; the industrial area of eastern Rosemount; and the agricultural area of southern Rosemount. The 2005 generalized land uses are shown on Figure 7.2. The urban area includes a range of different residential densities, retail commercial and businesses, and the public and institutional uses that form the fabric of the community. The industrial east side is concentrated north of County Road 42 and on both sides of US Highway 52. The agricultural area is predominately located south of County Road 42 and east of Biscayne Avenue or north of County Road 42 between Akron Avenue and Rich Valley Boulevard.

xx. Table 7.1: 2005 Existing Land Uses

Land Use	**Area**	**Percentage**
Single Family Residential	2,555	11.3%
Multi-Family Residential	320	1.4%
Farmsteads	160	0.7%
Commercial	140	0.6%
Mixed Use	35	0.2%
Industrial	1,700	7.5%
Extractive	180	0.8%
Institutional	375	1.7%
Parks, Recreation, and Preserves	910	4.0%
Major Vehicular Right of Way	335	1.5%
Railways	50	0.2%
Airports	0	0.0%
Open Water	1,155	5.1%
Agriculture	9,270	41.1%
Undeveloped	5,365	23.8%
Total	22,550	100.0%

Source: Metropolitan Council

Population, Housing, and Employment Forecasts

According to the 2000 Census, the City of Rosemount had a population of 14,619 people within 4,742 households. Using data from the City of Rosemount Building Division, the City created an additional 2,688 housing units between 2000 and 2006, resulting in a January 1, 2007 household count of 7,430 and an estimated population of 21,950.

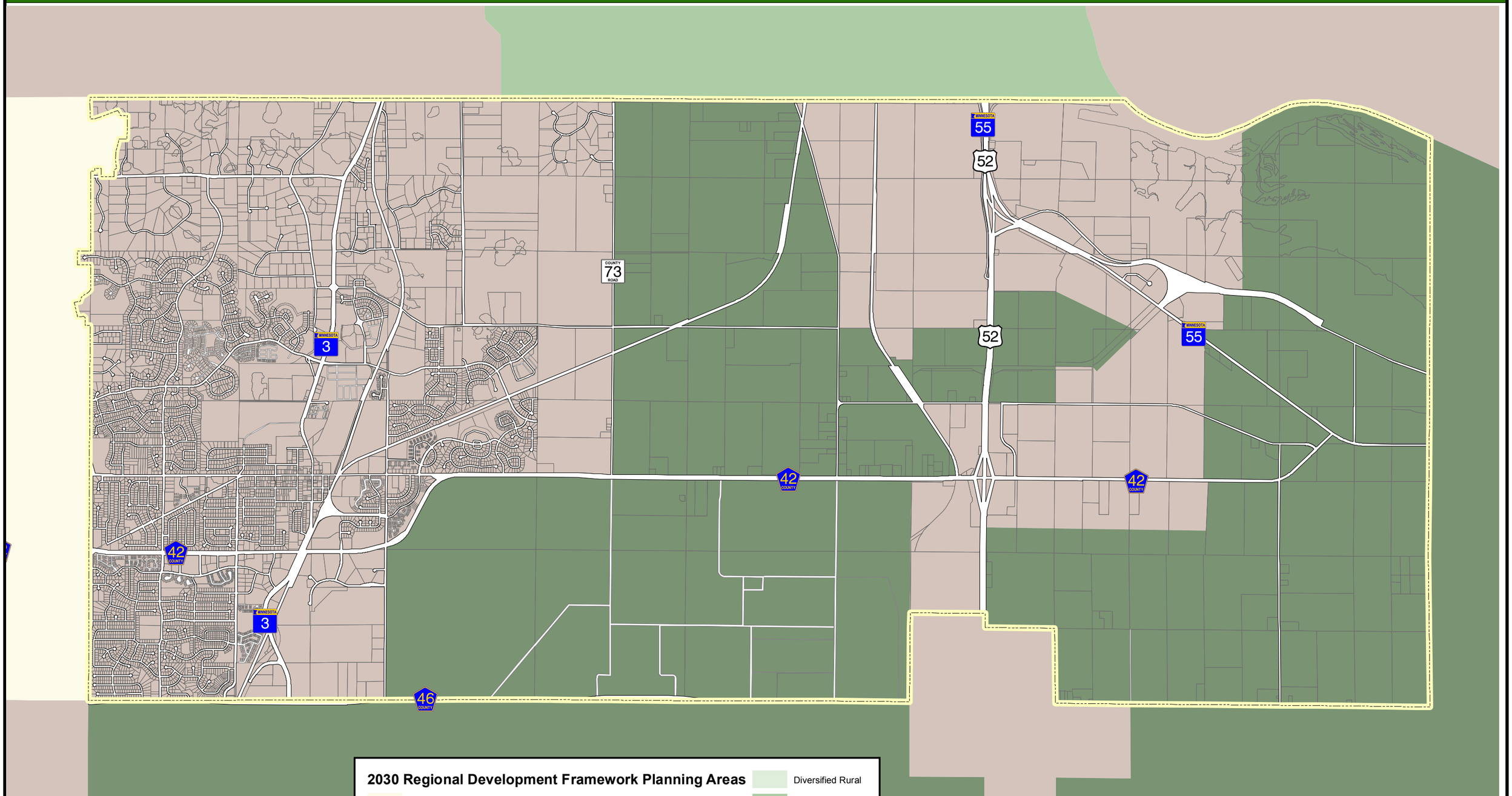
xxi. Table 7.2: Metropolitan Council Population, Household, and Employment Forecasts

	2000[a]	**2007[b]**	**2010[c]**	**2020[c]**	**2030[c]**
Population	14,619	21,950	29,600	38,400	38,400
Households	4,742	7,430	10,200	13,700	13,700
Employment	6,356	7,780	8,400	10,100	12,200

[a] *US Census Bureau*
[b] *City of Rosemount, as of December 31, 2007*
[c] *Metropolitan Council*

Figure 7.1 Metropolitan Council Regional Development Framework Planning Areas

ROSEMOUNT
2030 COMPREHENSIVE PLAN



2030 Regional Development Framework Planning Areas

- Developed Area
- Developing Area
- Rural Center
- Diversified Rural
- Rural Residential
- Agricultural Area
- Non-Council Area

0 0.25 0.5 1 1.5 2 Miles

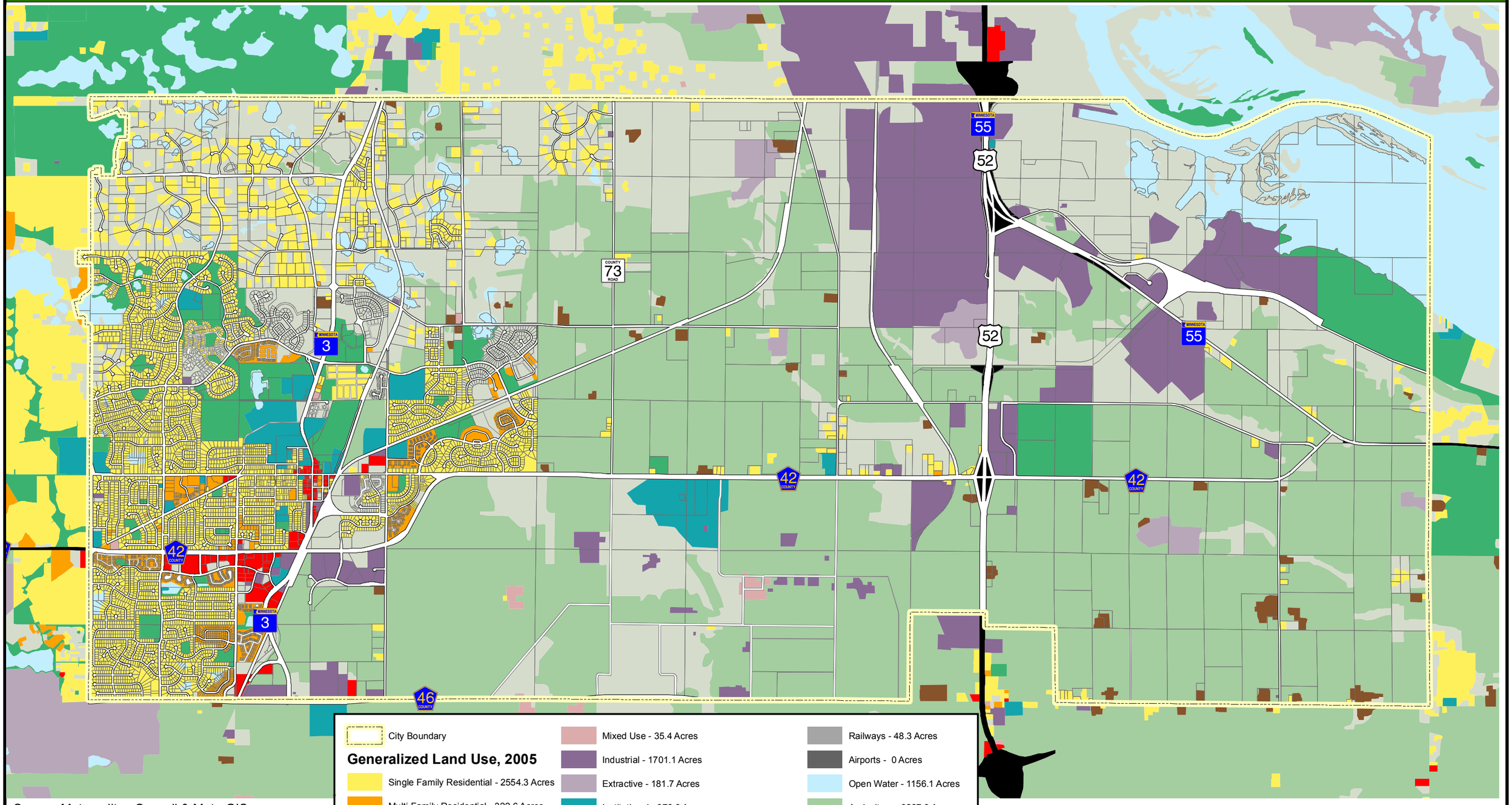
Source: Metropolitan Council & MetroGIS

March 2009

FILE: //snap2/share1/GIS/City/Maps/Departmental Maps/Comp Plan Update/MetCouncilDevelopmentFramework.mxd

Figure 7.2 Metropolitan Council Land Use 2005

ROSEMOUNT
2030 COMPREHENSIVE PLAN



Source: Metropolitan Council & MetroGIS

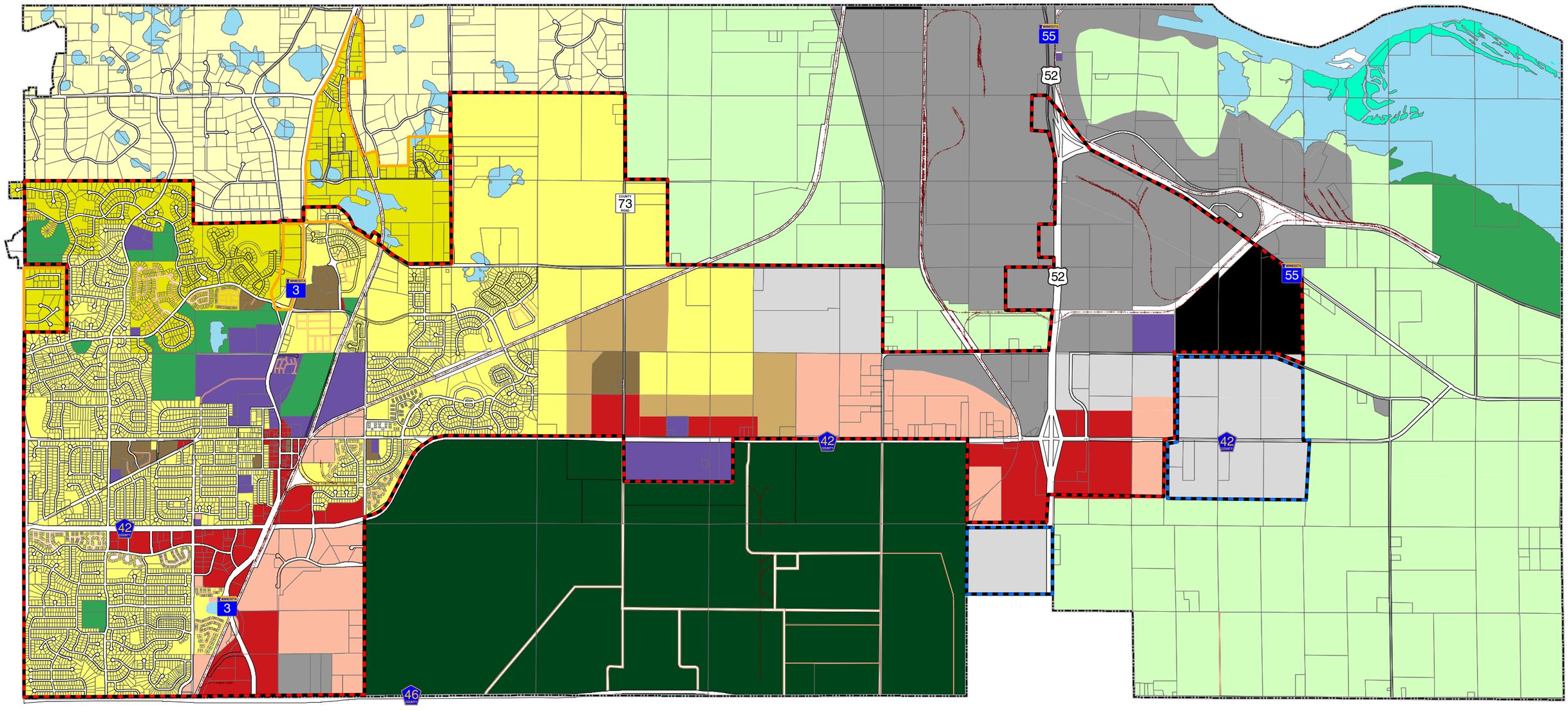
March 2009

FILE: //snap2/share1/GIS/City/Maps/Departmental Maps/Comp Plan Update/MetCouncilLandUse.mxd

Figure 7.3 Land Use Comp Plan

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS

2010 MUSA Line	AG Agriculture	MDR Medium Density Residential	CC Corporate Campus	FP Flood Plain
2020 MUSA Line	AGR Agricultural Research	HR High Density Residential	C Commercial	W Water
Sewer Needs	RR Rural Residential	PI Public/Institutional	IM Industrial/Mixed Use	
Public ROW	UR Urban Residential	PO Existing Parks/Open Space	GI General Industrial	
Private ROW	TR Transitional Residential	BP Business Park	WM Waste Management	



NORTH 0 1,500 3,000 6,000 Feet

April 2008

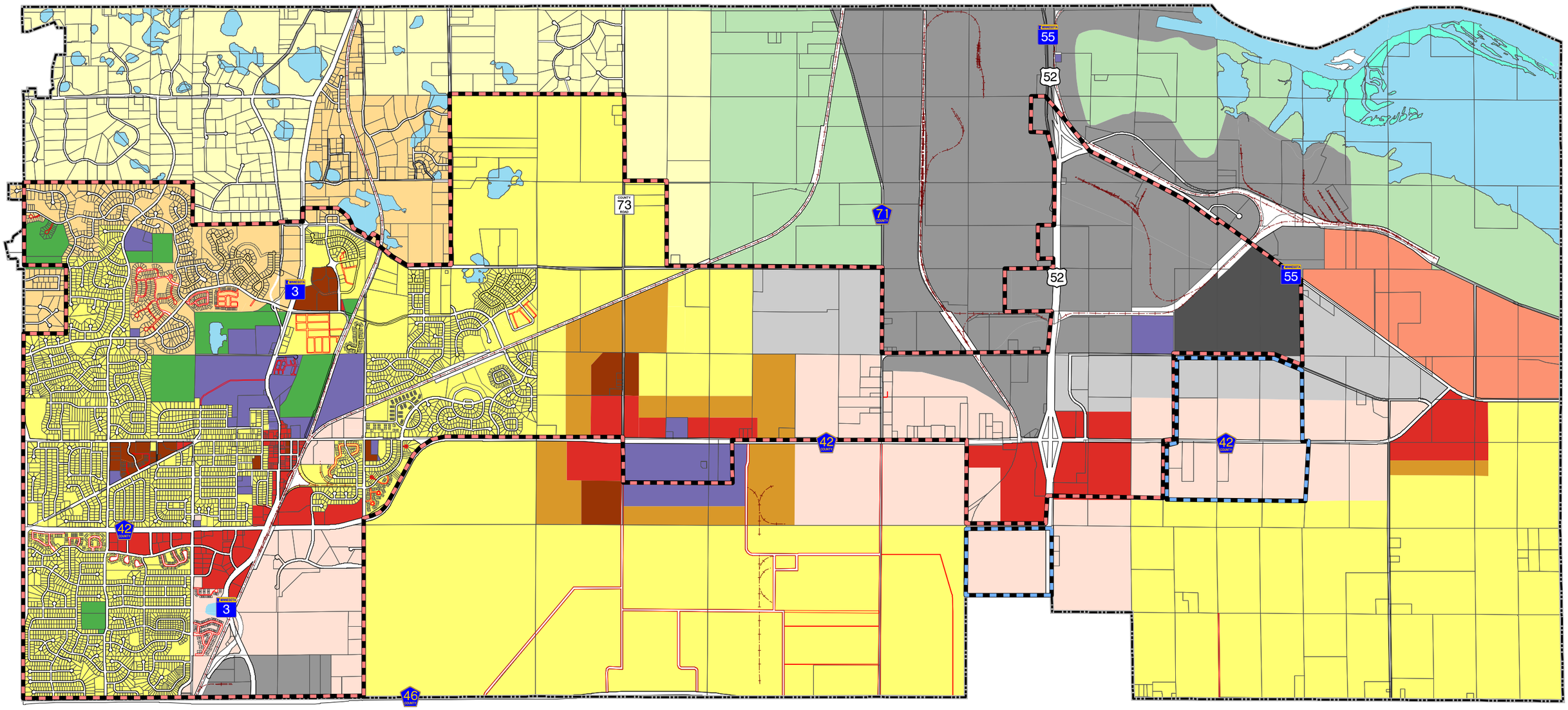
File: T:\GIS\City\Maps\Departmental Maps\CommunityDevelopment\2006 LU Comp Plan.mxd, May 23, 2006 9:42:08 AM, City of Rosemount

Figure 7.4 Comp Plan with 42-52 Land Use

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS

0 1,500 3,000 Feet
NORTH

- 2010 MUSA Line
- 2020 MUSA Line
- Public ROW
- Private ROW
- Agricultural
- Rural Residential
- Urban Residential
- Transitional Residential
- Medium Density Residential
- High Density Residential
- Public/Infrastructure
- Parks/Open Space
- Business Park
- Corporate Campus
- Commercial
- Industrial/Mixed Use
- General Industrial
- Waste Management
- Flood Plain
- Water
- ROW



April 2008

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In 2005, the Metropolitan Council provided forecasts for each community within the seven county metropolitan area to be used during the creation of each community's Comprehensive Plan. The forecasts for Rosemount included 10,200 households by 2010 and 13,700 households by 2020, both of which were forecasts determined during the *42-52 Plan* approval. The Metropolitan Council did not determine a 2030 household estimate in its original forecast.

The City of Rosemount is proposing 15,550 households in 2030, 1,800 households more than the Metropolitan Council had forecast in 2020. To achieve this increased household growth, Rosemount has added an additional 605 acres of residential land, which is shown on Figure 7.5 and Table 7.3. Rosemount has reviewed the Metropolitan Council forecasts and determined that the City will not meet the 2010 forecast of 10,200 households. In reviewing the local and regional housing markets, the Council believes that a reasonable 2010 housing forecast would be 8,050 households generating a population of 23,750 people.

Rosemount has produced a 2030 Land Use Map (Figure 7.5) that can accommodate at least 7,450 additional household beyond the 8,050 households anticipated in 2010. The City forecasts a 2020 household count of 11,800 and population of 33,050, as well as a 2030 household count of 15,500 and population of 42,000. The City believes these forecast are comparable to the overall growth anticipated in the Metropolitan Council forecast and will not have an impact on the regional systems. The population forecast of 42,000 people and 15,500 households in the year 2030 has been used within the Comprehensive Land Use Plan, the Parks and Open Space Plan, the Comprehensive Sanitary Sewer Plan, and the Comprehensive Municipal Water Plan of this 2030 Comprehensive Plan.

xxii. Table 7.3: Additional Housing Units Added to the 2030 Land Use Map

Land Use Designation	**Acres**	**Density (Units/Acre)[1]**	**Units**
Transitional Residential	155	2.00	310
Low Density Residential	270	2.35	635
Medium Density Residential	150	7.00	1,050
High Density Residential	30	20.00	600
Total Residential Development			2,595

[1] *Based on historical City of Rosemount development densities per the Plat Monitoring data.*

xxiii. Table 7.4: City of Rosemount Population, Household, and Employment Forecasts

	2000[a]	**2007[b]**	**2010[c]**	**2020[c]**	**2030[c]**
Population	14,619	21,950	23,750	33,050	42,000
Households	4,742	7,430	8,050	11,800	15,500
Employment	6,356	7,780	8,400	10,100	12,200

[a] *US Census Bureau*
[b] *City of Rosemount, as of December 31, 2007*[c] *City of Rosemount*

Existing Land Uses

The City of Rosemount currently has 4,860 acres of developed residential land, 295 acres of developed commercial or business park land, 1,950 acres of developed industrial land, and 935 acres developed as institutional or recreational. The developed areas of Rosemount are predominately located in the western third of the City. The development located within the eastern two thirds of the City is generally limited to the Dakota County Technical College, the Flint Hills refinery, and the industrial uses along Minnesota Highway 55.

The *2020 Plan*, as amended by the *42-52 Plan*, has 1,460 acres of undeveloped residential land within the existing metropolitan urban service area (MUSA) boundary. Additionally, there are 1,250 undeveloped acres of commercial and business park land and about 1,400 undeveloped acres of industrial land within the MUSA.

The Land Use Plan generally supports the land uses that currently exist within the developed portions of the City, with the exception of the Downtown area and the commercial properties along South Robert Trail. Some of the land use designations within this plan have been changed from the *2020 Plan*, but most often they reflect the actual development that has occurred during the last ten years.

Downtown Rosemount will be encouraged to redevelop as depicted in the *Development Framework for Downtown Rosemount*. The existing commercial uses along South Robert Trail between County Road 42 and County Road 46 are typical auto oriented or light industrial in nature. The City will encourage redevelopment of these properties into a retail commercial or professional office when appropriate.

xxiv. Table 7.5: 2020 Comprehensive Plan Land Use Designations

Land Use Designation	Land Use Abbreviation	Developed Land Area[1] (Acres)	Undeveloped Land Area[1] (Acres)	Total Land Area (Acres)
Agriculture	AG	5,340	0	5,340
Agricultural Research	AGR	3,200	0	3,200
Rural Residential	RR	1,540	290	1,830
Transitional Residential	TR	740	190	930
Low Density Residential	LDR	2,510	1,130	3,640
Medium Density Residential	MDR	0	290	290
High Density Residential	HDR	70	40	110
Commercial	C	175	525	700
Business Park	BP	120	725	845
Light Industrial	LI	35	900	935
General Industrial	GI	1,675	905	2,580
Waste Management	WM	240	0	240
Public/Institutional	PI	410	0	410
Parks and Open Space	PO	525	0	525
Floodplain (and Mississippi River)	FP	975	0	975
Total Land Uses		17,555	4,995	22,550

[1] As of 12/31/2007

2030 Planned Land Uses

To accommodate the additional growth that is expected by 2030, the Land Use Plan proposes an additional 1,270 acres of land for development. Of the 1,270 acres, 605 acres are designated for additional residential development, while the remaining 665 acres are designated for various levels of commercial and industrial uses. The distribution of land uses within the Land Use Plan is shown in the Figure 7.5 and Table 7.6.

The land uses of 1,270 additional acres of developable land are generally consistent with the land uses of the *42-52 Plan*, with the boundaries between the land uses generally located along the major roadways depicted within the *Transportation Plan* as shown in Figure 7.6. The east side of Rosemount is the area of biggest change between the *2020 Plan* and the 2030 Land Use Plan. The 2030 Land Use Plan maintains the commercial node at the intersection US Highway 52 and County Road 42, but the majority of the County Road 42 frontage between US Highway 52 and Emery Avenue is expected to develop as professional offices and office showrooms of the Business Park designation. Surrounding the intersection of Emery Avenue and County Road 42 is a commercial node expected to develop as retail commercial, personal services and professional offices.

450 acres of residential land uses are planned east of US Highway 52 and south of County Road 42. The residential development is focused around two mixed residential neighborhoods, one located along Emery Avenue and the other located along a future major collector roadway which will have a full access onto County Road 42. This pattern of residential development supports the Housing Goals of designing subdivisions to create independent neighborhoods, providing a mixture of rental and ownership opportunities to provide life cycle housing, and locating different housing styles within appropriate areas.

xxv. Table 7.6: 2030 Comprehensive Plan Land Use Designations

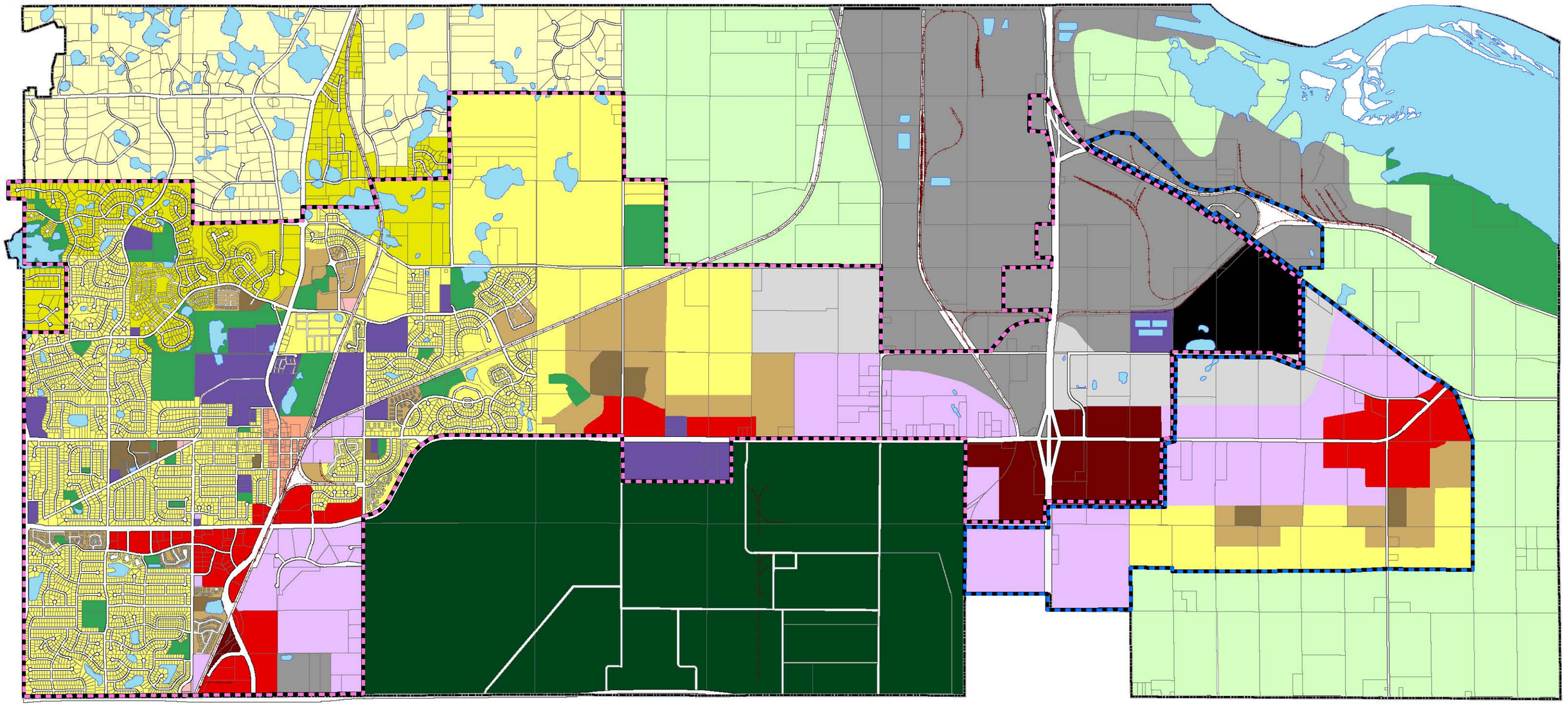
Land Use Designation	Land Use Abbreviation	Developed Land Area[1] (Acres)	Undeveloped Land Area[1] (Acres)	Total Land Area (Acres)
Agriculture	AG	3,790	0	3,790
Agricultural Research	AGR	3,200	0	3,200
Rural Residential	RR	1,540	290	1,830
Transitional Residential	TR	740	170	910
Low Density Residential	LDR	2,105	1,485	3,590
Medium Density Residential	MDR	210	505	715
High Density Residential	HDR	55	70	125
Downtown	DT	65	0	65
Neighborhood Commercial	NC	5	10	15
Community Commercial	CC	125	475	600
Regional Commercial	RC	0	370	370
Business Park	BP	120	1,485	1,605
Light Industrial	LI	35	580	615
General Industrial	GI	1,675	1,085	2,760
Waste Management	WM	240	0	240
Public/Institutional	PI	470	0	470
Parks and Open Space	PO	675	0	675
Floodplain (and Mississippi River)	FP	975	0	975
Total Land Uses		16,025	6,525	22,550

[1] As of 12/31/2007

Figure 7.5 2030 Comprehensive Land Use Plan

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS

- AG Agriculture
- DT Downtown
- NC Neighborhood Commercial
- RC Regional Commercial
- CC Community Commercial
- AGR Agricultural Research
- RR Rural Residential
- LDR Low Density Residential
- TR Transitional Residential
- MDR Medium Density Residential
- HDR High Density Residential
- PI Public/Institutional
- PO Existing Parks/Open Space
- BP Business Park
- LI Light Industrial
- GI General Industrial
- WM Waste Management
- 2020 MUSA Line
- 2030 MUSA Line



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NORTH

May 2009

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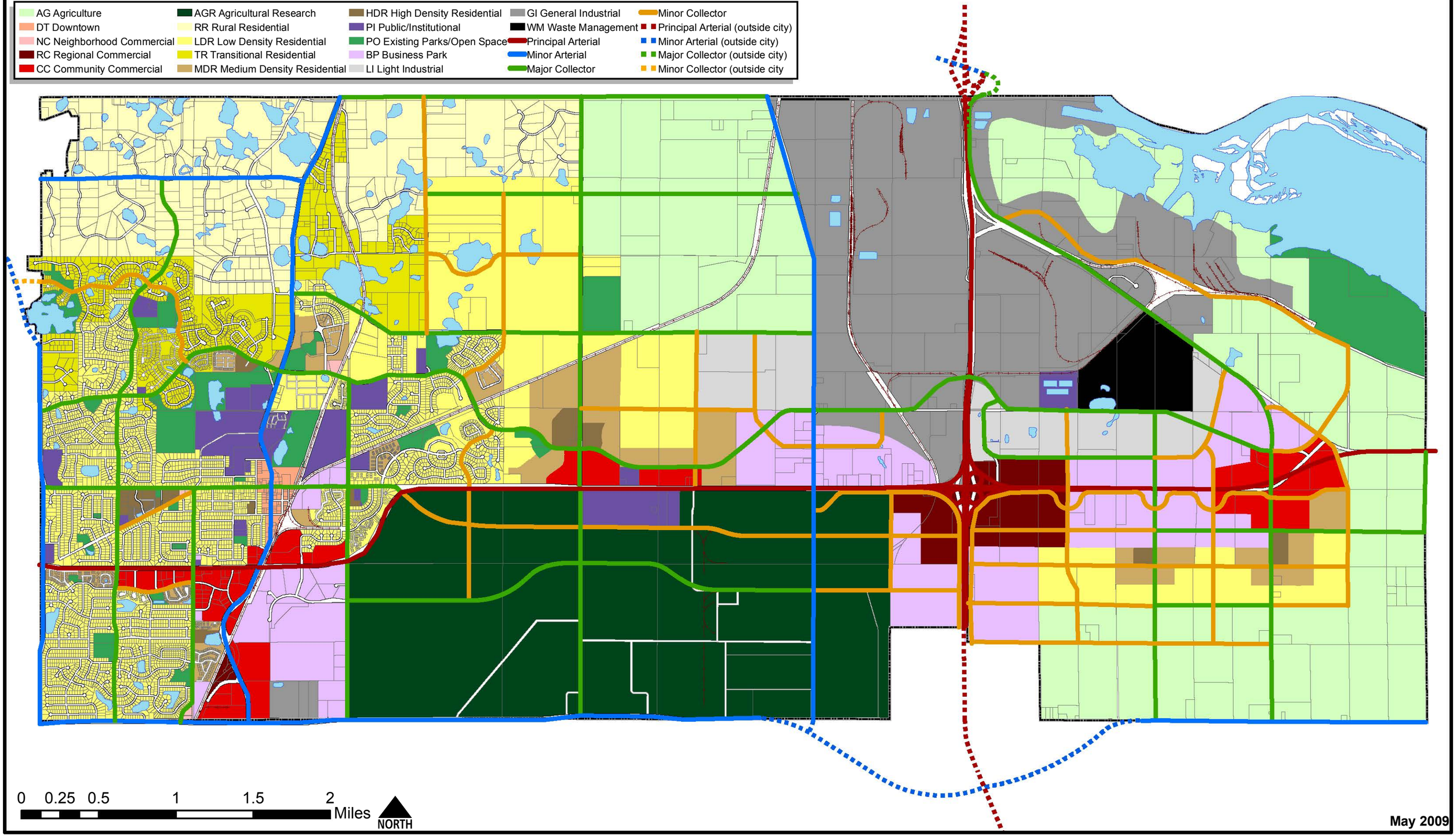
Figure 7.6 2030 Land Use Plan With Roadway Network

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS

- AG Agriculture
- AGR Agricultural Research
- HDR High Density Residential
- GI General Industrial
- Minor Collector
- DT Downtown
- RR Rural Residential
- PI Public/Institutional
- WM Waste Management
- Principal Arterial (outside city)
- NC Neighborhood Commercial
- LDR Low Density Residential
- PO Existing Parks/Open Space
- Principal Arterial
- Minor Arterial (outside city)
- RC Regional Commercial
- TR Transitional Residential
- BP Business Park
- Minor Arterial
- Major Collector (outside city)
- CC Community Commercial
- MDR Medium Density Residential
- LI Light Industrial
- Major Collector
- Minor Collector (outside city



0 0.25 0.5 1 1.5 2 Miles

NORTH

May 2009

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Metropolitan Council MUSA Implementation Guidelines

The Metropolitan Council is determined to enforce its minimum urban density standard of three (3) to five (5) units per acre within the areas planned for sanitary sewer service during the approval of the 2030 Comprehensive Plan. To enforce this level of development, the Metropolitan Council approved on September 12, 2007 a set of guidelines to determine minimum urban density. The Metropolitan Council guidelines that affect Rosemount are:

- The lowest allowable density shall be used for each residential land use designation.
- The City may be credited on a one for one basis for the number of housing units that have been platted in excess of three units per acre.
- Only residential land that has been re-guided from the 2020 Land Use Plan or new residential land to be developed from 2020 to 2030 needs to be calculated.

Table 7.7 shows that the minimum urban density of the 2030 Land Use Plan, per the Metropolitan Council guidelines, shall develop at a 3.8 units per acre, well above the minimum of three (3) units per acre. The acreages shown in Table 7.7 are the gross acreages of the sewered residential land that in new to the 2030 Comprehensive Plan and were not included in the 2020 Comprehensive Plan or any amendments, per the Metropolitan Guidelines. These residential areas are the Low, Medium, and High Density Residential land located south of County Road 42 and east of US Highway 52 and the Transitional Residential land located northeast of Keegan Lake.

xxvi**.** Table 7.7: New Residential Land Uses in the 2030 Land Use Map

Land Use Designation	**Acres[1]**	**Density (Units/Acre)[2]**	**Units**
Transitional Residential	155	1.00	155
Low Density Residential	270	1.00	270
Medium Density Residential	150	5.00	750
High Density Residential	30	10.00	300
Units over 3 un/ac since 2000	n/a	n/a	822
Total Residential Development	605	3.80	2,297

[1]Gross acreage as used in the Metropolitan Council Plat Monitoring program.
[2] The lowest allowed density per the Metropolitan Council guidelines.

Growth and Development between 2007 and 2030

The Land Use Plan shows two MUSA boundaries: a 2020 MUSA that is expected before 2020 and a 2030 MUSA which is expected to develop between 2021 and 2030. The 2020 MUSA includes the currently developed areas of Rosemount; the developable land north of County Road 42 and west of US Highway 52; the general industrial land south of Minnesota Highway 55; and the land surrounding the intersection of County Road 42 and US Highway 52. The 2030 MUSA includes the general industrial land between Minnesota Highway 55 and Pine Bend Trail; the industrial and commercial land south along US Highway 52 and east along County Road 42; and residential property located approximately one mile east of US Highway 52 and three quarters of a mile south of County Road 42.

Residential development between 2008 and 2010 is expected to occur generally south of Bonaire Path and west of Akron Avenue. The majority of the development will likely occur in subsequent phases of previously developed subdivisions, such as Evermoor, Harmony, and Prestwick Place.

xxvii. Table 7.8: 2007 – 2010 Residential Development

Land Use Designation	Acres Developed	Units per Acre	Number of Units
Transitional Residential	0	2[a]	0
Low Density Residential	145	2.35[a]	341
Medium Density Residential	24	7[a]	168
Downtown[b]	4	20[a]	108[c]
Total Residential	176	3.50	617

[a] *Based on historical City of Rosemount development densities per the Plat Monitoring data.*
[b] The Downtown land use designation allows High Density Residential development.
[c]Waterford Commons was approved on 03/18/2008 for 108 apartment units.

Residential development between 2011 and 2020 is expected to occur north of Bonaire Path (between Bacardi Avenue and Akron Avenue) and west of Akron Avenue (between Bonaire Path and County Road 42). The area north of Bonaire Path is a mixture of farm fields, wetlands, and trees. This area is designated Low Density Residential and will most likely be single family homes.

The area west of Akron Avenue is predominately farm fields with some trees, mostly in windrows along the property lines. This area is designated a mixture of Low Density, Medium Density, and High Density Residential. These neighborhoods are intended to provide a wide variety of housing types for residents of all age groups. This area provides the densities to meet the Metropolitan Council density and affordable housing guidelines.

xxviii. Table 7.9: 2011 – 2015 Residential Development

Land Use Designation	Acres Developed	Units per Acre	Number of Units
Transitional Residential	70	2[a]	140
Low Density Residential	290[b]	2.35[a]	680
Medium Density Residential	120[c]	7[a]	840
High Density Residential	15	20[a]	300
Total Residential	495	3.96	1,960[d]

[a] *Based on historical City of Rosemount development densities per the Plat Monitoring data.*
[b] Includes 100 acres of land currently enrolled in the Agriculture Preserve program which is set to expire an August 29, 2010.
[c] Includes 60 acres of land currently enrolled in the Agriculture Preserve program which is set to expire an August 29, 2010.
[d] Includes a 5% vacancy rate to generate 1,850 households.

xxix. Table 7.10: 2016 – 2020 Residential Development

Land Use Designation	Acres Developed	Units per Acre	Number of Units
Transitional Residential	70	2[a]	140
Low Density Residential	290	2.35[a]	680
Medium Density Residential	120	7[a]	840
High Density Residential	15	20[a]	300
Total Residential	495	3.96	1,960[b]

[a] *Based on historical City of Rosemount development densities per the Plat Monitoring data.*
[b] Includes a 5% vacancy rate to generate 1,850 households.

Residential development between 2021 and 2030 is expected to occur predominately east of US Highway 52 and south of County Road 42. This large area is divided into two mixed residential neighborhoods, one centered on Emery Avenue, and the other centered along a

future major collector street between US Highway 52 and Emery Avenue. The future major collector will likely be the only street with a full access intersection of County Road 42 between US Highway 52 and Emery Avenue.

These neighborhoods are intended to provide a wide variety of housing types for residents of all age groups. There is an opportunity for a mixed use development along Emery Avenue similar to a transit orientated district, but no transit service is anticipated east of US Highway 52 within the timeframe of the 2030 Land Use Plan. This area provides the densities to meet the Metropolitan Council density and affordable housing guidelines.

xxx. Table 7.11: 2021 – 2025 Residential Development

Land Use Designation	Acres Developed	Units per Acre	Number of Units
Transitional Residential	0	2[a]	0
Low Density Residential	340	2.35[a]	800
Medium Density Residential	120	7[a]	840
High Density Residential	15	20[a]	300
Total Residential	475	4.08	1,940[b]

[a] *Based on historical City of Rosemount development densities per the Plat Monitoring data.*
[b] Includes a 5% vacancy rate to generate 1,850 households.

xxxi. Table 7.12: 2026 – 2030 Residential Development

Land Use Designation	Acres Developed	Units per Acre	Number of Units
Transitional Residential	0	2[a]	0
Low Density Residential	340[b]	2.35[a]	800
Medium Density Residential	120[c]	7[a]	840
High Density Residential	15	20[a]	300
Total Residential	475	4.08	1,940[d]

[a] *Based on historical City of Rosemount development densities per the Plat Monitoring data.*
[b] Includes 160 acres of land that is currently enrolled in the Agriculture Preserve program.
[c] Includes 40 acres of land that is currently enrolled in the Agriculture Preserve program.
[d] Includes a 5% vacancy rate to generate 1,850 households.

Affordable Housing Needs from 2011-2020

The Metropolitan Council has determined that 51,030 new affordable housing units are needed for the seven county metropolitan area between the years 2011 and 2020, which is equivalent to 30.6% of the 166,547 total housing units expected during the same period. The Metropolitan Council has determined that Rosemount's share of the region's affordable housing need is 1,000 units. The Metropolitan Council has defined an affordable unit as a housing unit that is priced at or below 30% of the gross income of a household earning 60% of the Twin Cities median family income.

Land Use Plans determine residential designations based on density and housing type, not housing unit costs or pricing. Low Density Residential housing units are typically single family homes, Medium Density Residential units are typically townhomes, and High Density Residential units are typically multiple story apartment or condominium units. Generally, single family homes are the most

expensive housing units and apartments are the least expensive, but some small lot single family homes can be affordable and some multiple story condominium buildings can have units in excess of $500,000. While increased density does not equal affordability, the Metropolitan Council has chosen density to serve as a proxy for affordability.

The Metropolitan Council has stated that residential land designated for densities in excess of six (6) units per acre will be determined as affordable units. Tables 7.9 and 7.10 demonstrate that the Land Use Plan will develop 240 acres of Medium Density Residential land and 30 acres of High Density Residential land between 2011 and 2020. The Medium Density Residential land is anticipated to develop at an average of seven (7) units per acre for a total of 1,680 units, while the High Density Residential land is anticipated to develop at twenty (20) units per acre for a total of 600 units. From 2011 to 2020, the Land Use Plan anticipates developing a total of 2,280 units in excess of six (6) units per acre, well exceeding the 1,000 affordable units that the Metropolitan Council has determined for the City of Rosemount.

Land Use Designations

Agricultural (AG)

Purpose: This land use designation is intended for the majority of the land that is located outside the MUSA. Rosemount has a long history of agriculture but the community is rapidly urbanizing. The City must balance the needs of the continued farming operations with the expansion of the urban landscape.
Location Criteria: Outside the MUSA.
Minimum Requirements for Development: Development is discouraged in the agricultural land use designations. Construction activities should be limited to expansions of farming operations and housing for farm families.
Utilities: Private wells and septic systems are required.
Typical Uses: Crop and livestock farming; farmstead housing; churches; recreational open spaces; parks; and public buildings.
Density: One (1) unit per forty (40) acres
Appropriate Zoning: AG – Agricultural
Limited Secondary Zoning: AGP – Agricultural Preserve for property enrolled in the agricultural preserve program; P – Public and Institutional for churches, parks, or open space.

There are a number of agricultural properties within the City that are enrolled in the Agricultural Preserve, Green Acres, or other property tax relief programs. The City will continue to support enrollment of active agricultural properties within these programs provided that it does not inhibit the orderly development of the City. The City discourages the use of these programs by land owners to reduce the holding costs of land before the property develops or the use of these programs to defer assessments of public infrastructure on properties that are to be developed in the near future.

Agricultural Research (AGR)

Purpose: This land use designation is used solely for the UMore Park property that is owned and operated by the University of Minnesota. It is anticipated that, after the UMore Park Master Plan is created and adopted, a major Comprehensive Plan amendment will be conducted to re-designate the land to its appropriate land use category.
Location Criteria: Within the UMore Park property owned and operated by the University of Minnesota.
Minimum Requirements for Development: Land uses that support the educational and research missions of the University of Minnesota are exempt from local land use regulations.
Utilities: Private wells and septic systems are required.
Typical Uses: Agricultural production; research laboratories; classrooms; offices; and conference rooms
Density: One (1) unit per (40) acres
Appropriate Zoning: AG - Agricultural
Limited Secondary Zoning: None.

The University of Minnesota is currently preparing a Master Plan for the development of the UMore Park property into a mixed use urban neighborhood(s). The City of Rosemount, Empire Township, Dakota County, and other relevant parties are working with the University of Minnesota in the creation of the Master Plan. The Master Plan will not be completed in time for inclusion in the 2030 Land Use Plan, which is required to be submitted to the Metropolitan Council by May 29, 2009. The City will maintain the Agricultural Research designation on the UMore Park property for the submittal of the 2030 Land Use Plan.

The City anticipates that a major Comprehensive Plan amendment will be submitted to the Metropolitan Council following the completion of the Master Plan. The City expects that the UMore Park Master Plan will be a unique development that will have its own resources and marketing that is beyond that available to the typical urban developer. For that reason, the City anticipates that the potential future development of UMore Park will be in addition to the growth depicted within the 2030 Land Use Plan. The City expects that the population, households, and employment forecasts will need to be increased due to the magnitude of this development.

The City and the University of Minnesota are partnering (along with other agencies) in the creation of a Master Plan for the development of the UMore property into a mixed use neighborhood(s). Before the University chooses to proceed with development, the City will submit a Comprehensive Plan amendment and required environmental review documents covering the proposed development for approval by the Metropolitan Council and other applicable agencies. The City shall determine the appropriate environmental review process based on the magnitude of the development, the potential impacts, and State agency guidance on the appropriate level of review. The development of the UMore property within Rosemount into a mixed use neighborhood is expected to comply with the City Code and adopted policies.

Rural Residential (RR)

Purpose: Northwestern Rosemount is characterized by a rolling, wooded landscape that includes numerous lakes and wetlands. To preserve this natural landscape, the City has designated this land as rural residential to provide residential housing while preserving significant areas of wetlands and woodlands. The keeping of horses is anticipated within the rural residential area, but the farming of other livestock is discouraged.
Location Criteria: Located in northwest Rosemount, generally described as north of 132nd Street West and west of Akron Avenue.
Minimum Requirements for Development: Street frontage and a buildable area outside of wetlands and wetland buffers. Being rural in nature, it is not expected that urban features such as sidewalks, neighborhood parks, or a grid pattern of streets will be installed when the land is developed. Trail corridors (for pedestrian, bicyclists, and/or horses) shall be encouraged to provide the connection of the rural residents with each other, as well as to the City as a whole.
Utilities: Private wells and septic systems are required.
Typical Uses: Single family homes; hobby farm; churches; recreational open spaces; parks; and public buildings.
Density: One (1) unit per five (5) acres
Appropriate Zoning: RR – Rural Residential
Limited Secondary Zoning: AG - Agricultural for lots that are greater twenty (20) acres in size.

The City conducted an open house with the rural residential land owners on June 18, 2007 and asked them if they were supportive of the one (1) unit per five (5) acre standard in the Rural Residential designation. The City received 55 responses to this question and 87% of them were supportive of the one (1) unit per five (5) acre standard. Residents overwhelmingly want the rural residential character of northwest Rosemount to be maintained.

The majority of the parcels that is designated Rural Residential is five (5) acres or less in size meaning that no further subdivision would be allowed. There are a small number of parcels that are twenty (20) acres or larger in size that are suitable for further subdivision. The development of these parcels will need to be sensitive to the wetlands, trees, and other natural resources unique to this area.

Transitional Residential (TR)

Purpose: This land use designation is intended to transition between the rural residential area of northwest Rosemount and the urban development of greater Rosemount. Transitional residential areas are intended to receive urban services sometime in the future, while it may not be within the timeframe of the 2030 Comprehensive Plan. Development that occurs within the transitional residential designation is intended to have urban densities, but generally at a lesser density than the other residential land use designation.

Location Criteria: Areas within the MUSA that have a rolling, wooded landscape similar to the rural residential northwest; developed residential neighborhoods with lots less than one (1) acre in size outside of the MUSA.
Minimum Requirements for Development: The extension of urban service is needed for the further development of the Transitional Residential area. Transitional Residential land within the MUSA is currently suitable for development. The subdivision of property is expected to provide the full range of urban infrastructure, such as sidewalks, neighborhood parks, and streets with good access and interconnectivity.
Utilities: Private wells and septic systems are required for rural residential land. Municipal water and sanitary sewer are required for land to be developed at urban densities.
Typical Uses: Single family homes; churches; parks; and public buildings. Duplexes or townhomes with four (4) or less units per building may be considered as a part of a planned unit development provided that the overall density does not exceed three (3) units per acre.
Density: One (1) unit per five (5) acres without municipal water and sanitary sewer. One (1) to three (3) units per acre with municipal water and sanitary sewer. The Transitional Residential area along Dodd Boulevard between 132nd Street West and Connemara Trail may be considered to exceed three (3) per acre to transition between the multiple family housing to the south and east and the single family housing to the west.
Appropriate Zoning: RR – Rural Residential for parcels without municipal water and sanitary sewer; R1 – Low Density Residential for parcels with municipal water and sanitary sewer.
Limited Secondary Zoning: RL – Very Low Density Residential for neighborhoods of existing non-conforming rural residential lots if municipal water and sanitary sewer is provided; AG - Agricultural for lots that are greater twenty (20) acres in size.

There are two major areas of undeveloped or underdeveloped Transitional Residential designated land within the 2030 Land Use Plan that are within the 2020 MUSA. The first is the area bounded generally bounded by Dodd Boulevard, South Robert Trail, Connemara Trail and 132nd Street West (Dodd Boulevard Area). The second area is generally bounded by the Progress Rail rail line, Bonaire Path, Bacardi Avenue, and 130th Street West (Bacardi Area).

The Dodd Boulevard Area is bounded by townhouses and multiple family housing to the south and the east, single family housing to the west, and rural residential homes to the north. The property is expected to transition from townhouses along the South Robert Trail frontage to single family housing towards the Dodd Boulevard frontage. It is expected that the development of this area would require the reconstruction and reconnection of Dodd Boulevard to Connemara Trail and 132nd Street West to provide direct access to the development without requiring the long term use of the single family neighborhood to the east for access. It is anticipated that this level of development may create a density of greater than three (3) units per acre for the Dodd Boulevard Area.

The Bacardi Area is bounded by single family homes to the south, a mixed residential neighborhood to the southwest, an existing rural neighborhood of single family homes with lots about one (1) acre in size to the north, and anticipated Low Density Residential development to the east. The area is within the shoreland district for Keegan Lake and

therefore has an ordinance requiring open space and additional setbacks from the lake. It is anticipated that the area will develop predominately with single family homes to transition from the urban levels of development to the south and east to the rural neighborhoods to the north. Small lot single family homes or multiple family units less than four (4) units per building may be considered if that form of development provides for increased open space preservation and wetland/shoreland protection while not exceeding a gross density of three (3) units per acre.

The Transitional Residential land outside of the MUSA is not anticipated to be developed within the 2030 Land Use Plan provided the individual septic systems continue to function without causing health concerns for the wells and wetlands. The City has a plan for providing municipal sanitary sewer service to the Transitional Residential land outside the

MUSA if health concerns from failing septic systems arise. It is anticipated that the underdeveloped properties within the Transitional Residential areas would develop to urban densities if municipal sanitary sewer service is installed to supplement the costs of providing services to the existing Transitional Residential residents.

Low Density Residential (LDR)

Purpose: Low Density Residential housing is the predominant land use by area within the MUSA boundary. Low Density Residential housing is typically single family housing or townhouses with few units per building. The houses usually contain multiple bedrooms, bathrooms, and garage stalls per unit. Low Density Residential land provides housing suitable for families with children, and as such, should be located close to schools, churches, public parks, and neighborhood commercial.

Single Family Housing In Harmony Addition

Location Criteria: Street frontage and within the MUSA.

Minimum Requirements for Development: Low Density Residential subdivisions are expected to be provided with the full urban infrastructure, such as sidewalks, neighborhood parks, and streets with good access and interconnectivity. Attention should be paid to pedestrian and bicycle transportation to provide access for children to schools, churches, and public parks.

Utilities: Municipal water and sanitary sewer are required.

Typical Uses: Single family homes; duplexes; townhomes with four (4) or less units per building; churches; elementary and secondary schools; private recreation spaces maintained by homeowner associations; and public parks.

Density: One (1) to five (5) units per acre

Appropriate Zoning: R1 – Low Density Residential

Limited Secondary Zoning: R2 – Moderate Density Residential; R1A – Low Density Residential within subdivisions that were developed prior to 1980.

Medium Density Residential (MDR)

Purpose: Medium Density Residential land uses provide almost half of the total housing units that will be developed between 2008 and 2030, while providing only a quarter of the currently undeveloped residential area. To provide the level of density within Medium Density Residential neighborhoods, individual yards outside of the units are typically not included. As opposed to Low Density Residential, these developments incorporate many common features outside the units, such as yards, driveways, maintenance, and recreational space.

Carbury Hills, May 2008

Location Criteria: Frontage onto collector and local streets and within the MUSA. Medium Density Housing works well in mixed uses development and adjacent to all land uses except industrial.

Minimum Requirements for Development: Common private recreational opportunities should be provided within each residential development to compensate for the lack of private yard space per housing unit. Due to the density, individual garages should have access to private streets or driveways to limit the number of curb cuts onto public local street. Limiting the number of curb cuts will provide the maximum amount of public parking spaces on the public street frontages. Residential subdivisions are expected to be provided with the full urban infrastructure, such as sidewalks, neighborhood parks, and streets with good access and interconnectivity. Attention should be paid to pedestrian and bicycle transportation to provide access for children to schools, churches, and public parks.

Utilities: Municipal water and sanitary sewer are required.

Typical Uses: Single family homes or detached townhomes on smaller lots; duplexes; townhomes with three (3) of more units per building; churches; elementary and secondary schools; private recreation spaces maintained by homeowner associations; and public parks.

Density: Five (5) to ten (10) units per acre

Appropriate Zoning: R3 – Medium Density Residential

Limited Secondary Zoning: R2 – Moderate Density Residential

High Density Residential (HDR)

Purpose: The intent of the High Density Residential district is to accommodate many of the life cycle housing options not addressed within the Low Density or Medium Density Residential land uses. Senior and assisted living development for the increasing aging population, along with affordable rental or ownership units for new graduates or young families, often require greater densities than are allowed within the low or medium density neighborhoods. High density residential housing shall be constructed of the same or better building materials and have access to the same recreational, institutional, and commercial amenities as the other residential uses.

Location Criteria: Frontage onto collector and local streets and within the MUSA. High Density Housing works well in mixed uses development and adjacent to most land uses except industrial.

Minimum Requirements for Development: Common private recreational opportunities should be provided within each residential development to compensate for the lack of private yard space per housing unit. Care will need to be taken to buffer between high density and low density residential due to the difference in scale of the uses. Residential subdivisions are expected to be provided with the full urban infrastructure, such as sidewalks, neighborhood parks, and streets with good access and interconnectivity. Attention should be paid to pedestrian and bicycle transportation to provide access for children to schools, churches, and public parks.

Utilities: Municipal water and sanitary sewer are required.
Typical Uses: Townhomes with six (6) to twelve (12) units per building; multiple story apartment or condominium buildings; churches; elementary and secondary schools; private recreation spaces maintained by homeowner associations; and public parks.
Density: Ten (10) to twenty-four (24) units per acre
Appropriate Zoning: R4 – High Density Residential
Limited Secondary Zoning: R3 – Medium Density Residential

Downtown (DT)

Purpose: This land use designation is intended to provide for the variety of land uses that make a successful downtown. These uses include the civic functions of government, education, and gathering spaces, as well as the variety of uses that would allow residents to live, work, shop and recreate all within Downtown. The focus of this land use designation will be to regulate the performance standards of properties and buildings (such as building materials and appearance; shared parking; and pedestrian focused streets and building frontages) over the segregation of land uses that typically occur in the other land use designations within the Comprehensive Plan.

Location Criteria: The downtown area is roughly bounded from one block west of South Robert Street, to the railroad tracks on the east, and from 143rd Street East on the north to just short of County Road 42 on the south.
Minimum Requirements for Development: This land use designation is more concerned about the appearance and performance of buildings and properties within Downtown rather than the uses that actually occupy the buildings. Land uses that can meet the performance standards described by the *Development Framework for Downtown Rosemount*, the *Downtown Design Guidelines*, and the *Zoning Ordinance* should be allowed to develop downtown. The *Development Framework for Downtown Rosemount* plans approximately 25% of the land area Downtown for residential land uses.
Utilities: Municipal water and sanitary sewer are required.
Typical Uses: Public buildings; elementary and secondary schools; libraries; churches; gathering places; parks; townhouses; apartments; condominiums; retail; restaurants; bars; and offices.
Density: Zero (0) to forty (40) units per acre

Appropriate Zoning: A newly created DT – Downtown or MU – Mixed Use zoning district; C2 – Downtown Commercial; P – Public and Institutional;
Limited Secondary Zoning: R3 – Medium Density Residential; R4 – High Density Residential; C4 – General Commercial

Neighborhood Commercial (NC)

Purpose: This land use designation is intended to provide areas for commercial businesses that focus their services to the surrounding residential neighborhoods.
Location Criteria: The size of each Neighborhood Commercial district is intended to be less than five (5) acres in size. The district should be located adjacent to collector or arterial streets, but the access to the commercial area should be equally focused on pedestrians and bicyclists as the automobile.
Minimum Requirements for Development: The development of these commercial areas is dependant on an existing or developing residential neighborhood, a developed street network, and a system of sidewalks and trails.
Utilities: Municipal water and sanitary sewer are required.
Typical Uses: Restaurants; retail; gas stations; convenience stores; and personal services.
Appropriate Zoning: C1 – Convenience Commercial
Limited Secondary Zoning: C4 – General Commercial

Community Commercial (CC)

Purpose: This land use designation is intended to provide retail, professional offices, and personal services that serve the daily and weekly needs of the residents of Rosemount.
Location Criteria: The size of each Community Commercial district is intended to be at least 50 acres or greater in size. Close proximity to arterial streets is needed for visibility while individual business accesses shall be provided predominantly from collector, local, or private streets.
Minimum Requirements for Development: Traffic patterns within the Community Commercial district are intended to be served through frontage roads, backage roads, and cross-access easements that supplement the collector and local street network. Traffic patterns should also be designed to adequately serve automobiles, delivery vehicles, pedestrians and bicyclists throughout the district.
Utilities: Municipal water and sanitary sewer are required.
Typical Uses: Retail; offices; personal services; restaurants; gas stations; and auto oriented businesses not requiring outdoor storage.
Appropriate Zoning: C4 – Community Commercial
Limited Secondary Zoning: C3 - Highway Commercial

Regional Commercial (RC)

Purpose: This land use designation is intended to provide commercial opportunities for businesses that have a regional draw; businesses that have a product that residents need to purchase, rent, or lease annually or less often; or auto oriented businesses that require outdoor storage.

Location Criteria: The size of districts intended for auto orientated businesses may be as small as 10 acres, while the size of districts intended for businesses with a regional draw should be a minimum of 50 acres. Auto orientated business district should be located along arterial roads, while regional draw districts should be located at the intersections or interchanges of principal arterial roads.
Minimum Requirements for Development: Frontage and backage road systems.
Utilities: Municipal water and sanitary sewer are required.
Typical Uses: Hotels; theaters; big box retail; post-secondary education; vehicle sales and rentals; auto repair garages; tool repair; machinery sales; contractor yards; and retail.
Appropriate Zoning: C3 – Highway Commercial
Limited Secondary Zoning: C4 – General Commercial

Two Regional Commercial districts are provided within the Land Use Plan: an approximately 20 acre district bounded by South Robert Trail, Canada Circle, and the Union Pacific rail line; and an approximately 350 acre district surrounding the intersection of County Road 42 and US Highway 52.

The 20 acre Regional Commercial district is intended for auto oriented businesses. This district provides an area for the auto orientated businesses currently located Downtown, or the contractor businesses located southwest of County Road 42 and South Robert Trail, can be relocated.

The 350 acre Regional Commercial district is intended for businesses with a regional draw or with products that are sold annually or less often. Big box retail, theaters, or hotels are appropriate uses in this area, as well as an area for existing vehicle sales businesses in other parts of the City to relocate.

Business Park (BP)

Purpose: The intent of the Business Park district is to develop businesses with a large number of employees, wages that support an entire family, and constructed of high quality buildings that provide both beauty and tax base to the community. Establishments within the business park are intended to have little or no outdoor storage, with the majority of the business activities occurring completely indoors.

Webb Company, Rosemount Business Park

Location Criteria: The size of each Business Park district is intended to be greater than 150 acres in size. The district should be located adjacent to heavily traveled arterial roads to provide both visibility and access to these major employment centers.
Minimum Requirements for Development: Within the MUSA and with an improved access to a collector and/or arterial road to serve the district. The street network within the business park should be designed to accommodate truck and freight traffic while also providing sidewalks and pedestrian improvements for employees to use during breaks and lunch periods.

Utilities: Municipal water and sanitary sewer are encouraged. Private well and septic systems may be permitted as an interim system before municipal water and sanitary sewer are available provided an appropriate septic area is located and infrastructure is installed to connect to when utilities are at the development's boundary.
Typical Uses: Office; retail and office warehouses; research laboratories; post-secondary education; distributors; and manufacturing.
Appropriate Zoning: BP – Business Park
Limited Secondary Zoning: C4 – General Commercial near intersections of major roads; LI – Light Industrial adjacent to industrial planned areas.

Light Industrial (LI)

Purpose: The intent of the Light Industrial district is to provide an opportunity for high paying manufacturing, assembly, or wholesaling jobs that require less intense land development along with some outdoor storage. Light industrial businesses are expected to be constructed of quality building materials and for uses that do not generate the external noises, smells, vibrations, or similar nuisances normally associated with medium or heavy industrial uses.
Location Criteria: Light Industrial land uses are intended to buffer general industrial lands uses from commercial or residential. The size of each Light Industrial district is intended to be a minimum of 60 acres in size and located with access to arterial and major collector roads.
Minimum Requirements for Development: Within the MUSA and with an access to an arterial or major collector road. The street network should be designed to accommodate truck and freight traffic. Pedestrian access shall be accommodated through the city, county or regional trail corridors.
Utilities: Municipal water and sanitary sewer are encouraged. Private well and septic systems may be permitted as an interim system before municipal water and sanitary sewer are available provided an appropriate septic area is located and infrastructure is installed to connect to when utilities are at the development's boundary.
Typical Uses: Manufacturing; assembly; professional services; laboratories; general repair services; contractor offices; post secondary trade or vocational schools; public buildings; and warehousing.
Appropriate Zoning: LI – Light Industrial
Limited Secondary Zoning: BP – Business Park adjacent business park, commercial, or residential planned areas; GI – General Industrial adjacent to general industrial planned areas.

General Industrial (GI)

Purpose: The intent of the General Industrial designation is to provide an opportunity for employment with wages that can support an entire family while the businesses typically have a lower tax base per acre than other commercial and industrial uses. General industrial businesses normally generate noises, smells, vibrations, and truck traffic that can be disturbing to non-industrial land uses. General industrial land should not be located next to residential developments. Topography, landscaping, less intense land uses, or other forms of buffering shall be used to transition between general industrial property and residential, recreational, or institutional land uses.

Location Criteria: The size of each General Industrial district is intended to be greater than 400 acres in size. Access to the district should occur along arterial or major collector roads. To provide the greatest buffer to the residents traveling the arterial or major collector roadways from the nuisance generated by the industries, the least intense and highest quality buildings and structures should be located adjacent to the roadways.
Minimum Requirements for Development: Development is encouraged to occur within the MUSA, but is not required. Due to the large size of each industrial facility, it is anticipated that the majority of the traffic circulation shall occur on private roads within the industrial sites. Any public streets constructed within the general industrial district should be designed to accommodate truck and freight traffic. Any rail service to general industrial businesses shall be designed with switching and storage yards interior to the site to minimize the number of rail crossings of public streets and the frequency of train schedules. Pedestrian access shall be limited to the city, county or regional trail corridors with appropriate safety and security measures.
Utilities: Municipal water and sanitary sewer are encouraged. Private well and septic systems may be permitted as an interim system before municipal water and sanitary sewer are available provided an appropriate septic area is located and infrastructure is installed to connect to when utilities are at the development's boundary.
Typical Uses: Manufacturing; assembly; laboratories; contractor offices; trucking and freight terminals; warehousing; and wholesaling.
Appropriate Zoning: GI – General Industrial
Limited Secondary Zoning: LI – Light Industrial adjacent to other land uses; HI – Heavy Industrial shall be provided sparingly and only to allow the development or improvement of the four heavy industrial businesses.

Heavy Industrial zoning is limited to developed areas of the four heavy industrial businesses. The City does not desire to expand the number of heavy industrial business beyond four, but it does desire the four businesses to redevelop and expand as needed to stay economically viable. If any of the four heavy industrial businesses desire to expand its Heavy Industrial zoning district, a Planned Unit Development master plan for the business expansion must first be approved. The Planned Unit Development master plan shall concentrate the heaviest uses to the center of the site; provide a transition of the lesser intensity uses to the perimeter of the site; and ensure the efficient use of the existing heavy industrial property to prevent premature expansion of the zoning district. The rezoning of additional property to Heavy Industrial shall only occur immediately prior to an expansion of the business per its approved Planned Unit Development master plan.

Waste Management (WM)

Purpose: The intent of the Waste Management district is to accommodate the need for the management of waste generated by society while regulating the inherent environmental problems associated with waste management. It is in the public interest to explore all available options of waste management before expanding the waste management district for additional landfilling.
Location Criteria: In an appropriate location to address the problems and nuisances associated with waste management.
Minimum Requirements for Development: Waste management practices that meet or exceed all county, state, and federal waste management regulations.

Utilities: Private wells and septic systems are required.
Typical Uses: Landfills; recycling centers; and waste-to-energy production.
Appropriate Zoning: WM – Waste Management
Limited Secondary Zoning: None

Public/Institutional (PI)

Purpose: The intent of the Public/Institutional district is to accommodate the civic, religious, governmental, and educational needs of the community. Often, institutional uses are constructed at a much larger scale than the surrounding residential uses. Care is needed to buffer the conflicts between the uses while maintaining accessibility from the neighborhood. Performance measures such as setbacks, landscaping, site grading, and quality building materials may need to be increased compared to the surrounding uses to provide the needed buffering.

Central Park Bandshell

Location Criteria: There is no size requirement for a Public/Institutional district and the districts are anticipated to be dispersed throughout the community, particularly adjacent to residential uses. Institutional uses should be located adjacent to collector or arterial roads.
Minimum Requirements for Development: Development is encouraged to occur within the MUSA. The main access to the institutional use should occur directly from a collector or minor arterial roadway. Pedestrian access to and throughout the site should be emphasized to allow the surrounding neighborhood access to the site.
Utilities: Municipal water and sanitary sewer are encouraged. Private well and septic systems may be permitted for institutions that have an appropriate area for septic management.
Typical Uses: Schools (elementary, secondary, or post-secondary); churches; cemeteries; public buildings; civic uses; recreational open spaces; and public parks.
Appropriate Zoning: P – Public and Institutional
Limited Secondary Zoning: R1 – Low Density Residential in areas adjacent residential planned uses

Parks and Open Space (POS)

Connemara Park

Purpose: As Rosemount becomes more urbanized, it is particularly important to ensure that residents have an opportunity to recreate outdoors and in open spaces to connect with nature. The Parks and Open Space designation is intended to provide a wide variety of recreational and open space opportunities from ball fields to nature preserves.
Location Criteria: Dispersed throughout the residential neighborhoods. Land that contains significant or unique natural resources should be considered for open space preservation.

Minimum Requirements for Development: Varies per type of recreational opportunity. Community parks and outdoor recreational complexes are encouraged to be located along collector streets and served with municipal sewer and water, while neighborhood parks or mini-parks may only require local street connections. Non-recreational open space may only require an unimproved driveway to the site.
Utilities: Municipal water and sanitary sewer are encouraged. Private well and septic systems may be permitted for large parks or recreational centers that have the appropriate land area.
Typical Uses: Recreational open space; non-recreational open spaces such as nature preserves or wildlife management areas; and public parks.
Appropriate Zoning: P – Public and Institutional
Limited Secondary Zoning: The zoning district of the adjacent residential neighborhood.

Floodplain (FP)

Purpose: The intent of the Floodplain district is to regulate the land that is inundated during the 100 year flood event of the Mississippi River. It is in the public interest to limit the uses within the floodplain to minimize property damage and public safety concerns during flood events.
Location Criteria: Within the 100 year flood elevation of the Mississippi River.
Minimum Requirements for Development: Development within the floodplain is limited to river dependent commercial operations or the recreational use of the river.
Utilities: Utilities are discouraged with the floodplain except for major transmission crossings.
Typical Uses: Barge facilities, recreation facilities, accessory uses for businesses and residences (such as parking lots, lawns, porches, and docks)
Density: No residences are allowed within the floodplain
Appropriate Zoning: FP – Floodplain
Limited Secondary Zoning: None

Redevelopment

The City of Rosemount has over 150 years of history and, as a result, there are many properties within the City that have been impacted by previous development. Downtown Rosemount, the South Robert Trail corridor, UMore Park (the former Gopher Ordnance Works), and the industrial east side are all areas that have fifty or more years of development history. Abandoned and demolished buildings, former dump sites, and other environmental concerns exist in these areas. It is in the public interest to address, clean up, and redevelop these areas instead of ignoring them and developing only farm fields and vacant sites.

The City, in cooperation with other government agencies, has an interest in seeing that the sites with environmental concerns are addressed and redeveloped into their full potential. The redevelopment of these properties not only eliminates the environmental concerns from worsening in the future, but also adds tax base, employment opportunities, and housing to the community. The City will work with the other governmental agencies to assist land owners in redeveloping their properties that have environmental issues.

Interim Uses

There are a number of uses that are beneficial to a growing community, such as aggregate mining or asphalt plants, that may create nuisances that are incompatible with residential neighborhoods. These uses can often occur on property that is years away from developing, but the City has the interest to ensure that the incompatible uses cease or relocate as development approaches. In other cases, land owners are looking for a use that can make a profit other than agriculture before development occurs, such as paint ball courses, golf courses, or other outdoor recreation operations.

These uses can often be approved through an interim use permit which allows the uses to occur on a temporary basis, which can be in excess of ten years. The City shall discourage incompatible interim uses from locating within the 2020 MUSA and shall require that all interim use permits for incompatible uses can expire when development approaches. A reclamation plan shall be required of all applicable interim uses to ensure that orderly development can occur after the interim use has ceased to operate.

Agricultural Preserve Program

State Statute 473H allows land owners to enroll land that is guided and zoned for long term agriculture into the Agricultural Reserve program in exchange for reduced property tax rates. Approximately 880 acres of land within Rosemount is currently enrolled in the Agriculture Reserve program, as shown on Figure 7.7. Approximately 150 acres of enrolled land is located on the southeast corner of Bonaire Path and Akron Avenue within the 2020 MUSA boundary and is set to expire on August 29, 2010. Approximately 120 acres of enrolled land is located north of the City of Coates and west of US Highway 52 within the 2030 MUSA boundary. The land owner of the 120 acres has not applied to withdrawal the land from the Agricultural Reserve program.

The remaining 610 acre of land enrolled in the Agricultural Reserve program is located in the southeast corner of the City along Emery Avenue. None of these land owners have applied to withdraw their land from the program. Approximately 200 acres of this land is located within the 2030 MUSA boundary and the remaining 410 acres is not anticipated to develop within the before 2030.

Minnesota Statute 473H.08 Subd. 3 provides the City the ability to initiate the withdrawal of land from the Agriculture Preserve by changing the land use designation to some use other than agriculture. The City has designate the 120 acres north of Coates as Business Park and has designated the 200 acres within the 2030 MUSA in the southeast as either Low Density Residential and Medium Density Residential. This 320 acres of land is expected to develop after 2025 and the City does not need to initiate the eight year waiting to withdraw from the Agriculture Preserve program at this time. The City monitor the Agriculture Preserve status of this land and act as needed to ensure that this land is available for development post-2025.

Aggregate Resources

The Metropolitan Council has studied the location of the aggregate resources within the metro area and the location of the aggregate resources within Rosemount is shown on Figure 7.8. The predominate areas of aggregate resources in Rosemount are located in central and southeastern Rosemount. There are a number of gravel mines currently

excavating aggregate from these areas. As stated with the Interim Use section above, the City of Rosemount has prepared regulations that permit the extraction of these resources provided it does not prohibit the orderly development of the land within the 2020 MUSA boundary.

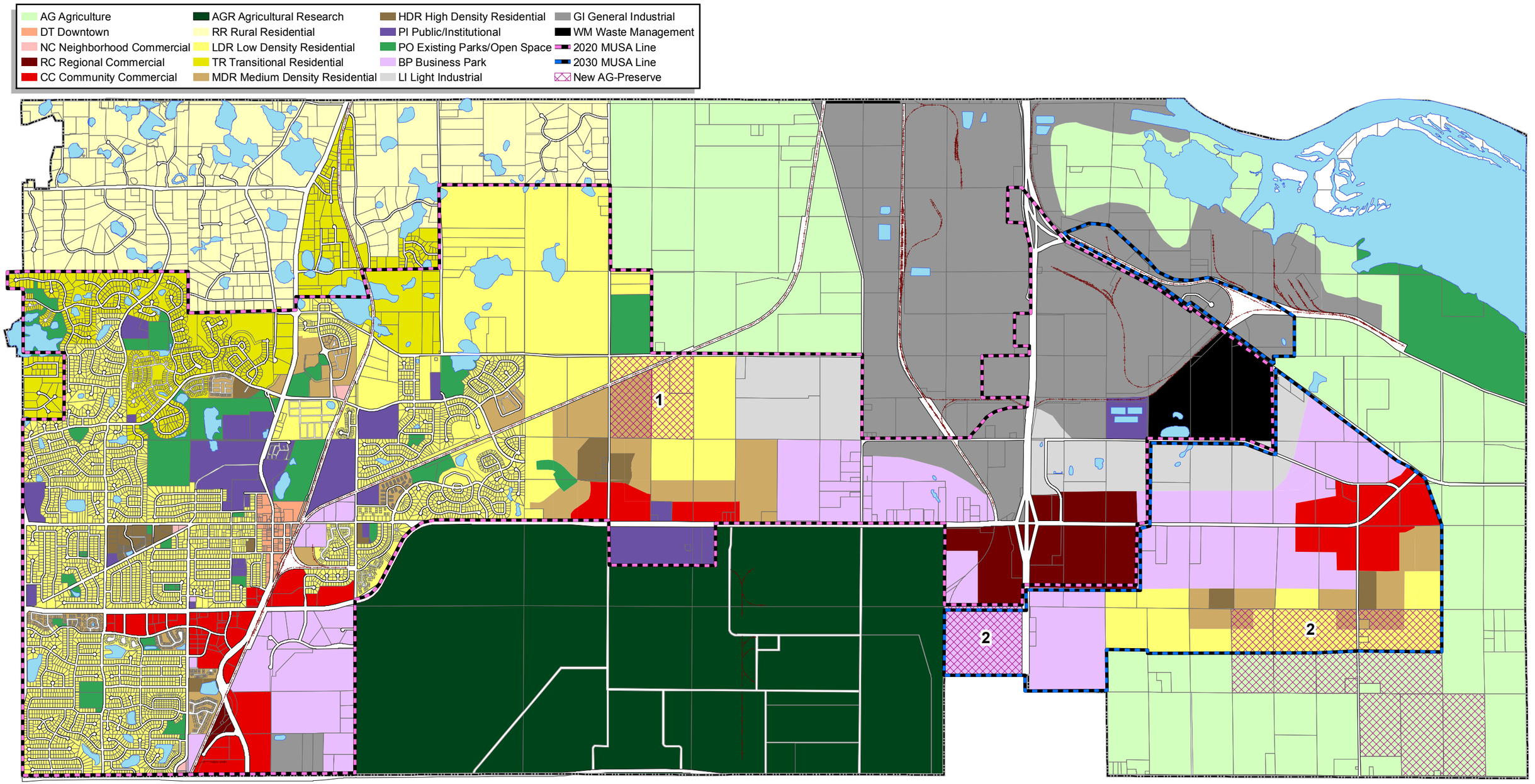
Solar Access

Minnesota Statutes Section 473.859, Subdivision 2, requires that local governments in the Metropolitan Area include an element for protection and development of access to direct sunlight for solar energy systems in the Comprehensive Plan. The rationale for including a solar access protection element in the Comprehensive Plan is to assure the availability of direct sunlight to solar energy systems. According to the Metropolitan Council, "a major share of energy consumed in Minnesota is used for purposes that solar energy could well serve such as space heating and cooling, domestic hot water heating and low-temperature industrial processes. Collection of solar energy requires protection of a solar collector's skyspace. Solar skyspace is the portion of the sky that must be free of intervening trees or structures for a collector to receive unobstructed sunlight." According to the Minnesota Energy Agency, "simple flatplate collectors have the potential to supply one half of Minnesota's space heating, cooling, water heating and low-temperature industrial process heat requirements." The City will take the following measures to ensure protection of solar access where appropriate:

- Within Planned Unit Developments, the City will consider varying setback requirements in residential zoning districts, as a means of protecting solar access.
- The City will encourage the use of solar energy and other systems using renewable energy in new public buildings.

Figure 7.7 Agricultural Preserves

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS



1. AG-Preserve Expiration 9/29/2010
2. No Experation Date. The City will monitor this land to ensure it is available for development post 2025.

0 0.25 0.5 1 1.5 2 Miles

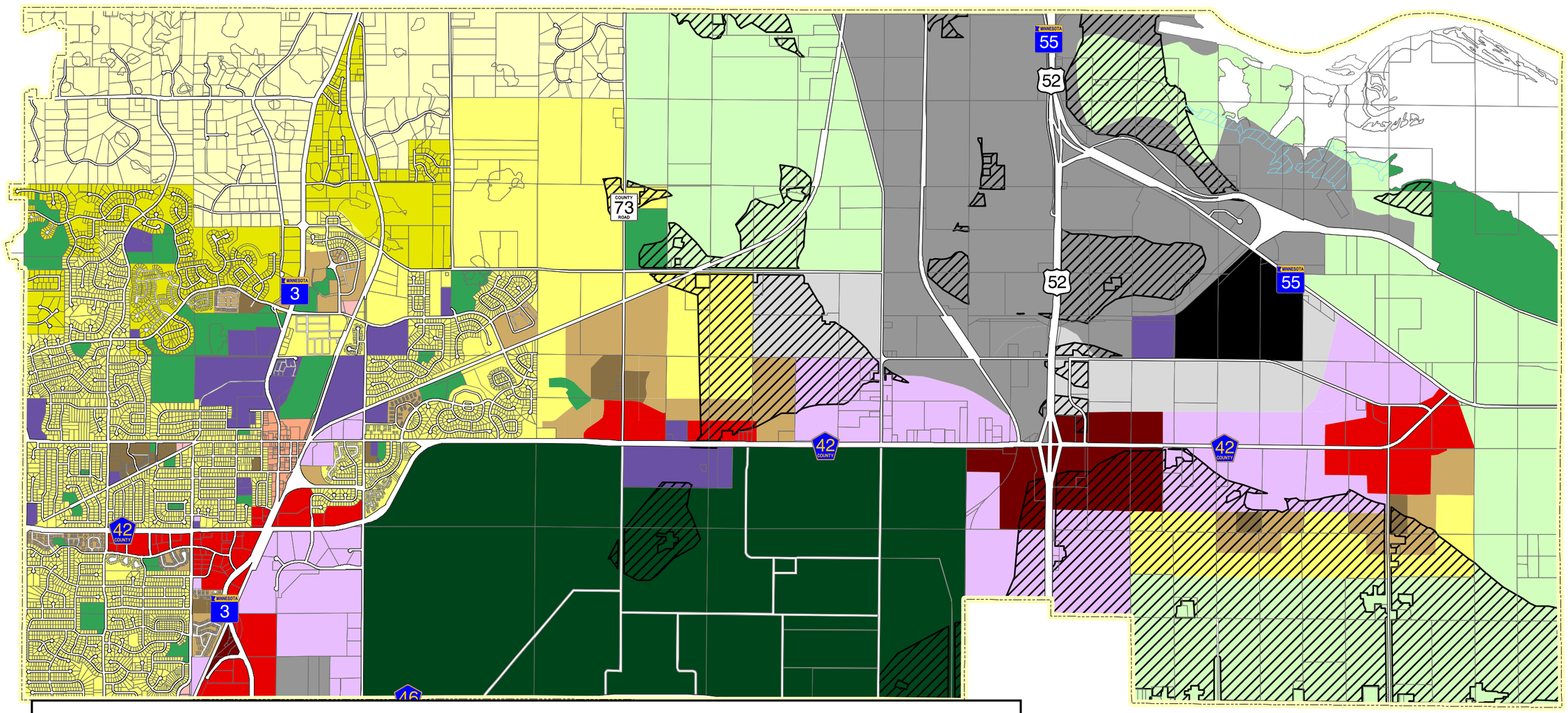
NORTH

May 2009

File: T:\GIS\City\Maps\Base Maps\Land Use Map\comp_plan_2005.mxd, Sep 07, 2006 10:15:55 AM, City of Rosemount

Figure 7.8 Metropolitan Council Aggregate Resources

ROSEMOUNT
2030 COMPREHENSIVE PLAN



Aggregate Resources 2020 Classifications

- Superior Lobe Sand and Gravel 10-40 ft thick, good to excellent quality
- Prairie du Chien Dolostone > 30 ft thick

Landuse

- AG Agriculture
- DT Downtown
- NC Neighborhood Commercial
- RC Regional Commercial
- CC Community Commercial
- AGR Agricultural Research
- RR Rural Residential
- LDR Low Density Residential
- TR Transitional Residential
- MDR Medium Density Residential
- HDR High Density Residential
- PI Public/Institutional
- PO Existing Parks/Open Space
- BP Business Park
- LI Light Industrial
- GI General Industrial
- WM Waste Management

Source: Metropolitan Council & MetroGIS

0 0.25 0.5 1 1.5 2 Miles

March 2009

FILE: //snap2/share1/GIS/City/Maps/Departmental Maps/Comp Plan Update/MetCouncilAggregateResources.mxd

Land Use Element Goals and Policies

1. Manage the rate of development that occurs within the City.
    a. Discourage the development of property that would require the extension of urban service through undeveloped properties.
    b. Deny the subdivision or rezoning of land that lacks adequate infrastructures, such as collector streets, public utilities, parks, or public safety services.

2. Ensure that Interim Uses allow for productive use of land before development occurs but does not prevent or inhibit the orderly development of land.
    a. Gravel mining operations shall be required to have an approved reclamation plan that allows development to occur per the Land Use, Transportation, Utilities, and Parks and Open Space Elements.
    b. Asphalt plants and similar potentially incompatible interim uses shall be adequately screened, buffered, and/or located as far from residential property as possible and may be required to relocate when residential property is developed per the Land Use Plan.
    c. Discourage Interim Uses from locating within the 2020 MUSA.

3. Create specific neighborhood plans to guide the development expected in unique areas of the City.
    a. Implement the *Development Framework for Downtown Rosemount*.
    b. Work with the University of Minnesota and its consultants and/or development partners to create a plan for the potential mixed used redevelopment of the UMore Park property.
    c. Create a specific area plan for the development and redevelopment of the commercial properties along South Robert Trail from County Road 42 to County Road 46.
    d. Create a specific area plan for the development of the area surrounding the intersection of US Highway 52 and County Road 42.
    e. Consider the development of additional specific area plans as opportunities with large land owners become available or if residential development is imminent east of US Highway 52.
    f. Encourage the preparation of environmental review documents to evaluate large land areas for environment and infrastructural impacts and find a solution before development occurs.

4. Provide appropriate land uses to create a diversified economy.
    a. Encourage the development of office buildings within the Business Park and Community Commercial designations to provide a high intensity of employees and tax base per acre.
    b. The four Heavy Industrial businesses within the City shall submit Planned Unit Developments to the City that illustrate the development plans of their businesses.
    c. The Heavy Industrial zoning district shall only be expanded when a Heavy Industrial business expands in conformance with adopted Planned Unit Development.

5. Provide appropriate transitions between land uses.
    a. General Industrial land uses should not be located next to residential development. Topography, landscaping, less intense land uses, or other forms buffering shall be used to transition between General Industrial land and residential, recreational, or institutional land uses.
    b. The area of transitional residential between Dodd Boulevard, South Robert Trail, and 132nd Street West will transition between the medium density residential to the south and east; the low density residential to the west; and the rural residential to the north. It is anticipated that this area may exceed three (3) units per acre in density.
    c. The transitional residential area may receive a Municipal Urban Service Area expansion if the residents request the expansion or if there are septic system failures that create health concerns.
    d. Landscaping, topography, additional setbacks, or other forms of buffering shall be used between conflicted land uses and along major collector or arterial street frontages.

6. Encourage the redevelopment of blighted, nuisance, contaminated, or underdeveloped property.
    a. Work with Dakota County Environmental Management, Minnesota Pollution Control Agency, Metropolitan Council, Department of Employment and Economic Development, or other applicable agencies to leverage funds, resources, and expertise to redevelop property with environmental concerns.
    b. Work with the University of Minnesota, the Department of the Army, Dakota County Environmental Management, and other applicable agencies to ensure that UMore Park and the former Gopher Ordnance Works have their environmental issues addressed during any potential UMore Park development.
    c. Use the resources available to the City through its City Council and Port Authority to redevelop blighted, nuisance, contaminated, or underdeveloped property.
    d. Encourage the creation of Development Response Action Plans (DRAP) per the Minnesota Pollution Control Agency guidelines for former dumps and other properties with environmental concerns.

7. Encourage and promote sustainable development, green building, and resource conservation.
    a. Consider requiring green building standards or energy conservation practices for developments that receive public funding and/or assistance.
    b. Provide education and resources to residents and businesses about available energy conservation and resource management measures.
    c. Encourage the use of Leadership in Energy and Environmental Design (LEED), Minnesota GreenStar, Minnesota Sustainable Building Guidelines, EnergyStar, or other sustainable building practices during development.

CHAPTER 8: IMPLEMENTATION

Pursuant to Metropolitan Land Use Act, Minnesota Statutes Chapter 473, this chapter addresses the Implementation Program requirement of the Comprehensive Plan. Minnesota Statute 473.858 Subd. 4 requires that the Implementation Program consist of three elements:

(1) a description of official controls, addressing at least the matters of zoning, subdivision, water supply, and private sewer systems, and a schedule for the preparation, adoption, and administration of such controls;
(2) a capital improvement program for transportation, sewers, parks, water supply, and open space facilities; and
(3) a housing implementation program, including official controls to implement the housing element of the land use plan, which will provide sufficient existing and new housing to meet the local unit's share of the metropolitan area need for low and moderate income housing.

OFFICIAL CONTROLS

The City of Rosemount has numerous official controls to ensure that the Goals and Policies within the Comprehensive Plan are implemented. These controls include Rosemount's Zoning Map, Zoning Ordinance, Subdivision Ordinance, and Planned Unit Development Ordinance. Additionally, there are a number of ordinances and plan that protect the City's natural resources, such as the Shoreland Ordinance, Stormwater Management Plan, Wetland Management Plan, Wetland Management Ordinance and Overlay District, and the Mississippi River Corridor Critical Area Plana and Overlay District. The City will review these plans and ordinances to ensure to they implement the Comprehensive Plan and will make amendment to the official controls as necessary.

The Comprehensive Plan, particularly the Housing and Land Use chapters, identify a number of areas in which the official controls should be reviewed. The characteristics of each land use designation are described in great detail, including their appropriate zoning districts, within the Land Use chapter. The City will review its official controls to ensure they implement the Comprehensive Plan and will make amendment to the official controls as necessary.

CAPITAL IMPROVEMENT PLAN (CIP)

Background

Historically, the City of Rosemount has usually had some form of 5-year Capital Improvement Plan (CIP) in place to utilize for its capital improvements. There have been times where just a single year's capital improvements have been addressed and funded. As the City continues to grow, we believe that the careful development and continuous utilization of a realistic CIP is essential to the proper management of the City. As we looked at developing a new 5-year CIP, it became apparent that the dilemma that the City of Rosemount faces is one of continued growth combined with restoration/reconstruction of the older portions of our City. This being the case, it was almost impossible to develop a plan for a 5-year period that was very realistic. As work continued on the plan, we decided to explore the possibility of looking out farther and developing a longer plan that would more realistically allow us to plan for the City's future. What has evolved is the following 10-year CIP. We believe that great strides have been made to more accurately plan for the future of the City of Rosemount. This document is only a working guide that is utilized by the City Council and its staff to prepare for the future. The first year of the plan will be included as part of the formal budget that is prepared yearly as part of our Truth-in-Taxation process with the following years developed as a working tool for future years' discussions.

General/Administrative Description

The CIP provides for specific funding of items, the nature of which is not considered "current" in their use or life expectancy. These items are generally of a higher estimated cost than $5,000 and will have a life expectancy of 3 years or greater. The source of funding for these expenditures is typically the general tax levy. In some instances, other funding is utilized. For example, beginning in 1996, revenues received from user fees are being designated in various CIP funds for capital improvement/equipment purchases. If these revenues are realized, the equipment or project will be completed and if the revenue is not realized the equipment will not be purchased. Individual departments are designated for each item proposed for purchase in this plan.

Types of Capital Improvement Funds

Another area of change for the CIP is the implementation of three separate funds to isolate and better track the types of capital improvements being planned for. The following briefly describes each of the three:

Building CIP Fund - This fund is used to account for the on-going capital improvements and possible additions to government buildings.

Street CIP Fund - This fund is used to account for the on-going street construction and reconstruction projects within the City and all other major maintenance items related to both paved and unpaved streets including, but not limited to, street lights, signal lights, sidewalks and gravel road resurfacing.

Equipment CIP Fund - This fund is used to account for the on-going replacement of and additions to City equipment.

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2008	2	Ice Edger	Arena														9,000	(1)	9,000
2008	2	Paint Ceiling and Duct Work	Arena														90,000	(1)	90,000
2008	2	"Welcome to Rosemount" Signs	Comm Dev			60,000													60,000
2008	2	2005 Equipment Certificates (5-Years)	Council													345,394			345,394
2008	2	2006 Equipment Certificates (5-Years)	Council													85,236			85,236
2008	2	2007 Equipment Certificates (5-Years)	Council													105,431			105,431
2008	2	Library Project Costs	Council	100,000															100,000
2008	1	Security Cameras for City Hall Entrances & Parking Lots	Gen'l. Govt.			25,000													25,000
2008	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2008	1	Replace Carpet in Park & Rec Office Area	Park & Rec			12,000													12,000
2008	1	Miscellaneous Park Improvements	Park & Rec					15,000											15,000
2008	1	Parking Lot for Disc Golf Course	Park & Rec					50,000											50,000
2008	1	Trail Improvements	Park & Rec					50,000											50,000
2008	1	Improvements to Erickson Park	Park & Rec					100,000											100,000
2008	1	Interpretive Trail Project	Park & Rec					160,000											160,000
2008	1	8 Tennis Courts	Park & Rec					440,000											440,000
2008	1	Participation in DCTC Outdoor Soccer Complex	Park & Rec					450,000											450,000
2008	1	New Neighborhood Park Built (Brockway Park)	Park & Rec					500,000											500,000
2008	3	Construct Outdoor Recreation Complex	Park & Rec														6,000,000	(2)	6,000,000
2008	1	3 New Radar Units	Police														6,800	(3)	6,800
2008	1	Emergency Equipment for Squads & Installation	Police			10,000													10,000
2008	1	Replace Video/Audio Recording Equipment	Police			10,000													10,000
2008	1	Radar Speed Trailer	Police			12,000													12,000
2008	1	2 Squads (Sell Back 1 - #9860)	Police			42,000											3,000	(3)	45,000
2008	1	DCC Capital Costs (Year 2 of 7)	Police													61,609			61,609
2008	2	PW Building Addition Lease/Purchase (Year 10 of 20)	Pub Works	24,000									10,000	10,000					44,000
2008	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(4)	1,200,000
2008	1	County Road 42 / US Highway 52 (Design & ROW Costs)	Pub Works		65,000												628,198	(5)	693,198
2008	2	Bobcat (Replace #418)	Pub Works			*****											35,000	(#)	35,000
2008	2	Emergency Generator for PW Mechanics Building	Pub Works			*****											60,000	(#)	60,000
2008	2	Mower (Replace #8068)	Pub Works			*****											70,000	(#)	70,000
2008	2	Backhoe w/Jackhammer (Replace #8407, 0179)	Pub Works			*****											90,000	(#)	90,000
2008	2	Single Axle Dump Truck(Replace #8431, Rotate Current to #8430)	Pub Works			*****											120,000	(#)	120,000
																			0
																			0
		Totals		124,000	765,000	221,000	0	1,765,000	0	0	0	0	110,000	110,000	100,000	597,670	7,311,998		11,104,668

	Total Levy - Year 2008	$1,110,000
		$597,670
(#)	These items will be funded with the issuance of Equipment Certificates.	$375,000
(1)	Ice Edger and Paint Ceiling/Duct Work funding comes from Arena Fund operations/reserves.	
(2)	Funding for construction of an Outdoor Recreation Complex unknown at this time.	
(3)	Other funding for Radar Units comes from the DWI Forfeiture Fund and other funding for Squad Cars comes from auction sales of old vehicles.	
(4)	Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000). Quiet Zones for Railroad Crossings will be evaluated as part of the Pavement Management Program.	
(5)	Other funding for County Road 42 / US Highway 52 project from Federal share of project, State share of project and County share of project.	

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2009	2	Replace Compressor	Arena														10,000	(1)	10,000
2009	2	Skate Sharpener	Arena														12,000	(1)	12,000
2009	2	2005 Equipment Certificates (5-Years)	Council													346,290			346,290
2009	2	2006 Equipment Certificates (5-Years)	Council													87,766			87,766
2009	2	2007 Equipment Certificates (5-Years)	Council													102,908			102,908
2009	2	2008 Equipment Certificates (5-Years)	Council													90,000			90,000
2009	2	St. Joseph Renovation	Council														500,000	(2)	500,000
2009	2	Library Enhancement - Art Features	Council	100,000															100,000
2009	2	Public Works/City Hall Building Expansion	Council														4,000,000	(3)	4,000,000
2009	2	PC Printer Replacements	Finance			10,000													10,000
2009	2	PC File Server Replacements (From 2006)	Finance			60,000													60,000
2009	2	PC Workstation Upgrades (Balance to Upgrade to 2007 Office)	Finance			70,000													70,000
2009	2	1/2 Ton 4x4 Pickup (Replace 1999 Vehicle)	Fire			*****											30,000	(#)	30,000
2009	2	4x4 Grass Rig Replacement ('91 Vehicle)	Fire			*****											55,000	(#)	55,000
2009	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2009	2	Replace Community Center Ice-Maker in Kitchen	Park & Rec			9,000													9,000
2009	1	Miscellaneous Park Improvements	Park & Rec					20,000											20,000
2009	1	New Emergency Equipment for Squad #50	Police			12,000													12,000
2009	1	Equipment Set Up and Installation for Squads	Police			15,000													15,000
2009	2	Emergency Siren Replacement (2)	Police			40,000													40,000
2009	1	DCC Capital Costs (Year 3 of 7)	Police													64,733			64,733
2009	1	4 Squads (Sell Back 4 - #6110, 450, 630 & 670)	Police			90,000											12,000	(4)	102,000
2009	2	PW Building Addition Lease/Purchase (Year 11 of 20)	Pub Works	24,000									10,000	10,000					44,000
2009	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(5)	1,200,000
2009	1	County Road 42 / US Highway 52 (ROW Costs & Construction)	Pub Works		65,000												628,198	(6)	693,198
2009	1	Street Reconstruction - County Road 73 (135th Street to IGH)	Pub Works		168,800												206,250	(7)	375,050
2009	2	Pickup (Replace Building Department's)	Pub Works			*****											25,000	(#)	25,000
2009	2	3/4-Ton Pickup (Replace #8343)	Pub Works			*****											25,000	(#)	25,000
2009	1	Brush Chipper (Addition)	Pub Works			*****											30,000	(#)	30,000
2009	2	Tree Spade (Replace #0162)	Pub Works			*****											30,000	(#)	30,000
2009	1	Replace Air Compressor (Replace #0032)	Pub Works			*****											30,000	(#)	30,000
2009	2	1-Ton Pickup w/Top (Replace #8307)	Pub Works			*****											33,000	(#)	33,000
2009	2	1-Ton Pickup w/Dump (Replace #8344, Rotate Current to 8306)	Pub Works			*****											40,000	(#)	40,000
2009	2	Bucket Truck (Addition)	Pub Works			*****											80,000	(#)	80,000
2009	1	Water Truck (Addition)	Pub Works			*****											100,000	(#)	100,000
2009	1	Well #16 Land Acquisition	Pub Works							250,000									250,000
2009	1	Twin Puddles Outlet (Storm CIP 11)	Pub Works									120,000							120,000
2009	3	Striper for New Athletic Complex	Pub Works			*****											20,000	(#)	
2009	3	Gator Multi-Use Cart for New Athletic Complex	Pub Works			*****											20,000	(#)	
2009	3	1-Ton Dump Truck for New Athletic Complex	Pub Works			*****											38,000	(#)	
2009	3	Tractor for New Athletic Complex	Pub Works			*****											50,000	(#)	
2009	3	Miscellaneous Equipment for New Athletic Complex	Pub Works			*****											120,000	(#)	
		Totals		124,000	933,800	356,000	0	20,000	0	250,000	0	120,000	110,000	110,000	100,000	691,697	6,294,448		9,109,945

Total Levy - Year 2009 $1,413,800 $691,697

(#) These items will be funded with the issuance of Equipment Certificates. $726,000

(1) Compressor and Skate Sharpener funding comes from Arena Fund operations/reserves.

(2) Other funding for St. Joseph renovation unknown at this time.

(3) Funding for the City Hall Expansion ($1,000,000) & PW Building Expansion ($3,000,000) will come from a general bond issue.

(4) Other funding for Squad Cars comes from auction sales of old

(5) Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000). ($314,600 Programmed for 2009 - Surplus of $285,400)

(6) Other funding for County Road 42 / US Highway 52 project from Federal share of project, State share of project and County share of

(7) Other funding for County Road 73 project from County share of project.

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2010	2	Replace Compressor	Arena														10,000	(1)	10,000
2010	2	2005 Equipment Certificates (5-Years)	Council													346,539			346,539
2010	2	2006 Equipment Certificates (5-Years)	Council													84,853			84,853
2010	2	2007 Equipment Certificates (5-Years)	Council													105,079			105,079
2010	2	2008 Equipment Certificates (5-Years)	Council													90,000			90,000
2010	2	2009 Equipment Certificates (5-Years)	Council													170,000			170,000
2010	2	Hose Replacement	Fire			6,000													6,000
2010	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2010	1	Miscellaneous Park Improvements	Park & Rec					20,000											20,000
2010	1	Replace Sun Shelter at Schwarz Pond Park	Park & Rec					40,000											40,000
2010	1	New Neighborhood Park Built (Arcon Park)	Park & Rec					500,000											500,000
2010	1	Replace Tasers	Police			5,000													5,000
2010	1	Replace Personal Protection Equipment	Police			5,000													5,000
2010	1	Replace Squad Laptops (4)	Police			18,000													18,000
2010	1	Set Up and Installation of Squad Equipment	Police			20,000													20,000
2010	2	Electronic Fingerprinting Software/Device	Police			25,000													25,000
2010	2	Electronic Photoimaging Software Station - Booking	Police			25,000													25,000
2010	3	Property/Evidence Management Software	Police			25,000													25,000
2010	2	Emergency Siren Replacement (2)	Police			40,000													40,000
2010	1	DCC Capital Costs (Year 4 of 7)	Police													62,633			62,633
2010	1	3 Squads (Sell Back 3 - #720, 731 & 780)	Police			70,000											9,000	(2)	79,000
2010	2	PW Building Addition Lease/Purchase (Year 12 of 20)	Pub Works	24,000									10,000	10,000					44,000
2010	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(3)	1,200,000
2010	1	Street Reconstruction - County Road 73 (135th Street to IGH)	Pub Works		200,000		221,706										515,419	(4)	937,125
2010	2	Paver Trailer (Replace #0514)	Pub Works			*****											10,000	(#)	10,000
2010	2	Inspections Vehicle (Replace Focus/Building #8612)	Pub Works			*****											17,000	(#)	17,000
2010	2	Inspections Vehicle (Replace Focus/Building #8613)	Pub Works			*****											17,000	(#)	17,000
2010	2	Single-Axle Dump Truck (Replace #8432)	Pub Works			*****											120,000	(#)	120,000
2010	2	Loader, Wing & Plow (Replace 8421, 0195 & 0212)	Pub Works			*****											200,000	(#)	200,000
2010	1	Well #16 Construction	Pub Works							1,250,000								(5)	1,250,000
2010	1	Water Storage Facility	Pub Works							2,700,000								(5)	2,700,000
		Totals		24,000	900,000	289,000	221,706	560,000	0	3,950,000	0	0	110,000	110,000	100,000	859,104	1,098,419		8,222,229
		Total Levy - Year 2010			$1,213,000											$859,104			
(#)		These items will be funded with the issuance of Equipment Certificates.			$364,000														

(1) Compressor funding comes from Arena Fund operations/reserves.

(2) Other funding for Squad Cars comes from auction sales of old vehicles.

(3) Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000). ($357,830 Programmed for 2010 - Culmulative Surplus of $627,570)

(4) Other funding for County Road 73 project from County share of project.

(5) Funding for Well #16 and the Water Storage Facility will come from a Water Revenue bond issue.

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2011	2	Replace Compressor	Arena														10,000	(1)	10,000
2011	2	Replace Skate Tile	Arena														55,000	(1)	55,000
2011	2	2006 Equipment Certificates (5-Years)	Council													87,150			87,150
2011	2	2007 Equipment Certificates (5-Years)	Council													107,021			107,021
2011	2	2008 Equipment Certificates (5-Years)	Council													90,000			90,000
2011	2	2009 Equipment Certificates (5-Years)	Council													170,000			170,000
2011	2	2010 Equipment Certificates (5-Years)	Council													85,000			85,000
2011	2	PC Printer Replacements	Finance			10,000													10,000
2011	2	PC Workstation Upgrades (From 2007)	Finance			80,000													80,000
2011	1	Technology Updates	Fire			50,000													50,000
2011	1	Tanker Replacement	Fire			*****											250,000	(#)	250,000
2011	1	Pumper (Addition)	Fire			*****											360,000	(#)	360,000
2011	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2011	2	Replace Skate Park Equipment	Park & Rec			75,000													75,000
2011	1	Miscellaneous Park Improvements	Park & Rec					20,000											20,000
2011	1	New Neighborhood Park Built (N-5)	Park & Rec					600,000											600,000
2011	1	Set Up and Installation of Squad Equipment	Police			10,000													10,000
2011	2	Add 5 Portable Radios	Police			10,000													10,000
2011	2	Voice Recognition Dictation Software	Police			15,000													15,000
2011	1	Replace Squad Laptops (4)	Police			18,000													18,000
2011	1	Equipment for New Squad	Police			20,000													20,000
2011	2	Emergency Siren Replacement (2)	Police			40,000													40,000
2011	1	3 Squads (Sell Back 2 - #9810 & 0740 and New Marked)	Police			46,000											6,000	(2)	52,000
2011	1	DCC Capital Costs (Year 5 of 7)	Police													65,258			65,258
2011	1	Police Records & CAD Upgrade	Police			120,000													120,000
2011	2	PW Building Addition Lease/Purchase (Year 13 of 20)	Pub Works	24,000									10,000	10,000					44,000
2011	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(3)	1,200,000
2011	1	County Road 42 / US Highway 52 (ROW Costs & Construction)	Pub Works		500,000				2,250,000								30,068,669	(4)	32,818,669
2011	2	1-Ton Pickup (Replace #8311)	Pub Works			*****											33,000	(#)	33,000
2011	2	1-Ton Pickup (Replace #8312, Rotate Current to #8341)	Pub Works			*****											33,000	(#)	33,000
2011	2	1-Ton Pickup (Replace #8344, Rotate Current to #8330)	Pub Works			*****											33,000	(#)	33,000
2011	2	1-Ton Pickup (Replace #8331)	Pub Works			*****											33,000	(#)	33,000
2011	1	Dump Truck (Addition)	Pub Works			*****											120,000	(#)	120,000
2011	2	Single-Axle Dump Truck (Replace #8433)	Pub Works			*****											130,000	(#)	130,000
2011	2	Vac Truck (Replace #8446)	Pub Works								300,000								300,000
		Totals		24,000	1,200,000	544,000	0	620,000	2,250,000	0	300,000	0	110,000	110,000	100,000	604,429	31,331,669		37,194,098

	Total Levy - Year 2011	$1,768,000
		$604,429
(#)	These items will be funded with the issuance of Equipment Certificates.	$992,000
(1)	Compressor and Skate Tile funding comes from Arena Fund operations/reserves.	
(2)	Other funding for Squad Cars comes from auction sales of old vehicles.	
(3)	Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000). ($528,940 Programmed for 2011 - Culmulative Surplus of $798,630)	
(4)	Other funding for County Road 42 / US Highway 52 project from Federal share of project, State share of project and County share of project.	

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2012	2	Replace Compressor	Arena														10,000	(1)	10,000
2012	2	Replace Cooling Tower	Arena														35,000	(1)	35,000
2012	2	Replace Condensor	Arena														40,000	(1)	40,000
2012	2	2007 Equipment Certificates (5-Years)	Council													108,780			108,780
2012	2	2008 Equipment Certificates (5-Years)	Council													90,000			90,000
2012	2	2009 Equipment Certificates (5-Years)	Council													170,000			170,000
2012	2	2010 Equipment Certificates (5-Years)	Council													85,000			85,000
2012	2	2011 Equipment Certificates (5-Years)	Council													235,000			235,000
2012	2	PC File Server Replacements (From 2009)	Finance			60,000													60,000
2012	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2012	1	New Neighborhood Park Built (N-7)	Park & Rec					350,000											350,000
2012	2	Remodel Booking Area	Police	15,000															15,000
2012	1	Squad Set Up and Equipment Installation	Police			18,000													18,000
2012	2	Emergency Siren Replacement (1)	Police			20,000													20,000
2012	1	Replace Video/Audio Recording Equipment in Interview Rooms	Police			30,000													30,000
2012	1	Replace Tactical Gear	Police			30,000													30,000
2012	1	DCC Capital Costs (Year 6 of 7)	Police													62,948			62,948
2012	1	3 Squads (Sell Back 3 - #930, 970 & 9110)	Police			80,000											9,000	(2)	89,000
2012	2	PW Building Addition Lease/Purchase (Year 14 of 20)	Pub Works	24,000									10,000	10,000					44,000
2012	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(3)	1,200,000
2012	2	Inspections Vehicle (Replace Dodge Pickup #8303)	Pub Works			*****											22,000	(#)	22,000
2012	2	1-Ton Pickup (Replace #8332)	Pub Works			*****											30,000	(#)	30,000
2012	2	1-Ton Pickup (Replace #8333, Rotate Current to #8335)	Pub Works			*****											30,000	(#)	30,000
2012	2	1-Ton Pickup (Replace #8336)	Pub Works			*****											30,000	(#)	30,000
2012	1	1-Ton Pickup (Addition)	Pub Works			*****											45,000	(#)	45,000
2012	2	1-Ton Pickup w/Dump (Replace #8310)	Pub Works			*****											45,000	(#)	45,000
2012	2	Generator (Replace #8057)	Pub Works			*****											60,000	(#)	60,000
2012	2	Mower (Replace #8073)	Pub Works			*****											85,000	(#)	85,000
2012	2	Mower (Replace #8066)	Pub Works			*****											85,000	(#)	85,000
		Totals		39,000	700,000	288,000	0	350,000	0	0	0	0	110,000	110,000	100,000	751,728	726,000		3,174,728

Total Levy - Year 2012 $1,027,000 $751,728

(#) These items will be funded with the issuance of Equipment Certificates. $432,000

(1) Compressor, Cooling Tower and Condensor funding comes from Arena Fund operations/reserves.

(2) Other funding for Squad Cars comes from auction sales of old vehicles. Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000).

(3) ($1,756,920 Programmed for 2012 - Culmulative Deficit of $258,290)

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2013	2	Replace Scoreboard	Arena														12,000	(1)	12,000
2013	2	2008 Equipment Certificates (5-Years)	Council													90,000			90,000
2013	2	2009 Equipment Certificates (5-Years)	Council													170,000			170,000
2013	2	2010 Equipment Certificates (5-Years)	Council													85,000			85,000
2013	2	2011 Equipment Certificates (5-Years)	Council													235,000			235,000
2013	2	2012 Equipment Certificates (5-Years)	Council													100,000			100,000
2013	2	PC Printer Replacements	Finance			10,000													10,000
2013	2	PC Workstation Upgrades (From 2009)	Finance			80,000													80,000
2013	2	1/2 Ton 4x4 Pickup (Replace 2003 Vehicle)	Fire			*****											30,000	(#)	30,000
2013	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2013	1	New Neighborhood Park Built (N-6)	Park & Rec					350,000											350,000
2013	1	Replace 2 Tactical Body Armor Vests	Police			7,500													7,500
2013	2	Surveillance Cameras and Miscellaneous Equipment	Police			20,000													20,000
2013	1	Replace Video Equipment in Squads (4)	Police			20,000													20,000
2013	1	Squad Set Up and Equipment Installation	Police			24,000													24,000
2013	1	DCC Capital Costs (Year 7 of 7)	Police													60,638			60,638
2013	1	4 Squads (Sell Back 4 - #1020, 1031, 190 & 1080)	Police			90,000											12,000	(2)	102,000
2013	2	PW Building Addition Lease/Purchase (Year 15 of 20)	Pub Works	24,000									10,000	10,000					44,000
2013	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(3)	1,200,000
2013	2	Minivan (Replace #8621)	Pub Works			*****											25,000	(#)	25,000
2013	2	Park & Rec Van (Replace #8601)	Pub Works			*****											30,000	(#)	30,000
2013	2	Roller (Replace #8129)	Pub Works			*****											35,000	(#)	35,000
2013	2	Tractor w/Blower, Mower & Plow(Replace #8409,0122,0177&0209)	Pub Works			*****											130,000	(#)	130,000
2013	2	Tandem-Axle Dump Truck (Replace #8434)	Pub Works			*****											160,000	(#)	160,000
2013	1	Well #17 Construction	Pub Works							1,500,000								(4)	1,500,000
		Totals		24,000	700,000	301,500	0	350,000	0	1,500,000	0	0	110,000	110,000	100,000	740,638	634,000		4,570,138

Total Levy - Year 2013 $1,025,500 $740,638

These items will be funded with the issuance of Equipment Certificates.

(#) $410,000

Scoreboard funding comes from Arena Fund operations/reserves.

(1)

Other funding for Squad Cars comes from auction sales of old vehicles.

(2)

Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000). ($2,045,430 Programmed for 2013 - Culmulative Deficit of $1,604,350)

(3)

Funding for Well #17 will come from a Water Revenue bond issue.

(4)

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2014	2	2009 Equipment Certificates (5-Years)	Council													170,000			170,000
2014	2	2010 Equipment Certificates (5-Years)	Council													85,000			85,000
2014	2	2011 Equipment Certificates (5-Years)	Council													235,000			235,000
2014	2	2012 Equipment Certificates (5-Years)	Council													100,000			100,000
2014	2	2013 Equipment Certificates (5-Years)	Council													95,000			95,000
2014	2	Refurbish SCBA Compressor (2004 Compressor)	Fire			5,000													5,000
2014	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2014	1	Replace 2 Lasers	Police			10,000													10,000
2014	2	Replace Department Long Guns	Police			10,000													10,000
2014	1	Squad Set Up and Equipment Installation	Police			18,000													18,000
2014	1	Replace Squad Laptops (4)	Police			18,000													18,000
2014	1	Replace Video Equipment in Squads (4)	Police			20,000													20,000
2014	1	3 Squads (Sell Back 3 - #1130, 1140 & 950)	Police			80,000											9,000	(1)	89,000
2014	2	PW Building Addition Lease/Purchase (Year 16 of 20)	Pub Works	24,000									10,000	10,000					44,000
2014	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(2)	1,200,000
2014	2	RTV Kubota (Replace #8401)	Pub Works			*****											17,000	(#)	17,000
2014	2	Tractor (Replace #8408)	Pub Works			*****											25,000	(#)	25,000
2014	2	1/2-Ton Extended Cab Pickup (Replace #8436)	Pub Works			*****											30,000	(#)	30,000
2014	2	1-Ton Pickup (Replace #8315)	Pub Works			*****											30,000	(#)	30,000
2014	2	1-Ton Pickup w/Dump (Replace #8340)	Pub Works			*****											45,000	(#)	45,000
		Totals		24,000	700,000	211,000	0	0	0	0	0	0	110,000	110,000	100,000	685,000	356,000		2,296,000

Total Levy - Year 2014 $935,000 $685,000

(#) These items will be funded with the issuance of Equipment Certificates. $147,000
Other funding for Squad Cars comes from auction sales of old vehicles.

(1) Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000). ($1,686,280 Programmed for 2014 - Culmulative Deficit of $2,590,630)

(2)

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2015	2	Replace Ice Resurfacer	Arena														125,000	(1)	125,000
2015	2	Replace Refrigeration Equipment	Arena														300,000	(1)	300,000
2015	2	2010 Equipment Certificates (5-Years)	Council													85,000			85,000
2015	2	2011 Equipment Certificates (5-Years)	Council													235,000			235,000
2015	2	2012 Equipment Certificates (5-Years)	Council													100,000			100,000
2015	2	2013 Equipment Certificates (5-Years)	Council													95,000			95,000
2015	2	2014 Equipment Certificates (5-Years)	Council													40,000			40,000
2015	2	PC Printer Replacements	Finance			10,000													10,000
2015	2	PC File Server Replacements (From 2012)	Finance			60,000													60,000
2015	2	PC Workstation Upgrades (From 2011)	Finance			80,000													80,000
2015	2	4x4 Grass Rig Replacement ('00 Vehicle)	Fire			*****											35,000	(#)	35,000
2015	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2015	3	Remodel Police Offices - Add Office	Police	30,000															30,000
2015	1	Squad Set Up and Equipment Installation	Police			15,000													15,000
2015	1	Replace Squad Laptops (4)	Police			18,000													18,000
2015	1	Replace / Upgrade Dictation Equipment	Police			20,000													20,000
2015	1	3 Squads (Sell Back 3 - #1230, 1270 & 2110)	Police			80,000											9,000	(2)	89,000
2015	2	PW Building Addition Lease/Purchase (Year 17 of 20)	Pub Works	24,000									10,000	10,000					44,000
2015	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(3)	1,200,000
2015	2	Inspections Vehicle (Replace Taurus #8614)	Pub Works			*****											20,000	(#)	20,000
2015	2	1-Ton Pickup (Replace #8345)	Pub Works			*****											35,000	(#)	35,000
2015	2	Utility Pickup w/Crane (Replace #8342)	Pub Works			*****											45,000	(#)	45,000
2015	2	Single-Axle Dump Truck (Replace #8436)	Pub Works			*****											130,000	(#)	130,000
2015	1	Sweeper (Replace #8444)	Pub Works			*****											170,000	(#)	170,000
		Totals		54,000	700,000	333,000	0	0	0	0	0	0	110,000	110,000	100,000	555,000	1,069,000		3,031,000

Total Levy - Year 2015 $1,087,000 $555,000

(#) These items will be funded with the issuance of Equipment Certificates. $435,000

(1) Ice Resurfacer and Refrigeration Equipment funding comes from Arena Fund operations/reserves.

(2) Other funding for Squad Cars comes from auction sales of old vehicles.

(3) Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000). ($2,169,280 Programmed for 2015 - Culmulative Deficit of $4,059,910)

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2016	2	2011 Equipment Certificates (5-Years)	Council													235,000			235,000
2016	2	2012 Equipment Certificates (5-Years)	Council													100,000			100,000
2016	2	2013 Equipment Certificates (5-Years)	Council													95,000			95,000
2016	2	2014 Equipment Certificates (5-Years)	Council													40,000			40,000
2016	2	2015 Equipment Certificates (5-Years)	Council													100,000			100,000
2016	1	Rescue Truck (Replace R-11)	Fire			*****											250,000	(#)	250,000
2016	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2016	1	Squad Set Up and Equipment Installation	Police			20,000													20,000
2016	1	Replace Radar Units	Police			30,000													30,000
2016	1	3 Squads (Sell Back 3 - #1320, 13120 & 1380)	Police			75,000											9,000	(1)	84,000
2016	2	PW Building Addition Lease/Purchase (Year 18 of 20)	Pub Works	24,000									10,000	10,000					44,000
2016	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(2)	1,200,000
2016	2	Crash Attenuator (Replace #0049)	Pub Works			*****											20,000	(#)	20,000
2016	2	1/2-Ton Extended Cab Pickup (Replace Engineering #8329)	Pub Works			*****											32,000	(#)	32,000
2016	2	Grader (Replace #413)	Pub Works			*****											185,000	(#)	185,000
				24,000	700,000	175,000	0	0	0	0	0	0	110,000	110,000	100,000	570,000	696,000		2,485,000

Total Levy - Year 2016 $899,000 $570,000

(#) These items will be funded with the issuance of Equipment Certificates. $487,000

(1) Other funding for Squad Cars comes from auction sales of old vehicles.

(2) Other funding for Pavement Management Projects comes from regular SKB User Fees ($100,000) and excess SKB Trust Funds ($100,000). ($1,742,780 Programmed for 2016 - Culmulative Deficit of $5,102,690)

Year	Priority Level	Item - Description	Department	Building CIP Levy	Street CIP Levy	Equipmnt CIP Levy	Assess	Park Imp Fund	MSA Funds From State	Water Core	Sewer Core	Storm Core	Water Utility	Sewer Utility	Storm Utility	Debt Serv Levy	Other		Total Cost
2017	2	2012 Equipment Certificates (5-Years)	Council													100,000			100,000
2017	2	2013 Equipment Certificates (5-Years)	Council													95,000			95,000
2017	2	2014 Equipment Certificates (5-Years)	Council													40,000			40,000
2017	2	2015 Equipment Certificates (5-Years)	Council													100,000			100,000
2017	2	2016 Equipment Certificates (5-Years)	Council													115,000			115,000
2017	2	CIP Reserves - Future Street Projects	Council		700,000														700,000
2017	2	PC Printer Replacements	Finance			10,000													10,000
2017	2	PC Workstation Upgrades (From 2013)	Finance			80,000													80,000
2017	1	Refurbish Ladder Truck	Fire			*****											200,000	(#)	200,000
2017	2	City-Wide Software	Gen'l. Govt.			50,000													50,000
2017	1	Squad Set Up and Equipment Installation	Police			18,000													18,000
2017	1	Portable Alarm Replacements	Police			20,000													20,000
2017	3	Public Areas Surveilance Camera System	Police			75,000													75,000
2017	1	3 Squads (Sell Back 3 - #05-120, 860 & 1440)	Police			75,000											9,000	(1)	84,000
2017	2	PW Building Addition Lease/Purchase (Year 19 of 20)	Pub Works	24,000									10,000	10,000					44,000
2017	2	Pavement Management Program	Pub Works		700,000								100,000	100,000	100,000		200,000	(2)	1,200,000
2017	2	Sweeper (Replace #8443)	Pub Works			*****											140,000	(#)	140,000
2017	2	Tandem-Axle Dump Truck (Replace #8435)	Pub Works			*****											175,000	(#)	175,000
	1	North Central Sanitary Sewer Extension	Pub Works															(2)	
	1	Street Const - Boulder Avenue Extension	Pub Works														3,000,000	(3)	3,000,000
				24,000	1,400,000	328,000	0	0	0	0	0	0	110,000	110,000	100,000	450,000	3,724,000		6,246,000
		Total Levy - Year ????			1,752,000											450,000			

(#) These items will be funded with the issuance of Equipment Certificates. 515000

(1) Other funding for Squad Cars comes from auction sales of old vehicles.

(2) Future costs associated with the sanitary sewer will include extensive street reconstruction on the following streets:
124th St, 125th St, Blanca Ave W, 128th St, Bolivia Ave, 130th St W, Biscayne Ave, Bengal Ave, 129th St W, CR 38, 132nd Court and Bonnaire Path. Costs and funding are not available at this time.

(3) Other funding for Boulder Avenue extension will come from a Port Authority bond issue.

HOUSING IMPLEMENTATION PROGRAM

The Housing Implementation Program is described within the over-arching goals in the Executive Summary, the Housing Chapter, the residential land uses in the Land Uses Chapter, and the Land Use Map. Over-arching Goal 2 states to provide increased housing opportunities and a balance of life style housing. The Housing Chapter describes the existing and needed housing types, including senior housing and housing at all densities. The Housing Goals and Policies, particularly Goals 4, 5, and 6, describe the programs and policies that the City will implement to achieve the increased housing opportunities and life style housing. The residential land use designation descriptions describe which type of housing are appropriate in which designation and how they are expected to be developed. The Land Use Map shows the areas in which the various residential land uses are allowed.

The 2030 Land Use Map shows a mix of low density, medium density, and high density residential land use throughout the City. Within the Land Use Element, it is demonstrated that the amount and mixture of residential land uses show on the map with met, and often exceed, the Metropolitan Council residential density requirements and Livable Community Act requirements. The City looks forward to working with the Metropolitan Council to achieve the housing needs within Rosemount, particularly through the use of the Livable Communities Demonstration Account grants and other programs. The City hopes that the Metropolitan Council continues to support local housing effort through their programs and encourages the Metropolitan Council to expand the fiscal resources available through these programs.

ZONING DISTRICTS

The City is divided into the zoning districts shown on the zoning map (Figure 8.1). Rosemount has chosen to use five residential land use designation as shown in Table 8.1: Rural Residential (RR); Transitional Residential (TR); Low Density Residential (LDR); Medium Density Residential (MDR); and High Density Residential (HDR). Rosemount will make any revision necessary to the Zoning Code within nine months of the approval of the 2030 Comprehensive Plan Update by the Metropolitan Council.

xxxii. Table 8.1: Land Use Densities

Land Use Categories	**Density**
Rural Residential[1]	0.2 units per acre or less
Transitional Residential	1 to 3 units per acre
Low Density Residential	1 to 5 units per acre
Medium Density Residential	5 to 10 units per acre
High Density Residential	10 to 24 units per acre

[1] Rural Residential does not receive municipal sewer or water service.

The definitions of the residential zoning districts and their 2008 densities are described below:

RR: Rural Residential District

Purpose and Intent: It is the purpose of this district to provide for a large lot rural residential lifestyle which is separate from and not in conflict with commercial agricultural activities. Within these districts, public sewer and water systems are not available and on site systems shall meet the City's minimum requirements.

Minimum Lot Area: 2.5 acres
Maximum Gross Density: one (1) unit per five (5) acres

VL: Very Low Density Single Family Residential District
Purpose and Intent: The purpose of this district is to allow low density residential development within the metropolitan urban service area while minimizing negative environmental impacts on areas with greatest physical amenities (rolling topography, forest, wildlife habitat, water bodies). Single-family detached dwelling cluster development will be encouraged as a tool to protect unique physical features and restrict development to the most suitable locations. The twenty thousand (20,000) square foot minimum lot size will accommodate larger homes than the R-1 (10,000 square foot minimum lot size) district, will mandate increased structure separation and will allow for more selective siting of homes. The lower maximum density of one dwelling unit per acre will result in preservation of natural amenities within the context of providing urban services.

Minimum Lot Area: 20,000 square feet
Maximum Gross Density: one (1) unit per one (1) acre

R-1: Low Density Residential District
Purpose and Intent: This is a low density residential district that is intended to accommodate newer single-family detached housing development within the metropolitan urban service area. Dwelling units within this district are intended to be connected to the public sewer and water systems.

Minimum Lot Area: 10,000 square feet (interior lots); 12,000 square feet (corner lots)
Maximum Gross Density: 2.5 units per acre

R-1A: Low Density Residential District
Purpose and Intent: This is a low density residential district that is intended to preserve the character of existing single-family neighborhoods platted on or before 1979 within the metropolitan urban service area. Dwelling units within this district are intended to be connected to the public sewer and water systems.

Minimum Lot Area: 10,000 square feet (interior lots); 12,000 square feet (corner lots)
Maximum Gross Density: 2.5 units per acre

R-2: Moderate Density Residential District
Purpose and Intent: This is a low to medium density residential district which is located within the metropolitan urban service area and is primarily, but not exclusively, intended to accommodate attached single-family dwellings. Dwelling units within this district are intended to be connected to the public sewer and water systems.

Minimum Lot Area: 12,000 square feet (single and two family); 18,000 square feet (multiple family)
Maximum Gross Density: six (6) units per acre

R-3: Medium Density Residential District
Purpose and Intent: This is a medium to high density residential district which is intended to be located within or near the Rosemount central business district (CBD) where streets and utilities are sufficient in capacity to accommodate higher density development and where shopping and recreational facilities are available within close walking or driving distance. Housing types include apartments, condominiums and townhouses. It is intended that this district provide a blend of housing, recreation and open space opportunities.

Minimum Lot Area: 22,500 square feet
Maximum Gross Density: twelve (12) units per acre

R-4: High Density Residential District
Purpose and Intent: This is an exclusively high density residential district which is primarily intended to accommodate high rise apartments and condos and senior citizen housing. It is the intent of this title that this district be within or adjacent to the Rosemount CBD to provide for the maximum convenience and accessibility for residents.

Minimum Lot Area: 22,500 square feet
Maximum Gross Density: forty (40) units per acre

Figure 8.1 2008 Zoning Map

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS

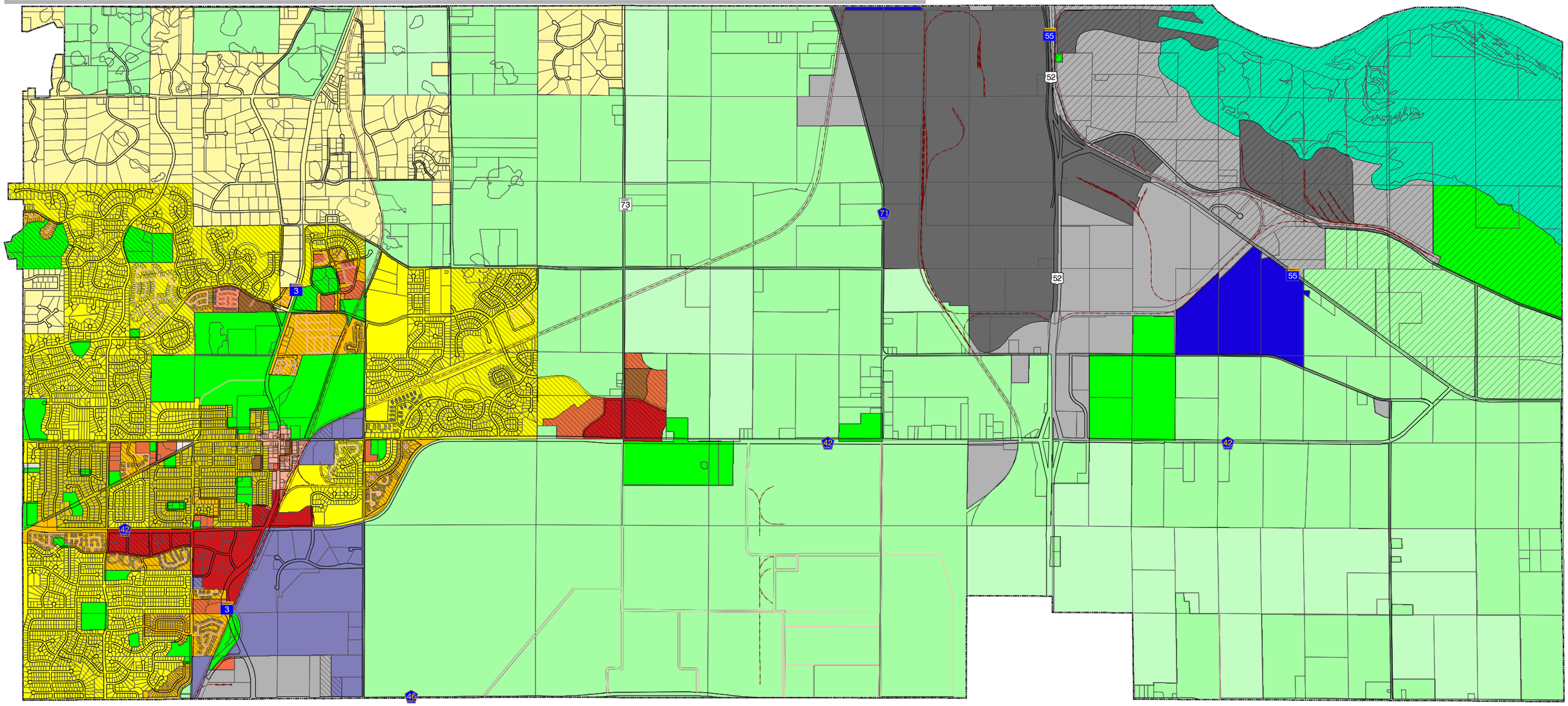
Residential:
- RR - Rural Residential
- R1 - Low Density Residential
- R1A - Low Density Residential
- R2 - Moderate Density Residential
- R3 - Medium Density Residential
- R4 - High Density Residential

Commercial:
- C1 - Convenience Commercial
- C2 - Community Commercial
- C3 - Highway Service Commercial
- C4 - General Commercial

Industrial:
- BP - Business Park
- IP - Industrial Park
- GI - General Industrial
- HI - Heavy Industrial

Other:
- AGP - Agricultural Preserve
- AG - Agricultural
- PI - Public/Institutional
- FP - Flood Plain
- WM - Waste Management
- W - Water
- ROW - Right-of-Way

- PUD
- Mississippi River Critical Area & MNRRA Corridor
- Railroad



0 0.5 1 2 Miles

NORTH

January 2009

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LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Active Living Plan

Appendix A of the 2030 Comprehensive Plan

INTRODUCTION

This section of the Comprehensive Plan addresses the concept of active living. Overall, this section examines the connections between the built environment (land use, transportation, parks and recreation) and its impact on public health. The three components of the built environment are addressed in greater detail in their own chapters of the Comprehensive Plan. The purpose of this section is to coordinate goals and policies from the Land Use, Transportation and Parks Chapters to implement the City's active living vision.

This chapter is divided into three sections. First, the Introduction defines active living, identifies the challenges in creating an active living community and establishes Rosemount's active living vision. Second, the Assessment established the connection between the built environment and public health by outlining both the health issues facing the community and how the design of our cities influence these issues. Finally, the Plan outlines goals and policies and an implementation strategy to realize Rosemount's active living vision.

What is Active Living?

Active living is a way of life that integrates physical activity into daily routines. On an individual level, the goal is to accumulate at least 30 minutes of activity each day for adults and at least 60 minutes each day for children and adolescents. Individuals may achieve this by walking or bicycling for transportation, exercising for pleasure, playing in the park, working in the yard, taking the stairs or using other recreational facilities.

Active Living communities make it easy for people to include physical activity in their daily lives. Walking to work, school, and the store or just for fun is safe and convenient. Bicyclists are accommodated and roads are built for all forms of transportation, not just the car. Recreation opportunities are accessible and parks, playgrounds, and all kinds of sports facilities are located near people's homes and are open to all residents. Overall, the goal is to promote development of the built environments that offers the opportunity to integrate physical activity into daily life.

Rosemount's Active Living Vision

Physical activity can favorably improve the health and quality of life for Rosemount residents. Therefore, the built environment should be designed to provide a variety of opportunities for physical activity and should accommodate a wide range of individual preferences and abilities. To implement this vision, the City should consider the following three statements when reviewing development proposals:

1. Development patterns should encourage mixed uses, efficient design and a variety of transportation choices.

2. The transportation systems, including transit, should provide safe, convenient and affordable access to housing, worksites, schools and other destinations of interest for both motorized and non-motorized users.

3. The parks, trails and open space system should provide for the recreation and leisure needs of all residents as well as facilitate non-motorized utilitarian travel to destinations of interest, such as housing, worksites, schools and community services.

ACTIVE LIVING ASSESSMENT

An assessment of active living data and the local environment found long established national trends are influencing local active living conditions in Rosemount. First, the nation is experiencing an epidemic of inactivity and poor nutrition. Second, changes in technology and mechanization have influenced how communities are designed and develop. This assessment details how the national trends impact public health and development in Rosemount.

The Nation's Health Crisis: Inactivity & Poor Nutrition

America faces a national health crisis of epidemic proportions. In just a few decades, physical inactivity combined with poor nutrition has made us a nation of overweight and out of-shape people. According to the Centers for Disease Control and Prevention and the National Institutes of Health, the number of overweight or obese adults increased steadily from 47 percent in 1976 to 64 percent in 2000. This trend is important because obesity is a significant risk factor for developing chronic diseases such as diabetes and heart disease. Nearly 80 percent of obese adults have diabetes, high blood cholesterol levels, high blood pressure, coronary artery disease or other ailments. Physical inactivity and obesity now rank second only to tobacco use in their contribution to total mortality in the United States. Unfortunately, these health issues are not limited to adults. In 2000, 15 percent of both children and adolescents in the United States were overweight, tripling the numbers from two decades ago.

This health crisis is costly in both dollars and lives. According to the Dakota County Public Health Department, in 2006 the County experienced 496 deaths from cardiovascular disease or stroke, 373 new cases of colorectal cancer and 617 new cases of breast cancer. Overall, the CDC estimates that obesity related treatment cost the State of Minnesota $1.3 billion in 2003. And, the date suggests that all these figures are on the rise.

The CDC estimates obesity is associated with a 36 percent increase in inpatient/outpatient health care costs and 77 percent increase in prescription medication costs. Being overweight increases yearly per-person health care costs by $125, while obesity increases costs by $395. In addition, a study of individuals age 15 and older without physical limitations found that the average annual direct medical costs were $1,019 for those who were regularly physically active compared to $1,349 for those who reported being inactive.

The Built Environment & Public Health

The health issues and environmental barriers identified above are not unique to Rosemount. While Rosemount has many existing features and policies that support active living, it has not escaped the national trends of inactivity, poor nutrition, and communities designed that are at the core of our health and inactivity issues. Even where facilities exist, features that support driving, such as wide roads and intersections, large parking lots and drive-through businesses, create an environment that is uncomfortable and unsafe for non-motorists. Spread-out, isolated destinations also discourage walking and bicycling. For many people, it is no longer possible to walk to the grocery store or to walk from work to a restaurant for lunch. The three elements of the built environment influence these conditions. A description of each element and how they impact public health and physical activity levels is outlined below.

Land Use: Land use planning influences the type, density, mixture, location and rate of development. For example, a mixture of land uses provides more destinations making walking and bicycling more feasible. Density puts destinations in closer proximity and facilitates active transportation. Ensuring a balance of jobs and housing (especially life cycle housing) improves opportunities for living and working within the same community, potentially reducing commute distances and making walking, bicycling and transit easier.

Transportation: The transportation network impacts the fundamental character of a community by determining how people move from place to place. Today, 50 percent of trips are less than three miles and 28 percent are less than one mile. Yet 65 percent of these trips are made by car. Transportation systems should serve all three elements of mobility: access (movement within a neighborhood), circulation (movement between neighborhoods) and travel (movement throughout the region). Typically, transportation investment is too focused on serving regional movements at the expense of balanced mobility within and between neighborhoods. Transportation planning can support active living and public health by promoting connected, accessible, and safe infrastructure for both motorized and non-motorized users.

Parks, Trails and Open Space: Traditionally park, trail and open space systems focus on recreational and leisure activities. Public space for recreational opportunities is a key component of active living. However, these facilities are also important elements of the City's transportation system and can have a major impact on public health. Research shows that people are more likely to use park, trail and open space facilities that are close to their home or workplace. In addition, they are more likely to use these same facilities for utilitarian purposes (such as walking to a store or restaurant or biking to a transit station or workplace) when these facilities are part of a larger network and connected to desired destinations.

Dakota County Active Living Partnership

In the fall of 2006, City staff began working with the Dakota County Active Living Partnership. This group and their work were funded through a grant from Blue Cross and Blue Shield of Minnesota and included Dakota County, School District 196, the communities of Apple Valley, Eagan and Rosemount as well as a mix of interested private sector stakeholders. The main focus of this group was to assess the active living conditions in the partnering communities and suggest policy changes to encourage increased physical activity in daily routines. This document is the direct result of that work.

The assessment was led by Active Living by Design from the University of North Carolina – Chapel Hill and involved a series of informational meetings as well as a telephone survey of residents conducted by the survey firm Decision Resources. The assessment gathered data about the individual activity levels, trends in urban development, and feedback from stakeholders.

Overall, the survey found 78 percent of Rosemount residents do not meet the Surgeon General's recommendation for daily physical activity. In addition, while many Rosemount residents have access to the City's sidewalk and trail system and live relatively close to work or school, few actually walk or bike to those destinations. While 83 percent indicated that there were sidewalk and trails in their neighborhood, 39 percent indicated that the sidewalk and trail network did not

connect with where they want to go. The survey also found that 25 percent of Rosemount residents live within 5 mile of work. Yet 94 percent of adults said they have never biked to work. Similarly 91 percent of children have never bike to school.

Based on the information gathered during the informational meetings and telephone survey, the group made four primary assessment findings.

1. While many residents of Dakota County and the partnering communities are recreationally active, few are walking or biking for utilitarian purposes.

2. Many components of the partnering community's land use, transportation, and parks and recreation policies seem to support active living but operate without a coordinated active living focus.

3. Transportation and recreation facilities are abundant but are not connected to form a network for active living and dangerous roads likely prevent their use.

4. The current infrastructure and distance between schools, workplaces, homes and services does not support of active living.

Local Barriers to Active Living

National studies identify three main barriers to becoming more physically active: personal (motivation, etc.), social (time or social support) and environmental (facilities and access to them). To address each of these barriers requires a comprehensive strategy of programs and support efforts, policy change in local schools and other institutions and infrastructure and facility improvements to create a safe, enjoyable environments for walking, bicycling and other forms of physical activity. The following is a summary of the environmental barrier identified in Rosemount.

1. Arterial and Collector roads with high traffic speeds and poor crossings.
2. Railroad lines with poor crossings.
3. Distance between destinations.
4. Incomplete sidewalk and trail network.
5. Limited transit service and supportive facilities.

ACTIVE LIVING PLAN

How do we address these issues? Moderately intense, daily physical activity, such as bicycling or walking, has long been recognized as an essential ingredient of a healthy life and could address many aspects of the health issue described above. Yet many Americans, both young and old, lead a sedentary lifestyle. Our workplaces and routine activities are increasingly automated. Many jobs require workers to spend hours at a desk. We use the automobile as our primary means of travel—even for short trips.

Active Living Goals

The following eight goals suggest ways to promote active living and development the built environment to realize Rosemount's active living vision.

1. Support Programming that Promotes Active Living.

    A. Introduce walkable/bikeable communities and active living issues into public dialogue.

    B. Encourage active living choices with signs and other prompts in public spaces.

    C. Support active living incentive and programs.

    D. Sponsor active living programs.

2. Foster Collaboration and Information Sharing.

    A. Provide forums for departments to discuss active living strategies.

    B. Establish an Active Living Advisory Committee (ALAC) to advise the City Council on active living issues.

    C. Develop processes for sharing important data related to active living.

    D. Partner with the health community, nonprofits, local businesses and community organizations.

    E. Facilitate the collaborative process.

3. Support Pedestrian-Oriented Transportation Facilities and Services.

    A. Fully implement the City Transportation Plan with special emphasis on the Transit and Non-Motorized section.

    B. Support a balanced transportation system that makes it possible for residents to walk or ride a bicycle to a store, school or work.

    C. Improve the environment for pedestrians and cyclists.

    D. Provide processes to assess active living infrastructure in the community and develop improvement plans.

    E. Develop a bicycle and pedestrian plan.

    F. Consider establishment of a Complete Streets policy.

4. Support Active Living Land Use Planning and Development.

    A. Coordinate land use and zoning standards to address active living principals.

    B. Incorporate active living issues into land-use review and the planning processes.

    C. Use incentive, zoning, and development strategies to support active living.

    D. Encourage higher-density, mixed-use development where appropriate along major roads and within walking distance of public transit.

    E. Study parking standards and consider incentive for shared parking for complimentary uses.

    F. Focus infrastructure investment in the developed portion of town to encourage downtown revitalization.

    G. Develop and implement design guidelines that support active living.

5. Encourage Healthy School Sites, Facilities and Policies.

    A. Educate school officials, parents and children about the importance of active living.

    B. Locate schools in areas that support active living.

    C. Support programs that encourage active living for school children.

    D. Encourage community use of school facilities.

6. Support Recreation Facilities, Parks and Trails.

    A. Implement the City's Parks, Trails and Open Space System Plan.

    B. Ensure that physical activity facilities are accessible and affordable.

    C. Support programming that promotes active living within the Park, Trails and Open Space system.

7. Enable Safety, Security and Crime Prevention.

    A. Keep pedestrian routes free from crime.

    B. Ensure pedestrians and bicyclists feel safe crossing streets.

    C. Provide an environment that reduces injury.

8. Identify and Create Active Living Funding Sources.

   A. Establishing long term funding mechanisms for programming as well as active living infrastructure construction and maintenance.

   B. Use incentive systems.

   C. Use financing techniques.

   D. Partner with non-government groups.

   E. Leverage existing funding streams (LCA, Safe Routes to School, CDBG, Federal Stimulus, etc.).

Active Living Strategy Implementation

Implementation of Rosemount's active living plan and vision should include the following five strategies.

1. **Preparation**: This includes developing and maintaining partnership of active living stakeholders from both the public and private sector in the areas of planning, transportation, public health, parks and recreation and the like. It also entails an assessment of existing conditions, environmental resources and additional resources.

2. **Promotion**: Effective promotion or communications efforts are vital to the success of any program because they are the means by which the project connects with the public. While promotional efforts may include secondary messages, the City's active living vision and what actions can be taken to fulfill this vision should be the primary message in all communications.

3. **Programs**: Programs may provide incentives for certain types of personal action or development of the built environment that supports the community's active living goals. Others can raise awareness of active living issues or mobilize the public to advocate for policy change.

4. **Policy**: Active living advocates should use the Preparation, Promotion and Program components to implement both public and private sector policies that institutionalize a health-supportive environment. Policy efforts should focus on the four main areas of active living: land use planning, transportation, public health, parks and recreation.

5. **Physical Projects**: The ultimate outcome of the City's Comprehensive Active Living Strategy is to use the Preparation, Promotion, Programs and Policy changes to get physical projects that improve the built environment for active living. These projects may develop in any of the active living focus areas of land use planning, transportation, public health or parks and recreation. These projects could include:

1. Pedestrian Intersection Improvements. These improvements could include installation of new traffic control signals and pedestrian crossings, revised timing of existing signals, revised roadway geometry (layout and design of lanes), curb bump-outs, traffic calming measures and the like.
   A. 145th Street and Highway 3.
   B. County Road 42 and Highway3.
   C. Shannon Parkway and County Road 42.
   D. Diamond Path and County Road 42.

2. Trail Corridor Improvements
   A. Interpretive Trail from Central Park to Spring Lake Park.
   B. North Side of 145th Street from Chippendale to Diamond Path.
   C. West side of Shannon Parkway from County Road 42 to Evermoore Parkway.
   D. Connections to Lebanon Hills Park.
   E. Both sided of Highway 3 from 140th Circle to Connemara Trail.

3. Bicycle Facilities
   A. On-Street Bike Lanes for Collector and Minor Arterial Roads.
   B. Develop Bike Parking Standards.
   C. Install Bike Parking Facilities at all Public Buildings.

4. Signage
   A. Wayfinding Signage for Pedestrian Trails and On-Street Bike Lanes.

5. Downtown Redevelopment
   A. Mixed-Use Projects.
   B. Park and Ride Facility.
   C. Benches, Planter, and Decorative Sidewalk Improvements along Highway 3 from 143rd Street to the Entrance to Rosemount Crossings and from City Hall to Cameo Avenue.

6. Elimination of Pedestrian Barriers
   A. Pedestrian Underpass at Highway 3 and 140th Circle.
   B. Railroad Crossing Improvements at the 145th Street and Biscayne Avenue crossings.

Mississippi River Critical Corridor Area Plan

Rosemount's Critical Area (looking northwesterly)

Appendix B of the 2030 COMPREHENSIVE LAND USE PLAN

ROSEMOUNT

MINNESOTA

Introduction

This Mississippi River Critical Area Plan has been prepared to preserve and manage the environmental, scenic and economic values afforded the City of Rosemount by the Mississippi River. The city's policy is to incorporate these values into the Comprehensive Plan. The Critical Area within the City of Rosemount is located east of Highway 52 and north of Highway 55.

Background and Purpose

Critical Area Act – Tier I

The Critical Areas Act passed by the 1973 Minnesota Legislature provided a process for planning and managing an area of recreational and statewide public interest. A 72-mile stretch of the Mississippi River and adjoining lands, which includes part of Rosemount, was designated a Critical Area by the Governor of Minnesota in 1976. This Critical Area was established to preserve and enhance the natural environment by providing guidelines for development along the River. Under provisions of this Act, the designation was made permanent by the Metropolitan Council in 1979. Local governments and state and regional agencies are required to implement their plans and regulations consistent with standards for the river corridor in Executive Order 79-19. The Critical Area requirements are referred to as Tier I standards. Rosemount adopted a Critical Area Plan and Ordinances to meet the Tier I requirements of the Mississippi River Critical Area in 1980.

Mississippi National River and Recreation Area (MNRRA) – Tier II

In 1988, the Mississippi National River and Recreation Area (MNRRA) was created and became part of the National Park System (Public Law 100-696). MNRRA was established to:

1. Protect, preserve, and enhance the significant environmental, natural, scenic, historical, cultural and scientific values of the Mississippi River corridor through the Twin Cities metropolitan area;
2. Enhance the public outdoor recreation opportunities in the area;
3. Encourage coordination of federal, state, and local programs;
4. Provide a management framework to assist the state and local governments in the development and implementation of integrated resource management programs; and
5. Ensure orderly public and private development in the area.

A Comprehensive Management Plan (CMP) for MNRRA was adopted by the National Park Service in 1995. The guidelines for MNRRA are referred to as Tier II standards. Tier II standards require greater protection of natural resources than Tier I standards and encourage cooperation with other communities.

Funds were provided by the National Park Service (NPS) to assist Rosemount in the revision of the City's Critical Area Plan and to consider the adoption of Tier II standards and policies outlined in the CMP during their 1998 Comprehensive Plan Update. The Minnesota Department of Natural Resources (DNR) and Metropolitan Council are responsible for coordinating and approving local Critical Area plans and ordinances. The NPS reviews Plans for conformance with MNRRA.

This Mississippi River Corridor Plan has been prepared to ensure that responsible development occurs in the MNRRA area and to recognize the Mississippi River as an integral part of the City. Working with adjacent communities and other organizations, Rosemount hopes to protect the scenic and natural resources and enhance the recreational opportunities within the Mississippi River Corridor. The City also supports the continued use of the River Corridor for industrial uses.

This Plan meets State and Regional Tier I requirements and in many cases the City has voluntarily adopted Tier II policies which provide even greater protection of the MNRRA Corridor. This Mississippi River Corridor Plan replaces the City's previous Critical Area Plan. This Plan is also part of the City's 1998 Comprehensive Plan and the Corridor is delineated on the City's Official Zoning Map.

Coordination and Citizen Participation

Rosemount worked cooperatively with the City of Inver Grove Heights, Nininger Township, City of Hastings, and Ravenna Township to identify common issues and priorities for the Mississippi River Corridor. Dakota County, DNR, Met Council, and others also provided resources and assistance.

Existing Land Use

Approximately 3,000 acres, of which 920 acres are water surface, are within Rosemount's designated Mississippi River Corridor. This represents approximately 13% of the City's 22,615 acres. The predominant uses in the Mississippi River Corridor are wooded open space and river dependent industry. Thirteen year-round homes are scattered throughout the Critical Area. There are limited farming activities. Figure 3.8-A illustrates the dominant land uses in the Mississippi River Corridor.

Land use and development within the Corridor is directed by a number of regulatory controls, including the City's zoning, shoreland, critical area and floodplain ordinances. Figure 3.8-B identifies these controls. The following sections describe the predominant land uses of the Rosemount Critical Area (also see Figure 3.8-A).

Industrial

The largest single type of landowner in the Rosemount Critical Area is industry. Figure 3.8-C identifies and Figure 3.8-G describes the major industries located in the Critical Area. This industrial area represents a continuation of similar land uses in southern Inver Grove Heights and is an essential element in the economy of Rosemount and the region.

Industrial activity is not extensive throughout the industrially-owned land along the riverfront; rather, it is focused primarily at three barge terminals and associated loading/unloading, storage and distribution systems. Flint Hills Resources and CF Industries control approximately 75% of the riverfront land. Flint Hills receives and ships petroleum products from one barge slip and C.F. Industries transports liquid and dry fertilizers at two separate barge slips for on-site storage.

Map Key	Owner	Land Use	Size (Acres)	Market Value [1]	River Use	Rail Access
A	Dixie Petro Chemical	Gas Supplier	26.5	$2,289,900	No	Yes (Active)
B	Walbon Partnership	Trucking Terminal	5.9	$946,300	No	No (Potential)
C	Technical Erectors	Vacant Platted Industrial Lots	13.3	$287,900	No	No (Potential)
D	Pine Bend Land Co.	Wood Byproduct Recycling	5.7	$792,000	No	No
E	Spectro Alloys Corporation	Aluminum Recycling	15.5	$1,057,100	No	Yes (Inactive)
F	Endres Properties	Food Byproduct Reprocessing	50.7	$2,201,100	No	No (Potential)
G	CF Industries Inc.	Liquid and Dry Fertilizer Warehouse	381.2	$4,481,000	Yes 2 barge	Yes (Active)
H	Flint Hills Resources	Oil Refinery	539.1		Yes 1 barge	Yes (Inactive)

[1] From Dakota County Tax Records Payable 2010

Figure 3.8-G - Major Industries

Agricultural

The agricultural land uses within the Critical Area are located south of Pine Bend Trail and east of the industrial area. There are limited farming activities with one feedlot and one commercial paintball operation. Two major landowners currently include Pine Bend Development (190.2 acres) and Birger (175.8 acres) south of Spring Lake Park.

Residential

The five residences located within the industrial area are owned by industry and occupied by industry personnel for security purposes. The remaining eight homes are located in the agricultural zoning district and are either remaining farmsteads or rural residential lots.

Flint Hills Resource's Barge Terminal (looking westerly)

Recreational/Public Open Space

Spring Lake Park occupies the eastern portion of the riverfront within the boundaries of Rosemount. The park will eventually contain 1,500 acres; 270 acres are in Rosemount and the balance is in Nininger Township. Spring Lake Park serves as the only area where public adjoins the Mississippi River within the City of Rosemount. This area includes two primary uses, including an archery range and youth lodge. Although a trail system is developed within the youth lodge site, no public trail system or scenic overlook exists within this part of Spring Lake Park.

Dakota County is responsible for the planning and maintenance of the park lands and facilities. A public boat landing approximately two miles east of the Rosemount property is operated by the DNR.

Islands

The islands that exist within the City of Rosemount and the Corridor are owned by a combination of private parties and state/federal agencies. Since they are completely within the floodway boundary and subject to geographic change, they are not specifically addressed in this plan regarding land use.

Topography

The northern tip of the corridor lies at the edge of eastern St. Croix Moraine. The maximum relief, or the elevation change from the Flint Hills secondary treatment ponds to the edge of the river, is approximately 250 feet (See Figure 3.8-D). The highest elevation is approximately 940 feet and is located near the intersection of Highways 52 and 55. The remainder of the corridor is part of the Mississippi River Outwash plain, with the highest elevations averaging about 900 feet along Highway 55. The lowest point is the river, which has a normal pool elevation of 687 feet.

Two well-pronounced bluff lines are within the Critical Area, with slopes often exceeding the 12 percent and 18 percent standards identified as sensitive areas in the Metropolitan Council's *Information Handbook for the Twin Cities Metropolitan Area Mississippi River Corridor Critical Area*. The upper bluff line follows Pine Bend Trail while the lower bluff is near the river. The lower and upper bluffs join together in the northern portion of the Corridor to create an impressive topographical feature.

Natural Drainages

Storm water run-off in the Mississippi River Corridor follows the natural drainage pattern to the river. Since the current industrial users maintain a significant amount of their sites in a natural state, there are no major drainage and/or erosion problems. In addition, City guidelines for bluff setbacks, vegetation preservation, landscaping and stormwater management work to minimize the negative impacts of development on natural drainageways and steep slopes.

Soils

The Dakota County Soils Survey has identified two general soil associations within the Mississippi River Corridor of the City of Rosemount.

1. Nearly Level Soils on the Floodplains. This general area is on the floodplains of the Mississippi River. Much of it is frequently flooded and it is generally too wet to be cultivated. The area consists of mixed Alluvial land and some Sawmill soils. Colo soils, Riverwash, and Peat Muck are also present. These soils are found on the river islands and near the shore along the eastern portion of the Critical Area.

2. Dark-Colored Rolling to Nearly Level Soils on Outwash. The major soils in this association include a mix of the Dakota, Estherville and Waukegan series. These soils are generally well-drained and more susceptible to drought, making them less suitable for agricultural use. These soils compose the remainder of the Critical Area.

A high percentage of the Corridor has soils that are classified as severe, severe-very severe, or very severe for on-site sewage disposal systems. More detailed soil studies should be done on a site-specific basis for building construction and septic systems. On September 19, 1997, the City adopted a new ordinance (Chapter 6, Design, Installation and Maintenance of On-Site Individual Sewage Treatment Systems) that requires inspections and maintenance permits every two years.

Habitat Areas and Animals

The Minnesota Department of Natural Resources (DNR) has conducted a Minnesota County Biological Survey (MCBS) to identify significant natural communities, plants and animals in Dakota County. These features are part of the Minnesota Natural Heritage Information System.

Natural Communities

Natural communities are areas containing groups of plants and animals that have not been significantly altered by humans. They are examples of what the area looked like in the mid-1800's. Figure 3.8-E identifies the location and type of natural communities in Rosemount. The following descriptions were provided by the DNR.

Floodplain Forest – silver maple subtype – lowland forests on alluvium along the Mississippi River, flooded for weeks at a time during seasonal high water; canopy dominated by silver maple, which contributes >50% cover; common canopy associates include green ash, cottonwood, and peach-leaved willow; subcanopy and shrub layer poorly developed; woody climbers such as Canada moonseed and wild grape common, especially in light gaps; common ground-layer species include wood nettle, tall coneflower, and honewort.

Dry Prairie – sand-gravel subtype – dry prairies on outwash (with gravel fraction >10%); common graminoids include little bluestem, big bluestem, side-oats grama, hairy grama, plains muhly, and Schweinitz's nut-sedge; common forbs include bird-foot violet, western spiderwort, stiff sunflower, green milkweed, bluets, and pasque-flower.

Oak Forest – mesic subtype – dry-mesic to mesic forests on loess, colluvium, or glacial till, often on north- to east-facing slopes; canopy most often dominated by one or more oak species, usually including red oak, other dominant or important canopy species are bur oak, northern pin oak, white oak, and basswood; common subcanopy and shrub-layer species include ironwood, sugar maple, paper birch, bitternut hickory, gray dogwood, and American Hazelnut,; ground layer dominated by summer-blooming species such as pointed-leaved tick-trefoil, wild geranium, and sweet cicely.

Oak Forest – dry subtype – dry forests on outwash; canopy dominated by one or more oak species, including northern pin oak, white oak, and bur oak; common canopy associates include red oak and black bitternut hickory, downy arrowhood, chokecherry, gray dogwood, and American hazelnut; ground layer dominated by summer blooming species such as shining bedstraw, white snakeroot, and Pennsylvania sedge.

Other Woodlands

There are also significant areas of woodlands that have been disturbed or are not original, but are still important assets to the City of Rosemount. These areas are also identified on Figure 3.8-E. The eastern orientation of slopes in the corridor create cooler, moister conditions due to the loss of afternoon sun. Shade and moisture tolerant plants, such as ferns and mosses, are found in the understory.

Plants and Animals

The Mississippi River Corridor is home to a variety of animal and plant species. The following animal and plant species are particularly important because they are state listed:

Element	State Status
Bald Eagle	Special Concern
James' Polanisia	Endangered
Creeping Juniper	Special Concern
Loggerhead Shrike	Threatened

Rivers, Lakes and Wetlands

Mississippi River

The Mississippi River serves two separate and distinct water surface uses: transportation and recreation. Commercial navigation co-exists with fishing, boating and hunting. A 9-foot navigation channel is maintained for the river's barge traffic. Improvement in water quality has also resulted in an increase in the recreational use of the river.

Spring Lake

The lock and dam system created pools in the river. Spring Lake, a part of Pool 2, is five miles upstream from Lock and Dam No. 2 in Hastings. Being very shallow and well enclosed by islands, Spring Lake can only be utilized by recreational boaters. In fact, the shallowness and the presence of submerged tree stumps limits recreational boating to canoeing and limited fishing.

Wetlands

The National Wetlands Inventory (NWI) identifies all wetlands in the Critical Area (See Figure 3.8-E). With the exception of a few pocket wetlands, all of the wetlands in the Critical Area are located within the Mississippi River floodplain.

Transportation and Utilities

Transportation

There are several major transportation facilities serving the Rosemount Critical Area. These facilities include roadways, railway lines and spurs, the river, and pipelines and conveyors (See Figure 3.8-A).

Roadways Three public roadways are located in the Critical Area: State Trunk Highway 55, Pine Bend Trail, and Fahey Avenue. Highway 55 is heavily utilized by commercial and passenger traffic and serves as a major route between the Twin Cities and Hastings. Pine Bend Trail and Fahey Avenue serve local needs.

Within the City of Rosemount, Highway 55 is also part of The Great River Road - a national scenic and recreational highway that is being designated from the headwaters of the Mississippi River at Lake Itasca to the Gulf of Mexico.

Railways United Pacific (UP) Railroad operates a long spur extending south from Inver Grove Heights to various industrial users, all of which are operated on an irregular schedule.

River Barge traffic is very important for Rosemount's river-based industries. Commercial navigation is limited to the main, nine-foot channel and ancillary routes to the three existing barge terminals. Flint Hills Resources operates one barge terminal. CF Industries operates two barge terminals. Barge fleeting - the docking of several barges, is not authorized within Rosemount. Small-scale fleeting within the terminals themselves is allowed.

Pipelines and Conveyors Pipelines and conveyors are utilized by industry to transport barge shipments from barge terminals to storage and manufacturing facilities. These facilities are privately owned and operated. A pipe has recently been installed by Flint Hills Resources within the corridor to pump leaded gasoline from a leak site along the river.

Utilities

Wastewater Treatment The Metropolitan Council Environmental Services has an inoperable Wastewater Treatment Plant with a 42" discharge located near the southernmost barge terminal.

Utility Crossings There are no existing utility crossings across the river within the City of Rosemount.

Critical Area Land Use Plan

The proposed land use plan reaffirms the existing pattern of development. The Mississippi River Critical Area is divided into four land use districts according to State Executive Order 79-19. The districts are:

1. Rural Open Space
2. Urban Diversified
3. Urban Developed
4. Urban Open Space

The Corridor in Rosemount contains the *Rural Open Space* and *Urban Diversified* Districts (See Figure 3.8-B) with approximately one-third of the Corridor on the east end within the first rural category. These districts establish the following guidelines to manage the Corridor consistent with its natural characteristics and existing development (Executive Order 79-19; March 12, 1979):

The City of Rosemount will evaluate new land use proposals and/or expansion proposals for existing land uses based upon the corresponding district designation. The City will also be attentive to the area that transitions from urban to rural (east of Endres and CF Industries as shown in Exhibit 3.8-C). Current zoning for this transition area is Agriculture, which gives more support to its rural and open space character. Policies addressing these two districts are further identified in Section 3.8.9.

Rural Open Space District

The lands and waters within this district shall be used and developed to preserve their open, scenic, and natural characteristics and ecological and economic functions. Presently undeveloped islands shall be maintained in their existing natural state. The transportation function of the river shall be maintained and preserved. The City allows public, recreational, or institutional uses within this District.

Urban Diversified

The lands and waters in this district shall be used and developed to maintain the present diversity of commercial, industrial, residential, and public uses of the lands, including the existing transportation use of the river; to protect historical sites and areas, natural scenic and environmental resources; and to expand public access to and enjoyment of the river. New commercial, industrial, residential, and other uses may be permitted if they are compatible with these goals.

The following sections describe each land use in more detail.

Residential Thirteen single family homes have been identified within both districts. Five are owned by Flint Hills Resources and leased to personnel. These homes are viewed as non-permanent structures in terms of a 20-25 year time period. Four other homes on the east end are part of an approved rural subdivision. Additional residential development will be severely limited due to zoning restrictions and industrial conflicts.

Industrial The large area designated industrial serves two distinct purposes. It primarily allows areas for expansion of existing uses, and it provides limited areas for new industry to properly locate within the Corridor.

New development and expansion of existing industrial properties, including warehouses, storage bins, pipelines, conveyors, and associated activities will be allowed subject to the Critical Area Ordinance. All uses must be architecturally and visually compatible with the Corridor as defined in the ordinance (e.g., height, setback, scale). A minimum setback of 100 feet is identified from a bluff face and shoreline. Barge expansion beyond the three existing terminals is not anticipated or supported within the Corridor.

Agricultural

Agriculture and other related uses will continue to operate within the Corridor. These uses shall be low-impact uses requiring minimal alteration and improvement of the existing landscape.

Recreational/Public Open Space

The Mississippi River is a tremendous resource that is underutilized for its recreational, scenic and environmental values. In addition to the county's planned improvements at Spring Lake Park Reserve, the city supports additional trails connecting various points of interest. A scenic overlook and improved access to the river for the public is also important.

A proposed trail system is shown on Figure 3.8-F, which will improve the use and enjoyment of the River Corridor. The Plan provides linkages with Rosemount residents, adjoining communities and the region by proposing County and City trails along Highway 52 and 55 and the Mississippi River and 140th Street East. Rosemount has identified the following trail connections:

(1) From Highway 3 to Spring Lake Park, generally following the Interpretive Trail Corridor shown on Figure 3.8.4; and

(2) From Inver Grove Heights to Spring Lake Park.

The City will also begin to evaluate a scenic overlook/interpretive center at some underdetermined location along Pine Bend Trail by initiating discussions with landowners, Dakota County, DNR and NPS (See Figure 3.8-G).

Another prominent recreational use within these districts is splat ball. Two private courses exist on leased property that is sloped and wooded. Active play time is limited to non-winter months and evening/weekend hours. The city regulates these operations by an annual interim use permit. Any other potential outdoor recreational uses would be reviewed and permitted under the same public process (including public hearings).

Open spaces that are designated as permanent by some public or private action are encouraged by the city. Although no active plan or program is in place at the city for acquisition, opportunities will be evaluated in the

future. Cooperation with existing property owners is key to achieve more common open spaces in the Corridor. Critical Area open space guidelines are addressed in the city's park plan(s).

Nonconforming Uses

The Corridor has a number of nonconforming uses that are subject to the City's standard provisions in the zoning ordinance. Those uses that fit this category include the homes within the industrial zoning district, some small vacant industrial lots, and a few industries that don't meet site design standards (i.e., percentage in greenspace).

Critical Area Land Use Policies

The following policies shall guide land use decisions within the Mississippi River Corridor of Rosemount:

1. Provide for the continued economic use and development of the Mississippi River Corridor where appropriate within the Urban Diversified District in a manner that will not prematurely require urban services, and will be consistent with resource protection and open space policies of this plan;

2. Enforce the Mississippi River Critical Area Ordinance development regulations to ensure environmental and visual compatibility for all development, site plans, and/or expansions within the Mississippi River Corridor and minimize interference with views to and from the River, including such things as building heights and materials, erosion control standards, bluff line, shoreland and floodplain setbacks, buffering, preservation of natural vegetation, and maximum developable slopes;

3. Work with owners to minimize the negative impact of existing uses and structures on the Critical Area;

4. Consider incentives to encourage polluting industries that no longer rely on the river for transportation or other needs to relocate out of the riverfront area;

5. Convert inconsistent riverfront land uses that are causing adverse effects on the river corridor to consistent uses if the owners move away;

6. Require land dedication to be located in the Mississippi River Corridor when a park dedication is required of development within the Mississippi River Corridor. If a developer provides cash in lieu of land, it should be used by the City to purchase open space or other public services that enhance the use or enjoyment of the Mississippi River Corridor;

7. Cooperate with the City of Inver Grove Heights, City of Hastings, Nininger Township, Ravenna Township, and State Historic Preservation Office to identify, preserve, enhance and promote significant historical and cultural sites within the Mississippi River Corridor;

8. Increase opportunities for Rosemount residents and others to use the Mississippi River Corridor as a recreational, cultural and historic resource;

9. Cooperate with adjacent communities, Dakota County, MnDOT and other jurisdictions to develop a park and trail system better connecting Rosemount to adjoining communities and other points of interest;

10. Promote the use and enjoyment of Spring Lake Park for active and passive recreational uses;

11. Work with property owners to pursue the development of an interpretive center/scenic overlook near the old ski hill and a bike trail along Pine Bend Trail as close to the river as practical;

12. Work with industry and Minnesota Pollution Control Agency (MPCA) to ensure conformance with state and federal laws;

13. Coordinate with other agencies to deter or minimize the impact of potential mining or extraction uses and ensure consistency with the Critical Area plan and ordinances;

14. Encourage economic investment that preserves and rehabilitates historic structures; and

15. Encourage local land use control and local, regional, and state economic development activities that promote sustainable development.

Critical Area Natural Resources and Water Management Plan

The preservation and enhancement of the natural environment is an important element of this Plan. The basic mechanism for protection of the environment in the Rosemount Critical Area is the Mississippi River Corridor Critical Area Ordinance which, in turn, relies primarily upon site plan requirements for environmental and aesthetic protection. Specifically, any development in the Critical Area will be required to submit site plans which delineate measures taken to insure environmental protection during and after construction. As such, site plans must indicate, at a minimum:

- slopes and setbacks from bluffs
- types and location of vegetation
- identification of wetlands
- identification of normal high water mark and 100-year flood elevation
- setbacks from water bodies
- soil types
- grading, landscaping, drainage and stormwater retention plans
- measures to control erosion and sedimentation

- proposed and future buildings, septic system, conveyors, pipelines, parking and access locations
- description of the development's impact on existing views to and from the river
- opportunities for open space and public viewing of the Corridor

The City will also work with property owners and other jurisdictions to improve the habitat areas and natural communities identified in Figure 3.8-E.

In support of site plan review standards that may either be currently in place (Critical Area Ordinance) or be amended/added in the future, the following policies apply to site development in the Corridor:

1. Promote clustering of land uses;

2. Provide uninterrupted vegetated shoreline where practical;

3. Protect natural resources with preservation areas;

4. Encourage shoreline preservation and restoration;

5. Protect views from designated overlooks and develop new overlooks;

6. Establish a preferential order for increasing river crossing capacity;

7. Protect and restore wetlands;

8. Apply setback and height restrictions and encourage careful site design to maintain the ability to view the river from existing open space and developed areas;

9. Screen development to minimize its visibility from the river or opposite shore;

10. Maintain public access to the river. Increase access in new development and redevelopment projects;

11. Rehabilitate and adaptively reuse historic structures;

12. Encourage placing utilities underground; and

13. Encourage adoption of sustainable building practices.

Critical Area Natural Resources and Water Management Policies

The following policies shall guide natural resource and water management practices within the Mississippi River Corridor of Rosemount:

1. Preserve scenic and environmentally sensitive areas of the Mississippi River Corridor, including: floodplains, wetlands, bluffs, steep slopes, natural drainage ways, significant vegetation and wildlife habitat;

2. Support the preservation and management of rare, unique, endangered and threatened plants and animals and prohibit any action that would reduce or degrade the habitat supporting such species;

3. Enforce the adopted minimum development standards as part of the Mississippi River Corridor District to minimize site disturbance and regulate the maximum amount of impervious surface allowed on each lot, setback from bluffline, placement of roads and parking areas, alteration of natural slopes, buffering and screening, and enforcement procedures;

4. Protect the visual quality and erosion impacts of new development by prohibiting clear-cutting of existing trees within the Shoreland District and minimize the removal of all vegetative cover within the Corridor; restoration shall use native vegetation;

5. Existing and future development shall preserve existing vegetation; additional buffering and screening shall be provided as part of the required landscaping plan for all development within the Mississippi River Corridor; and clustering of structures shall be encouraged;

6. Encourage property owners within the Mississippi River Corridor to replace diseased trees with new plantings and to introduce appropriate native vegetation on steep slopes to control erosion, all in cooperation with other agencies that address reforestation;

7. Minimize the impact on wildlife, vegetation, beaches and riverbanks of barge terminals, pipes, conveyors, and other physical barriers and improvements that connect barges to upland buildings;

8. Prohibit development on slopes greater than 18 percent, and allow development on slopes 12-18 percent only if there are not reasonable alternatives; development of slopes 12-18 percent shall be controlled and managed to minimize any adverse impact on the environment;

9. Enforce the Water Resources Management Ordinance and Shoreland Management Ordinance to ensure that the river, wetlands, ponding areas, and natural drainage courses are managed, protected and restored;

10. Encourage existing and future development to minimize direct runoff and improve runoff quality;

11. Prohibit the construction of on-site sewer systems in areas having severe or very severe soil limitations for such systems except where alternative systems can be designed and maintained;

12. Protect and improve native vegetation along beaches, riverbanks, and natural drainage areas to improve water quality and prevent erosion;

13. Work to ensure that developments within the Mississippi River Corridor assess and minimize adverse effects and maximize beneficial effects on the environment;

14. Work with MPCA and others to monitor, prevent, and mitigate environmental and water quality impacts on the Mississippi River from site activities, including on-site septic;

15. Pursue joint ventures with industrial property owners to provide educational and recreational opportunities along the river;

16. Support Dakota County in efforts to protect natural resources, such as wildlife, plants, water quality and floodplain areas of Spring Lake Park;

17. Support Flint Hills Resources' efforts toward groundwater corrective measures as identified in the 1998/99 Koch Refinery Groundwater Risk Evaluation/Corrective Measures Study;

18. Evaluate potential noise and visual impacts before making decisions to expand or locate barge operations;

19. Reduce the use of chemicals for fertilizer and pest control in agricultural and residential areas and on public lands, which would support sustainable land treatment activities and integrated pest management practices; and

20. Encourage ongoing efforts to clean up corridor lands that are adversely affecting or could adversely affect the river environment, such as landfill sites that are leaking, sites that could present a hazard to public safety, or sites that could delay recreational or other desired uses of the corridor.

Critical Area Transportation and Utility Plan

As with the proposed land use elements, the proposed transportation and utility systems do not significantly differ from existing conditions. The City currently has no major infrastructure improvements planned for the Mississippi River Corridor area. Trails are discussed in the recreation element of the Land Use section.

Roadways

No short-term changes from the existing conditions are planned. A realignment of County Road 42 with State Highway 55 is identified in a draft County Highway 42 Corridor Study. If implemented, Highway 55 may be turned back to the City or County with a possible north/south realignment in the Critical Corridor as a frontage road directly east of Highway 52 (See Figure 3.8-F). Private roadways are permitted within the industrial area for service and emergency access, and materials transport. These will be constructed on an as-needed basis, subject to City Ordinances (Note: roadways, pipelines, conveyors and utilities area

generally permitted to traverse slopes in excess of 12% if no feasible alternatives exist.) All changes made to public roadways may be permitted after review and approval is made by appropriate agencies based on the policies stated in Sections 3.8.7 and 3.8.9.

Railways

No major changes are anticipated. Expansion of these facilities may be permitted after review and approval is made by appropriate agencies based on the policies stated in Sections 3.8.7 and 3.8.9.

Water Transportation

No changes in commercial or recreational boating are anticipated.

Utilities

No major changes are anticipated. Any new utility lines should be placed underground or utilize existing utility corridors.

Critical Area Transportation and Utility Policies

The City supports the following polices in relation to transportation and utilities:

1. Route new utility crossings along existing utility corridors;

2. Place new and existing utilities underground whenever possible;

3. Locate future utility transmission lines within existing right-of-way;

4. Continue to support the utilization of the river for commercial and recreational needs;

5. Work with the U.S. Army Corps of Engineers, DNR and other agencies to accommodate barge traffic and minimize conflict between commercial and recreational uses; and

6. Site, design, and construct future roadways, railways, utilities and other improvements that are consistent with the City's Critical Area plan and ordinances, provide safe pedestrian crossings, enable reasonable use of land between the river and the transportation facility, and do not stimulate incompatible development.

Cultural and Historic Resources

Although the historic village of Rosemount was established outside the river corridor, the Mississippi River corridor includes areas of historic and cultural importance to Native Americans and European settlers. MNRRA identifies cultural resources as including historic sites and structures, archaeological and ethnographic resources and cultural landscapes of local, state, national or Native American significance. The most well known site in Dakota County's corridor is the Kaposia Village, which once included 100 members of the Dakota Tribe and twenty lodges formed in 1838. In addition to sites identified at the State Historic Preservation Office (SHPO), other cultural resources may not yet be identified or evaluated.

Most protection of cultural and historic resources depends on local ordinances. Although Rosemount does not have a protection program in place, it will further investigate the need to participate in programs (i.e., Certified Local Government Program through SHPO) to carry out the following policies:

1. Protect the integrity of cultural resources, including, but not limited to, historic sites and structures, archaeological resources, and cultural landscapes;

2. Where possible, continue historic uses or adaptively reuse historic properties and encourage appropriate investment in preservation and rehabilitation;

3. For projects that have site plan review, require identification of cultural resources and a plan to protect and/or mitigate impacts to those resources in consultation with appropriate agencies or organizations; for projects that require an EAW, consider SHPO comments;

4. Consult with the Dakota County Historical Society and SHPO, including the Native American advisory group, on the value and methods of protecting cultural resources that are identified in the river corridor; and

5. Work with the National Park Service to document and interpret the importance of cultural resources within the river corridor.

Implementation Program

The Implementation Program includes this Plan, the Mississippi River Corridor Critical Area Ordinance, and a Capital Improvements Plan. Implementation will require cooperation among the many agencies having jurisdiction within the Mississippi River Corridor as well as City residents living within the area. In order to implement the Plan, the City of Rosemount will take the following actions:

1. Adopt the Mississippi River Corridor Plan as an element of the Comprehensive Plan;

2. Amend the Critical Area Ordinance to reflect the new Mississippi River Corridor standards;

3. Distribute the Mississippi River Corridor Plan to other agencies and industries working in Rosemount;

4. Cooperate with MnDOT, Dakota County, Inver Grove Heights, and Nininger Township in the development of the identified trail connections, in the mitigation of impacts during road construction or realignment, and the consideration of pedestrian access to the river and to trails;

5. Develop materials to educate and promote the economic importance, history, natural resources and recreation opportunities in the Mississippi River Corridor;

6. Forward all development plans requiring discretionary action (i.e. variances, conditional use permits) to the DNR, prior to taking action on each application;

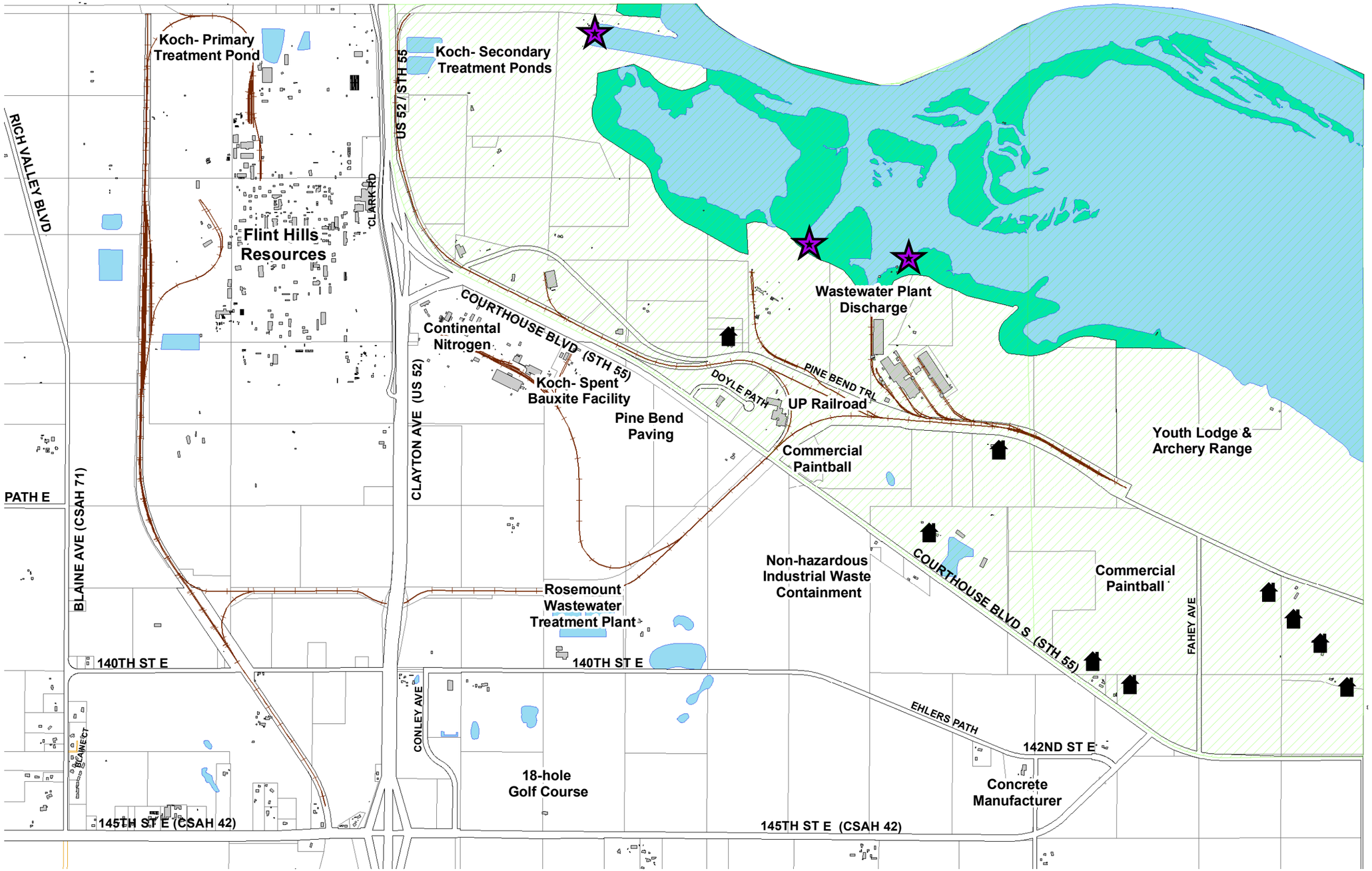
7. Incorporate local capital improvements within the Mississippi River Corridor into the City's overall Capital Improvement Program. The Capital Improvement Program will be updated every two years in accordance with the Metropolitan Land Planning Act. After the Capital Improvement Plan is completed, it will be forwarded to the appropriate agencies with jurisdiction over the Mississippi River Corridor. Capital improvement projects shall be consistent with Critical Area standards and guidelines and the policies for river protection and enhancement that are adopted in this plan;

8. Work with the DNR, NPS and Flint Hills Resources on strategies to protect woodlands as identified on Figure 3.8-F and to provide for scenic or public access; and

9. Work with the Dakota County Historical Society and State Historic Preservation Office to preserve and protect historic and/or cultural resources and landscapes (e.g., Kaposia Village site) in consultation with affiliated Native American and other groups.

Figure 3.8-A Dominant Land Uses

ROSEMOUNT
2030 COMPREHENSIVE PLAN UPDATE



March 2009

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Mississippi River Critical Area & MNRRA Corridor

Figure 3.8-B
Regulatory Controls

ROSEMOUNT
2030 COMPREHENSIVE PLAN UPDATE

Legend

- City Boundary
- Parcels
- Regulated Bluff - 18% slope or greater
- MNRRA Corridor
- OHWL - 686 feet
- 100 year Floodplain
- Shoreland District
- Public Right-of-Way
- Private Right-of-Way
- Railroad

Zoning

Industrial:

- BP - Business Park
- IP - Industrial Park
- GI - General Industrial
- HI - Heavy Industrial

Other:

- AGP - Agricultural Preserve
- AG - Agricultural
- PI - Public/Institutional
- FP - Flood Plain
- WM - Waste Management
- W - Water
- ROW - Right-of-Way

0 0.1 0.2 0.4 0.6 0.8 Miles

This map to be used for discussion purposes only. This map does not substitute the Flood Insurance Rate Map for this area. Accuracy of Ordinary High Water Level (OHWL = 686.7) based on 2 foot contour data provided by Dakota County. Actual slopes must be determined on a site by site basis. Parcel information provided by Dakota County.

March 2009

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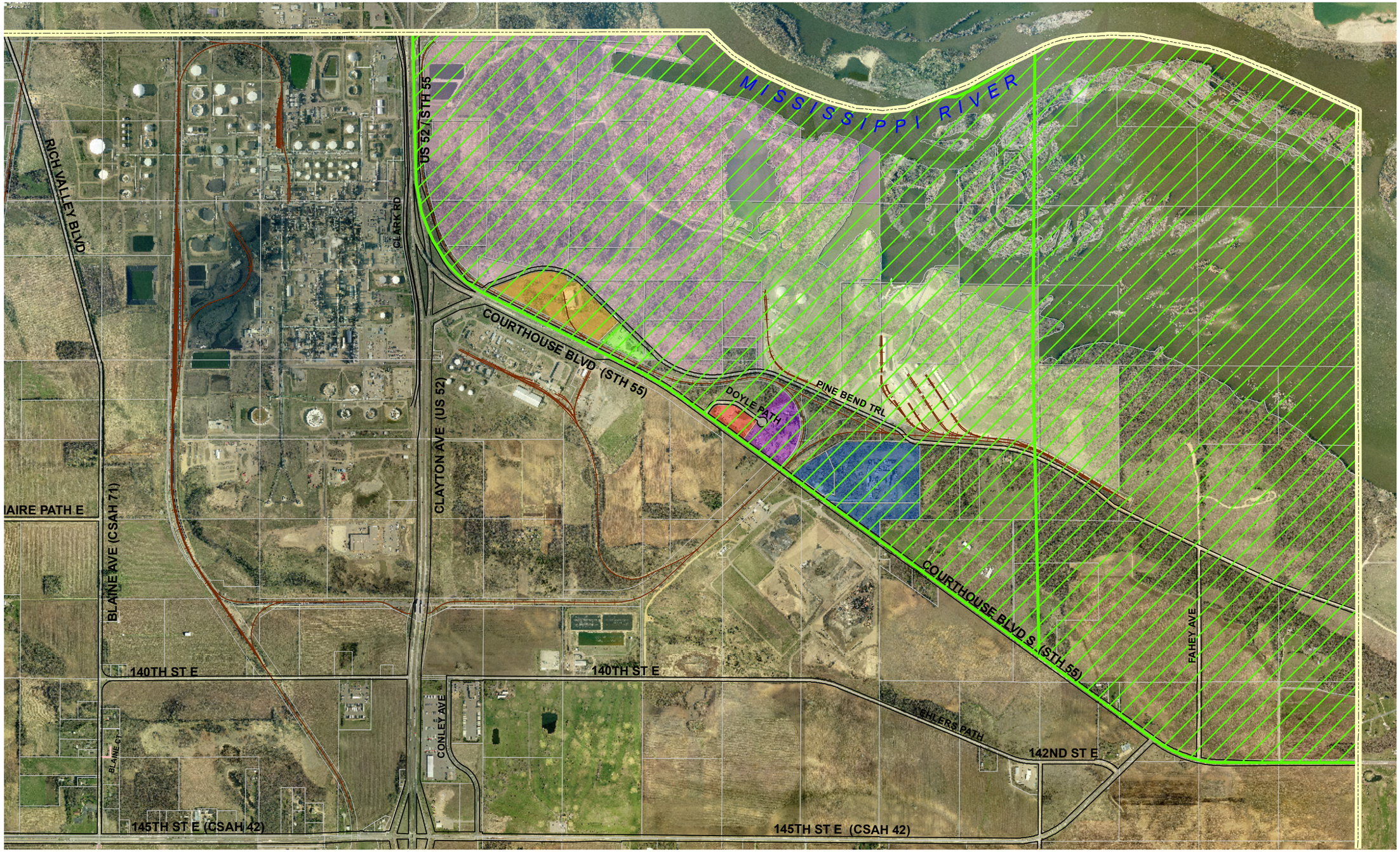
Mississippi River Critical Area & MNRRA Corridor

Figure 3.8-C
Major Industries

ROSEMOUNT
2030 COMPREHENSIVE PLAN UPDATE



Legend

- City Boundary
- MNRRA Corridor
- Public Right-of-Way
- Private Right-of-Way
- Railroad
- Parcels
- Endres Properties
- Spectro Alloys Coporation
- Dahn Construction
- Walbon Partnership
- Dixie Petro Chemical
- Flint Hills Resources
- CF Industries

0 0.125 0.25 0.5 0.75 1 Miles

Aerial photography provided by Pictometry (2008). Parcel information provided by Dakota County.

March 2009

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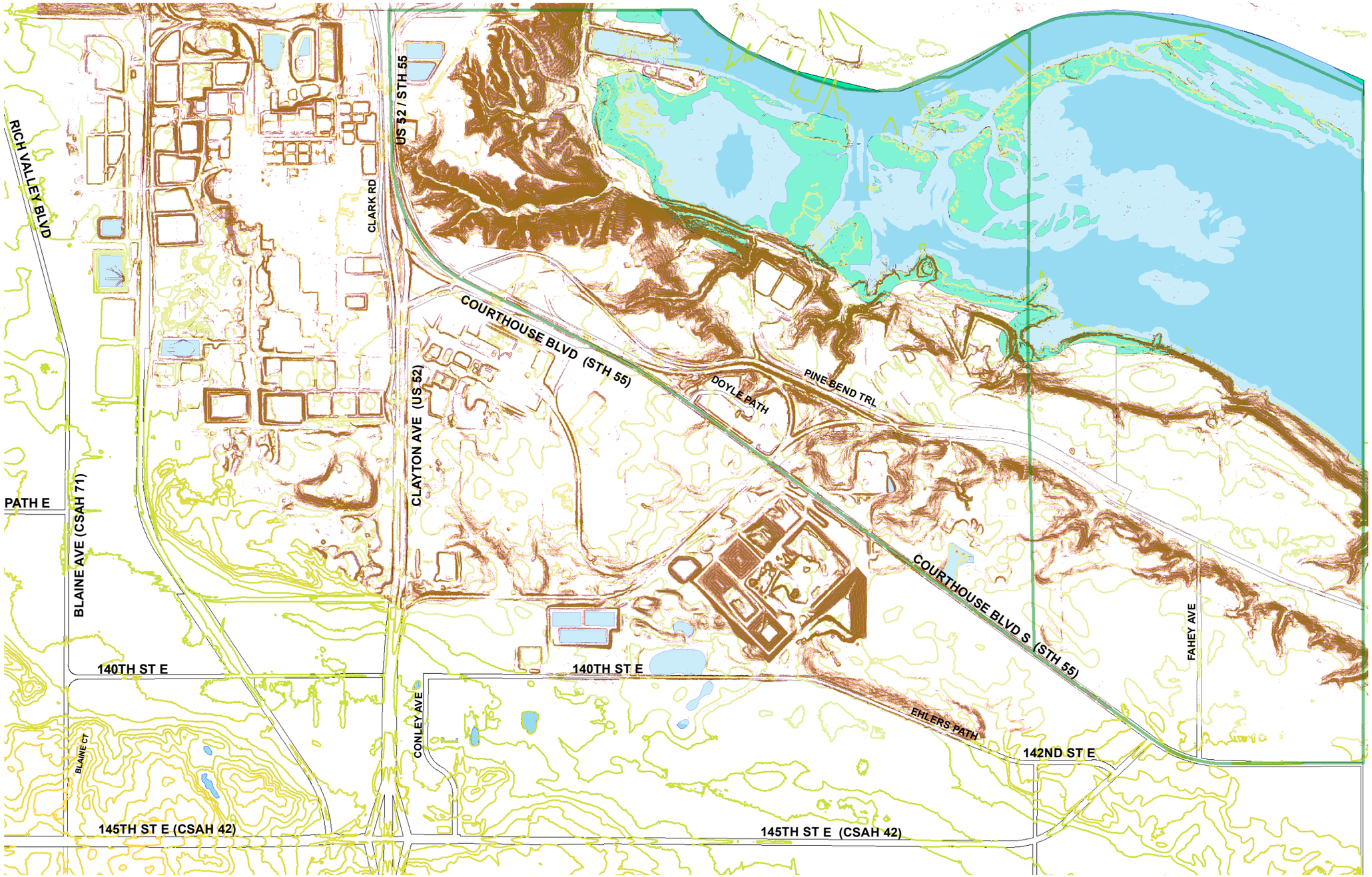
Figure 3.8-D Toporgraphy and Slopes

ROSEMOUNT
2030 COMPREHENSIVE PLAN UPDATE



Mississippi River Critical Area
Parcels
Slope from 12% to 18%
Slope greater than 18%
Water
Flood Plain

Contours

690 - 760
761 - 860
861 - 912
913 - 952
953 - 1030

0 0.125 0.25 0.5 0.75 1 Miles

March 2009

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Figure 3.8-E Natural Resources

ROSEMOUNT
2030 COMPREHENSIVE PLAN UPDATE

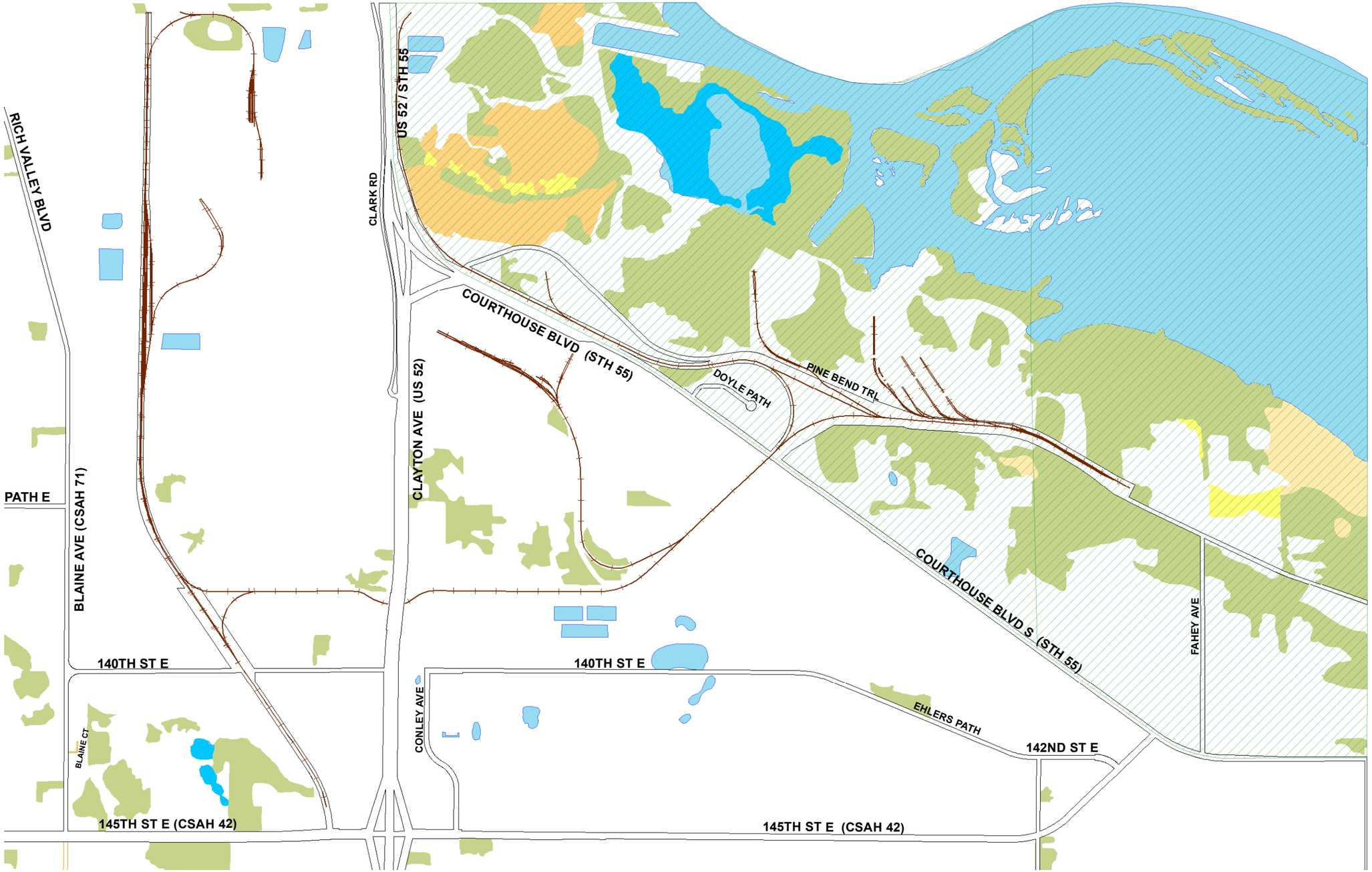

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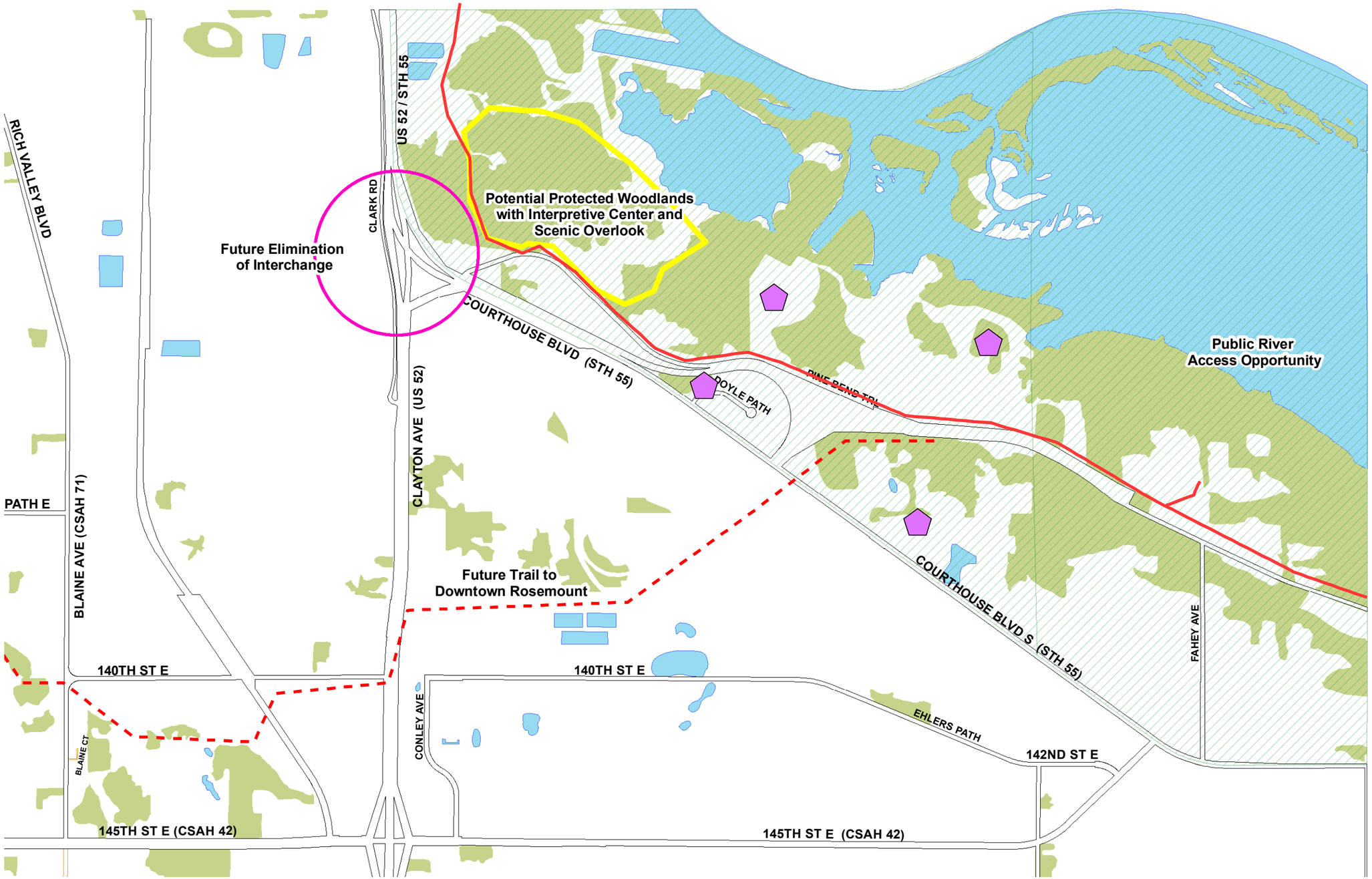
Figure 3.8-F Mississippi River Corridor Plan

ROSEMOUNT
2030 COMPREHENSIVE PLAN UPDATE



March 2009

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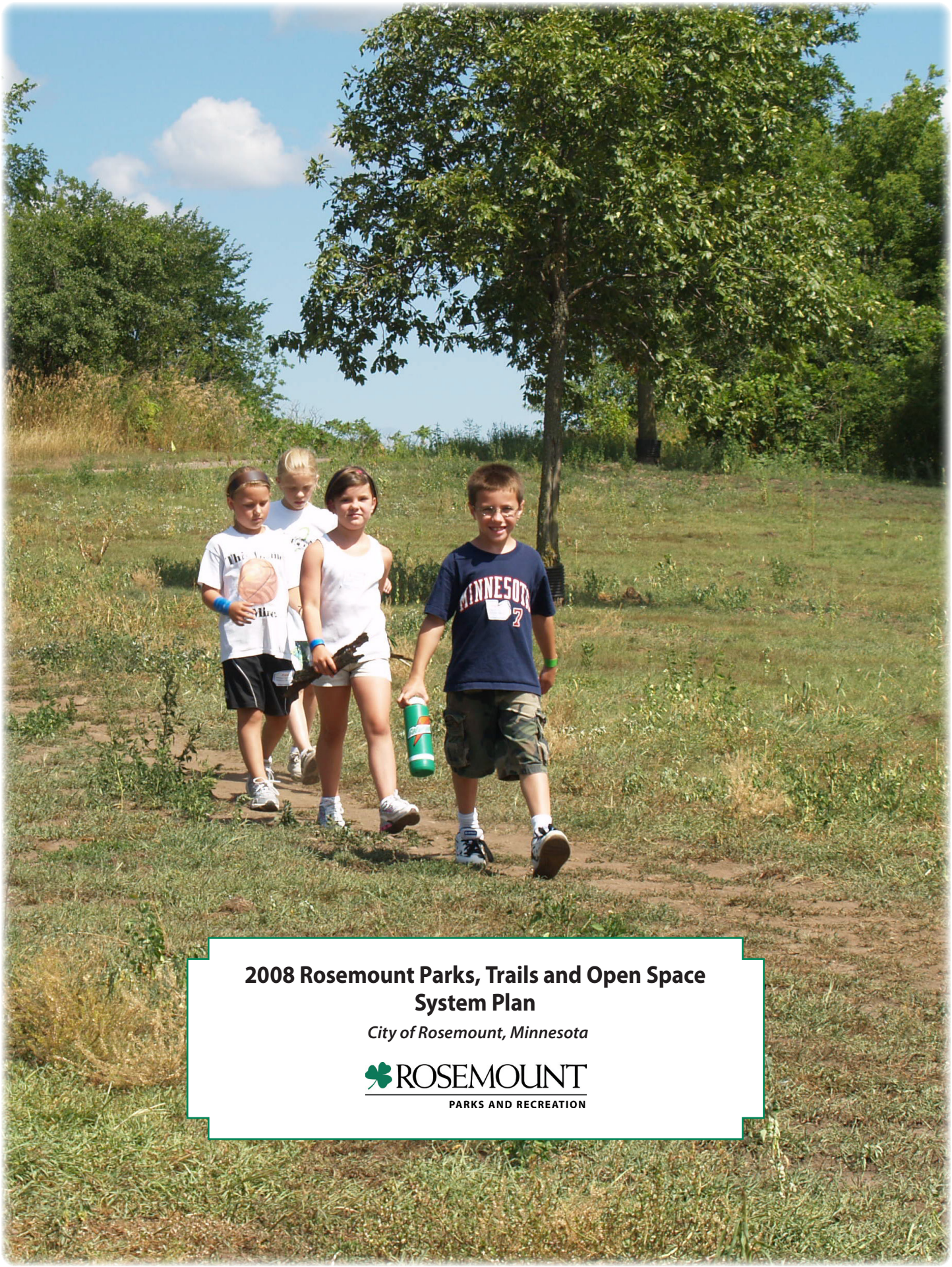

2008 Rosemount Parks, Trails and Open Space System Plan

City of Rosemount, Minnesota

ROSEMOUNT
PARKS AND RECREATION

Acknowledgements

City Council

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Parks and Recreation Commission

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Table of Contents

1. Purpose and Introduction

Introduction

Parks, trails, and open space systems can have a strong impact on neighborhoods and are essential components of a healthy community. Rosemount recognizes that the provision of adequate park, recreation, open space and trail connections are tools to help create a high quality of life for the people living and working in the City.

The City's parks define neighborhoods, offer recreation opportunities, and serve as open space and wildlife habitat. Rosemount's parks act as neighborhood gathering points and strengthen the sense of community. Rosemount is committed to meeting its residents' needs and planning wisely for the future. As such, this plan is designed to help continue the tradition of quality parks, trails and open spaces.

2002 Update/ 2008 Forecast

In 2002, the City of Rosemount prepared a Comprehensive Park Plan and Development Guide. Since that time, the city has experienced significant growth, and new parks and trails have been constructed. In 2008, the city is completing the 2030 Rosemount Comprehensive Guide Plan. The Comprehensive Plan defines the expected residential, commercial and industrial development and contains forecasts for population, household and employment growth through the year 2030. This Parks, Trails and Open Space plan is an update to the City's 2002 Parks Master Plan and reflects the changes in Rosemount since 2002 and plans for the growth forecasted through 2030.

Mission Statement

The mission statement, used in past parks master plans, remains an appropriate guide for the 2008 plan:

> ***"The purpose of the Rosemount Park System is to provide in as cost effective a manner as possible, a comprehensive, balanced, well-maintained system of parks, natural/open spaces, trails and leisure-oriented activities/programs for the City residents to use and enjoy."***

The 2008 Parks System Plan is intended to act as a user-friendly guide to decision making regarding the future needs, development, renovation and preservation of Rosemount's parks, trails and open spaces. The city recognizes that demographic, recreation and environmental trends will change over the next several years and those changes will affect park, trail and open space needs. Thus the plan will help set the framework for these future improvements and will increase efficiency by establishing a long-term vision and priorities.

Goals

The following goals have been set by the City Council and Parks and Recreation Commission to assist with development of the plan:

- Continue to develop a comprehensive parks, trails and open space system that meets the needs of the expanding community.
- Meet our community's parks, trails and open space needs through proactive planning, partnerships and responsible spending.
- Continue to create a community that is well connected by trails, sidewalks and other pedestrian friendly amenities.
- Create and follow standards for recreational facilities that include having a park area within walking distance of all homes in the urban developed area of the City.
- Preserve, protect and enhance our natural resources.
- Continue to invest in the future of our parks, trails and open space through high levels of maintenance and an active Capital Improvement Plan.
- Plan for and develop revenue sources for facility renovations and replacement.
- Enhance sustainability through energy conservation, best management practices and use of environmentally friendly products, practices and equipment.
- Maximize efficient use of park and recreation facilities through scheduling and the addition of irrigation and lighting.
- Adopt policies to assure a balance of facility development and an equitable allocation of fields and facilities.

Sections of the Plan

Section 1 Provides an introduction, a review of previous plans, and a summary of the goals, sections of the plan and sources of information.

Section 2 Contains information about community characteristics such as the regional and local settings, existing parks, description of major stakeholders and partners, and growth forecast.

Section 3 Shows the Parks and Trails System Framework. This includes park and trail classifications, park acreage standards, park service area criteria, and previous planning efforts. These standards are used in assessing community needs and planning the future park system.

Section 4 Contains the Needs Assessments and Recommendations. Included are a summary of the community input, a review of local trends, a table of core park area needs, and recommendations based on the application of the park and trail system framework.

Section 5 Discusses the System Plan. The plan includes recommendations for new park land acquisition and development, renovations or improvements to existing parks, new trail construction, park financing, and implementation actions.

Sources of Information

The City of Rosemount wanted to be sure that this park plan represented the community's needs and desires. That goal resulted in a commitment to gather community input about desires for the existing and future park system. The following sources were used to provide insight on issues associated with growth and parks, open space, trails and recreation in Rosemount:

Public Opinion Surveys In March 2007, Decision Resources Inc. conducted a public opinion phone survey of Rosemount residents. Approximately 400 households were surveyed. The survey included questions about recreation facility use, satisfaction, and priorities for the future.

Community Meetings Two public meetings were held to gather input regarding parks, trails and open space. A Comprehensive Plan kickoff meeting was held on April 10, 2007 and a parks, trails and open space meeting was held on May 9, 2007. These meetings gave residents the opportunity to provide their input on the City's parks, trails and open spaces.

Parks and Recreation Commission Input Throughout the planning process, the Rosemount Parks and Recreation Commission oversaw the preparation of the plan. The Commission worked with consulting planners, city staff and the community and provided detailed guidance and input.

Staff Input City staff used their knowledge of the City's parks system and understanding of the City's potential for growth to provide the basis for developing the plan.

2. Community Characteristics

Community characteristics are shaped by people and their surroundings. Rosemount is home to active people, good parks, strong schools and solid infrastructure. The regional and local settings, existing parks, description of major stakeholders and partners, and growth forecast are described below.

Regional Setting

Rosemount is bordered by Apple Valley to the west and by Eagan and Inver Grove Heights to the north. These cities have highly developed park and trail systems. The Mississippi River and Nininger Township form the eastern border of Rosemount. Empire and Vermillion Townships are located to the south of Rosemount.

Dakota County Parks is the implementing agency for regional parks and trails in and around Rosemount. The locations of the current and proposed county parks, North/South Urban Regional Trail and the Dakota County Mississippi River Trail are shown in Appendix B.

Many of the Dakota County Parks are located near Rosemount. Lebanon Hills Regional Park is located on the north border of the city and Spring Lake Park Reserve is located in the northeast corner of Rosemount. A new regional park is being planned along a portion of the Vermillion River in Empire Township, just south of Rosemount. Regional Parks such as Lebanon Hills Park and Spring Lake Park Reserve are designed to provide natural resource based recreation and education opportunities.

City of Rosemount

In 2008, Rosemount is a developing community of approximately 22,400 people. The city is located in the east-central portion of Dakota County and on the developing edge of the southeast portion of the Twin City metropolitan area. The western part of the city is largely developed and the eastern portion is devoted primarily to agriculture, open space and industrial uses. The historic downtown area is located around the intersection of TH 3 and 145th Street and contains a mix of business, residential, public and institutional uses.

Two major land owners, Flint Hills Resources and the University of Minnesota (U of MN) own approximately 7,500 acres of land in the city (30% of the area of the city). These areas are primarily undeveloped and contribute to the open and agricultural character of the city. Flint Hills Resources recently donated 57 acres of agricultural land to the City of Rosemount to be used as the site for an athletic facility.

The primary focus of land use for UMORE Park, the University of Minnesota property in Rosemount, has been agricultural research. The UMORE property also is home to the Lone Rock Trail, and the UMORE Property just south of Rosemount is now preserved open space managed by the DNR as part of the Gopher Football stadium agreement with the State of Minnesota. Representatives from UMORE have indicated they are planning big changes for the property. Discussions with

representatives from UMORE suggest increased interest in developing a sustainable "research village" on part of their site and a commitment to work with the City of Rosemount, the Minnesota Department of Natural Resources, and Dakota County Parks to provide outdoor recreational opportunities. The UMORE property is not being included as an area of development in this master plan but will be dealt with in future master plans.

Schools

Rosemount High School, Rosemount Middle School, Rosemount Elementary School and Shannon Park Elementary School are part of Independent School District 196 and are all located in Rosemount. The school sites have a number of athletic/recreation facilities that supplement city facilities and are generally available for public use during periods of non-school use. Dakota County Technical College (DCTC) is located on County Road 42 near Akron Avenue and is interested in expanding the recreation and sports opportunities for its students. The college is interested in potential partnerships for indoor and outdoor recreation facilities. The City is currently in the process of developing plans for a joint use soccer complex on property owned by DCTC.

In the fall of 2007, Intermediate School District 917, educating students in grades K-12, started construction of a new school in Rosemount and staff has discussed partnering on the development and use of their outdoor recreation facilities. St. Joseph's School is a private K-8 school also in Rosemount that is planning to build a new school in the near future. Staff is meeting with St. Joseph's to try and partner on new facilities. Opportunities to partner with local educational entities on the development, costs and use of recreational facilities should continue to be aggressively pursued. Rosemount First Baptist Church and School also have outdoor recreation facilities that are currently only used by the church and school.

Existing Park System

Rosemount currently has 27 parks totaling 515 acres. The parks are located primarily in the western and central portions of the city. The parks and trails provide a wide range of recreation opportunities to Rosemount residents, area employees and visitors. **Appendix A** contains a map of the existing parks. A detailed listing of park amenities and an updated parks map are published on a quarterly basis in the City's Parks and Recreation brochure and are also available at the Parks and Recreation Department.

Existing Trail System

Rosemount's trail system is a well defined combination of internal park trails, trails connecting neighborhoods, and county trails. In 2006, the Rosemount City Council adopted a Trail and Sidewalk Plan (Pedestrian Facilities Improvement Plan) that identifies all existing trails and sidewalks in the city, as well as those places in the developed parts of the town where sidewalks and trails are needed. The trails include paved off-street trails, striped on-street bike lanes, and unpaved trails in natural areas.

Natural Resources

The city is home to many natural resources including Schwarz Pond Park, Carrolls' Woods, the Wiklund Preserve, and the Mississippi River. You can find oak savanna, oak woodlands, wetlands, and small lakes throughout the City. The University of Minnesota and Flint Hills Resources properties have natural resource sites that warrant evaluation and appropriate protection or management in conjunction with any land use changes or significant development. Rosemount has planned for developing greenways and also has identified a connection between Rosemount's downtown and the Mississippi River called the Interpretive Trail Corridor. In essence, the trail is a springboard for celebrating several community values. The unique approach to trail design integrates functional use, scenic value, historical and environmental interpretation, and ecological restoration.

The area between Highway 55 and the Mississippi River contains some significant natural resources. Remnant prairie areas, high quality oak forests and flood plain forests are located along the river valley and bluffs. These areas are home to a variety of wildlife including unique species, such as bald eagles and loggerhead shrikes. This area is part of the Mississippi River Critical Area and the Mississippi National River and Recreation Area (MNRRA) and has specific land use policies and management strategies to preserve the unique character of the river corridor.

In 2006, the City developed a Natural Areas Map that identified the natural resources in Rosemount and was developed to use as a reference tool for preserving or enhancing the resources prior to development. Additional information regarding the environment and natural resources is included in the City's 2030 Comprehensive Plan.

Historic and Cultural Resources

Rosemount has a rich history with a strong link to agriculture and railroading. Rosemount's variety of transportation connections (river, rail, and highway) spurred industrial development. The Gopher Ordinance Plant was built in the south central part of the city during World War II. The plant was closed and the land was conveyed to the University of Minnesota for an agricultural research center. The property still has physical evidence of its former use in the form of large chimneys, building ruins and other artifacts that are suitable for historic interpretation, education and recreational use. The Gopher Village housing development is located near Biscayne Way Road. Some of the remaining farmsteads reflect Rosemount's agricultural heritage. Other historic resources include the former St. Joseph's Church, which in January of 2008 was recommended to be the home of a future arts and cultural center.

Demographics

Rosemount's population, based on the most recent census conducted in 2000, is younger and has a higher percentage of households with children than the average Twin City metropolitan area community. This has equated to requests for Rosemount to have active park space and activities for youth and adults. Given the high proportion of existing and forecasted single-family homes, the high percentage of families and children is likely to continue as the community grows. The Minnesota League of Cities states that it has been estimated that by the year 2030, there will be more retirees than school-aged children.

TABLE 2.A – 2000 DEMOGRAPHIC COMPARISON

2000 Census Category	City of Rosemount	Twin City Metropolitan Area Average
Median age	31.3 years	34.3 years
Average persons per household	3.08	2.53
% of households with children	54%	35%
% of households w/residents over age 65	12%	17.3%
% of owner-occupied housing	88.3%	71.4%

Source: US Census 2000

Forecasted Growth

By 2030, the population of Rosemount is predicted to reach approximately 45,500. These new residents will create a demand for municipal services including parks, trails, schools and open space. As the city continues to develop, additional needs will be created by commercial, industrial, business park and other types of development. As the land available for development diminishes, the recreational and open space opportunities available on the Flint Hills Resources and University of Minnesota properties will become increasingly valuable.

TABLE 2.B – GROWTH FORECAST

Year	Population
2010	25,908
2020	38,398
2030	45,498

3. Park, Trails and Open Space System Framework

Decisions about parks, trails and open space affect the entire community and, if made wisely, can help increase quality of life and enhance the sense of community. Therefore, it is important to have a set of guidelines to use in decision-making. The following framework was prepared to act as a guide for the preparation of the park plan and for on-going decision making.

The framework criteria are based on national standards set by the National Recreation and Parks Association (NRPA) with a strong influence of local needs and conditions. As such, this framework should be used as a guide and should be adjusted based on community needs, trends, etc. It is assumed that residents, land developers, city staff, commissions and officials will use this framework and knowledge of local conditions as they face decisions about parks, trails or open space.

Overall Park Acreage Standards

The NRPA typically calls for an accepted range of overall park acreage per population ranging from a minimum of 10 acres per 1,000 population to 20 or more acres per 1,000 population. These park acreage figures are for the core park system of mini-parks, neighborhood parks/playfields and athletic complexes/community parks. They do not include trail corridors, greenways, special use parks, school lands, regional parks or conservation areas. This overall figure should be viewed as a benchmark and should be adjusted based on local needs and trends.

Recreation Facility/ Amenity Standards

The NRPA also sets facility/amenity standards that should be used, again as a guide to meet minimum facility needs. The standards are detailed in the NRPA's Park, Recreation, and Greenway Guidelines publication. The standards are flexible to account for local demands and specific conditions. The minimum number of facilities per capita will vary depending upon the specific community needs and the use of the field or court. For example, a baseball or softball outfield area may also be used for soccer, football and lacrosse. It is not available for use by more than one sport at a time.

General Park and Trail Criteria

The following criteria are applicable to all park and trail areas.

- The location of parks and trails will be determined by the city using this plan as a guide. Park land shall be suitable for its intended use. Suitability depends on adequate size, parcel shape, soils, slope, access and relationship between facilities in the park and to adjacent land uses.
- Park land shall be continuous and undivided by roadways, railroad tracks, pipelines, or other impassible or unusable barriers.
- Park land shall be free from any contaminants or debris.
- When park land is dedicated by a developer, that developer is required to grade the park land and pave access and perimeter trails (not internal park trails) and neighborhood sidewalks, and adjoining rights of way. All construction must meet city specifications.

PARK CLASSIFICATIONS

Rosemount's parks are classified according to their use and function and are described below. See Table 3.A for a summary of the classifications, park sizes, typical service areas, etc.

Mini-Parks

Mini-parks are small parks (0.5 to 3 acres) which are designed to supplement neighborhood parks in specific settings where a neighborhood park is not available or a new neighborhood park cannot be provided. Mini-parks typically contain children's play equipment and may also include a small open play area and/or a picnic table or seating area. Mini-parks typically do not include athletic fields. In general, mini-parks are needed in situations where barriers such as major streets, railroads, etc., prevent convenient access to a neighborhood or community park, or the presence of high-density residential development warrants additional park land beyond the typical neighborhood park facilities.

Neighborhood Parks/ Playfields

Neighborhood parks are the core building block of the Rosemount park system. Neighborhood parks are designed to provide the day-to-day recreation facilities for a 125 to 500-acre neighborhood (1/4 to 1/2 mile radius or an average of 1/3 mile radius). These parks are designed to serve approximately 300 to 650 households. Neighborhood parks are typically between four and ten acres. The parks typically contain a children's play area, a picnic area, a basketball court, internal park trails, a small parking area and ball fields (softball, soccer, etc.). Ball fields are typically for both formal and informal use. Some neighborhood parks may contain a hockey rink, skating area, tennis courts, or other similar recreation facilities.

Neighborhood parks may also include natural resources such as wetlands, wooded areas, etc. Neighborhood playfields serve the dual function of providing recreation for neighborhoods and providing facilities for organized youth athletics. Neighborhood playfields have similar facilities as neighborhood parks, but they typically have multiple fields for youth athletic leagues. The playfields are typically larger than neighborhood parks and serve an area of between 500 and 2,000 acres (1/2 to 1 mile radius).

Athletic Complexes and Community Parks

Athletic complexes and community parks provide recreation facilities for community scale recreation. They can vary from multi-field athletic complexes to a large park that can host special events, has special use amenities or a combination of both. Athletic complexes and community parks serve a two-plus square mile area. Users typically travel greater distances to these parks, although these parks may also function as a neighborhood park for the adjacent area. Passive community parks are typically located around a natural resource such as a lake, wetland, significant woodland or other resource. Athletic complexes are based on recreation needs and their locations should have good access and be compatible for active lighted ball fields.

Greenways

Greenways are privately or publicly owned corridors of open space that often follow natural land or water features. They are primarily managed to protect and enhance natural resources. Greenways are typically planned to establish a system of inter-linked natural resource features and corridors. Greenway widths will vary depending upon the character of the land and the intent of the resource protection strategy. It is important to assure a wide enough corridor for the greenway to meet its intended function – for example, a wildlife migration corridor may need to be wider than a stream corridor.

Preserves/ Conservancy Lands

Property that is managed as a preserve is designed to be maintained or enhanced as an area including high quality natural resources. Typically preserves are guided by a conservation easement or other government directed restrictions. Preserves often flourish when access is limited or controlled.

Linear Parks

Linear parks typically function as trail corridors. Land for linear parks should be provided within new subdivisions when the park plan shows a potential off-road trail corridor. Linear parks may also function as open space, wildlife corridors or a combination of uses depending upon their location and character. Linear parks used for trails should be a minimum of 30-feet wide to support a trail corridor, and wider areas should provide sufficient upland to locate a trail and support facilities such as picnic areas, seating areas, open lawn areas, etc., at suitable locations. The character, alignment and width of the linear park will be dependent upon the function, resource area, terrain, and proposed subdivision.

Special Use Parks

Special use parks and recreation areas such as community golf courses, splash pad, arenas, swimming pool, gardens, plazas, historic sites, skate parks, BMX bike areas, disc golf, off-leash dog areas, etc., are based on the unique natural, cultural, historic or community feature or recreation activity. The size, configuration and location of these parks will be determined by the city on an individual basis.

TABLE 3.A - PARK CLASSIFICATION SYSTEM

The following is a summary of Rosemount's park classification system. These park classifications are used in the Park and Trail Plan and map and are to be used as a guide in park dedication and development.

	Use	Service Area	Size	Acres/ 1,000	Site
Mini-Park	Specialized park that serves a concentrated population (i.e. tots or seniors) or geographic area. Used in areas where geographic barriers prevent access to a neighborhood park.	1/8 mile radius	0.5 to 3 acres	0.25 to 0.5	Typically near higher density housing that does not have access to a neighborhood park or as a supplement to a neighborhood park.
Neighborhood Park/ Playfield	Basic unit of the park system, developed for both active & passive activities. Design criteria should anticipate the changing demographic profiles of the neighborhood served to provide appropriate facilities. The focus is on formal and informal activities.	1/3 mile average radius	4 to 17 acres	2.5 to 3.5	Easily accessible to the neighborhood population with safe walking and biking access utilizing trail networks. Parking facilities provide access and minimize on-street parking.
Athletic Complex	Area for intensely programmed recreation facilities and uses such as athletic fields, swimming pools, etc. Separate athletic fields complexes are typically provided for youth and for adults. Fields are typically lighted for evening use.	Community wide	25 to 80 acres	3.0 to 4.0	Site should be suited for intense development that is easily accessible to the population it is intended to serve. Located near high traffic areas such as schools and major thoroughfares.

Table 3.A - Park Classification System continues on next page

	Use	Service Area	Size	Acres/ 1,000	Site
Community Park	Area possessing natural qualities conducive to passive recreational activities.	Community wide	20 to 80 acres	2.5 to 5	Site typically affords a variety of natural features, well-drained soils, positive drainage, and varied topography; is accessible to pedestrian and vehicular traffic.
Conservancy or Preserve Lands	Area possessing natural qualities preserved for environmental, open space or aesthetic purposes. Facilities should be compatible with the preservation of the resource.	Site Specific	Depends on resource	Varies	Significant natural areas that merit preservation and would be adversely affected by development. Often flourish when access is limited or controlled. May be guided by a conservation easement or other government-directed restrictions.
Greenways	Privately or publicly owned corridors of open space that often follow natural land or water features and which are primarily managed to protect and enhance natural resources.	Site specific & community wide	Sufficient width for intended use.	Varies	Corridors, used to protect, enhance and link natural resources and features.

Table 3.A - Park Classification System
continues on next page

TABLE 3.A (CONTINUED FROM PREVIOUS PAGES)

	Use	Service Area	Size	Acres/ 1,000	Site
Linear Parks	Linear parks and open spaces developed for varying modes of recreational travel such as walking, biking, skiing, in-line skating, etc., or for preservation of wildlife corridors, streams, etc.	Site specific & community wide	Sufficient width for intended use. Minimum 15-30 feet wide.	Varies	Built or natural trail corridors, used to link parks, natural resource sites, and/or community facilities such as schools, libraries, and commercial areas. Certain uses such as wildlife corridors require sufficient width to ensure proper function.
Special Use	Highly specialized use area such as community golf courses, swimming pools, splash pads arenas, gardens, plazas, and other specialized recreation uses.	Community wide	Variable	Varies	Site Specific
Historic Sites	Area set aside for preserving and interpreting historical features such as landscapes and architecture.	Community wide	Variable	Varies	Size should be adequate to provide support facilities such as picnic areas, parking, etc.

Trails Classifications

Trails are classified based on their function, design and location. The most popular trails are for pedestrians and bicycles. There are separated trails (parallel sidewalks and bikeways) within the same corridor, combined trails (pedestrians and bikes on the same trail), bike lanes (paved shoulder next to the street), unpaved nature trails and special use trails (cross country ski, horse and snowmobile). Trail classifications and criteria are summarized in Table 3.B. Existing and proposed trail alignments will most likely follow the design of our road and street system which is identified in **Appendix C**. The trail plan is designed to connect neighborhoods, parks, schools and commercial areas. The major trails can be used for recreation and transportation purposes. Trails within parks will be determined as part of the specific park design. Trail land shall be of sufficient width and slope to accommodate 10' wide trails and appropriate buffer areas. General guidelines include a minimum trail corridor or buffer area of 15-30 feet, and a maximum slope of less than 5 percent.

TABLE 3.B - TRAIL CLASSIFICATION SYSTEM

	Location and Use	Surface	Width	Slope	Notes
Class I - Separate pedestrian and bicycle trails	Off-street	Bituminous or bituminous and concrete	5-6 feet for pedestrians 8-10 feet for bicycles	0-5% pedestrian 0-3% bike	
Class II - Combined pedestrian and bicycle trail	Off-street	Bituminous	8-10 feet	0-3% average 8% maximum	
Class III - Bikeway lane	On-street one way per side	Striped lane next to vehicle lane	6-10 feet	Slope to match road	One-way lanes
Nature trail	Within parks and conservation areas	Aggregate, woodchip or turf	4-12 feet	0-5% desirable 10% maximum	
Cross country ski trail	Within parks and conservation areas	Snow	10-14 feet – varies for one or two way	0-15%+ depending upon difficulty	Diagonal and skate tracks
Snowmobile trail	Off-street	Snow	10-14 feet	0-10%+	
Horse trail	Off-street	Turf or wood chips	10 feet	0-10%+	12 foot overhead clearance

4. Needs Assessment and Recommendations

This section analyzes Rosemount's existing parks, trails and open space needs based upon the Parks Trails and Open Space System Framework contained in Section 3. Community input, growth forecasts and recreation trends are used in conjunction with the framework standards to define existing and future park needs. Recommended trail locations are determined by analysis of destination locations (parks, schools, neighborhoods, shopping, etc.), the planned roadway network, the physical terrain and barriers, and opportunities.

Recreation Trends

Recreation interests and participation are influenced by many factors. Age, access to facilities, amount of leisure time, interests in the environment, new recreation technology, income and social trends all influence recreation participation. Many park users are looking for quality recreation close to home but are willing to travel to obtain better quality or more specialized activities. Recent concern regarding the environmental impact of vehicle travel and the benefits of exercise are encouraging many more people to walk and bicycle for transportation as well as for leisure.

Recreation Trends in Rosemount

Recreation participation in Rosemount will continue to grow as the community grows. The following trends have been noted by city staff, planning consultant and also recent public input.

- Trail use continues to increase (walking, running and biking).
- There is a growing interest in having public art be used as a park amenity.
- Preserving and protecting open space and natural resources is important.
- Lacrosse has been introduced at the high school and youth level.
- Youth sports are continuing to grow in popularity.
- Off-leash dog parks are popular and considered destination locations.
- Skateboarding, disc golf and other types of nontraditional recreation continue to increase in popularity.
- Society is becoming less active and classified as being in a "Obesity Crisis."
- USTA (United States Tennis Association) reports a resurgence in people playing tennis.
- Increased requests for youth athletic fields and extended seasons of play are increasing.
- Adult softball fields at Erickson Park are too small for today's style and caliber of play.
- Requests for additional outdoor ice skating opportunities have increased.
- Requests for large park shelter rentals have increased and are not being met.
- Youth sports tournaments have become a key function of each sport
- ISD 196 outdoor athletic facilities in Rosemount are some of the oldest in the district but future expansion is very limited.
- Our youth are becoming disconnected from the outdoors as defined in the book *Last Child in the Woods – Saving our Children from Nature-Deficit Disorder*" by Richard Louv.

Public Opinion Survey

In March 2007, Decision Resources Inc. conducted a public opinion phone survey of Rosemount residents. Approximately 400 households were surveyed. The survey included questions about recreation facility use, satisfaction, and priorities for the future. Here is what the survey found:

Rosemount's parks, trails and recreation facilities are well used: Neighborhood Parks are frequently or occasionally used by 75% of those surveyed, 65% said they used community parks, and 65% indicated that they used the trails.

Building a new outdoor recreation complex: 75% of people either supported or strongly supported building a new outdoor recreation complex on the land that was donated to the City by Flint Hills Resources.

People in Rosemount place a high value on open space: 88% of the residents surveyed either supported or strongly supported preservation of open space or green space.

What people like about living in Rosemount: 22% of the respondents indicated that the rural aspect, open space, quiet, small-town feeling of Rosemount is what attracted them to the community in the first place. When asked what they like most about living in Rosemount, they cited the qualities listed here. With the addition of Parks and Recreation programs, these qualities accounted for 54% of the respondents' comments to this questions.

Participation in Parks and Recreation Programs: 35% of the respondents said they or someone in their household participated in a Rosemount Parks and Recreation program, and 99% of the participants indicated that they were satisfied with the experience.

Participation in Rosemount Area Athletic Association (RAAA) Programs: One third of the respondents indicated that a member of their household has participated in a RAAA program.

The City is environmentally sensitive about our natural resources and interested in trails. The recent survey showed that 23% of the respondents listed developing policies that protect and preserve environmental quality as a first priority, and 15% listed additional bike paths and sidewalks as a first priority.

Community Input Summary

The following is a summary of the input received at the public meetings, from the public opinion survey, and from the Park and Recreation Commission.

- The existing park system is very good. Keep up the park, trail and facility standards for the new growth areas.
- Additional athletic facilities are needed. Consider developing the property donated by Flint Hills and start planning for the next athletic complex.
- Consider expanding areas for alternative forms of recreation like skateboarding, disc golf, BMX biking, etc.
- Connect the community parks (Erickson, Central, Schwarz and Carroll's Woods), school facilities, and downtown together with trails to make one integrated system.
- Preserve open space and natural areas now before the areas are developed.
- Continue to work with partners (ISD 196, ISD 917, RAAA, Dakota REV, Dakota County, DCTC, U of M, Flint Hills Resources, etc.) on recreation facility planning and development.

- Continue to provide high quality care and maintenance of the City's parks and open space investments.
- Ruins and artifacts of the Gopher Ordinance plant that are present on the UMORE property, and other historic resources, should be considered for opportunities for some preservation and be integrated into the community's park, trails and open space system.
- Create more user-friendly biking destinations by providing better trail signage and public bike racks.
- Investigate the possiblity of incorporating more earth friendly or green park development standards.
- Allow for space for art to be displayed in public parks.
- Increase tree canopy density in all parks areas

Significant Findings and Future Trends

The following are significant findings and likely future trends based on Rosemount demographics, user input, and the public opinion survey:

- Residents are frequent users of Rosemount parks and are satisfied with the condition of the park system.
- Rosemount's population will likely double between 2008 and 2030.
- The construction of an athletic complex on the property donated by Flints Hills Resources must move forward to meet the existing and future outdoor facility needs for youth athletics.
- Trail use will continue to increase and demand for trails expansion and connections between parks and other city locations will grow.
- The City will focus on developing sustainable parks and operation methods.
- Recreation facility development and operations partnerships between government agencies, schools, organizations and private corporations will continue to be important to a comprehensive and efficient park system in Rosemount.
- Demand for youth athletic activities and facilities will continue to increase.
- Rosemount expects to continue having a high proportion of families with children along with a growing number of retirees by the year 2030.
- There will be a need for new neighborhood parks, mini parks, athletic complex/ community parks and natural areas to serve the forecasted growth in Rosemount.
- Open space preservation and protection are a community priority. Key open spaces and natural resources should be preserved in advance or in concert with development.
- The demand and the need for alternative recreation (i.e. skateboarding, disc golf and BMX biking etc.) and special use areas (swimming pool, splash pads, public art, etc.) should to be evaluated on a continual basis.

Projected Growth and Service Area Needs

The Rosemount Comprehensive Plan identifies an abundance of new development taking place in Rosemount in future years. The majority of the development will take place east of Highway 3 and north of County Road 42, east of Akron Avenue and north of County Road 42, and east of Hwy 52 and south of County Road 42. Growth areas are identified in the Parks, Trails and Open Space Search Area Map included as **Appendix D**.

Future Park, Trails and Open Space Needs

Park needs are based on recreation interests, population and household demand or geographic distribution and physical features. For example, a new neighborhood park is designed to serve a population of 1,000 to 2,000 people or approximately 300 to 650 households. The framework standards also call for neighborhood parks to be located within 1/4 to 1/2 mile of most residents. That translates into a typical neighborhood park service area radius of approximately 1/3 mile. Park service areas are general guides to the geographic area that the park should serve.

Needs Based on Recreation and Demographic Trends

Continued residential growth with a high proportion of single-family housing means a continued increase in the number of households with an active lifestyle is expected. The movement of the "baby boomers" into retirement also means more active life styles for retired adults. This requires a broad spectrum of recreational facilities and activities suitable for individuals as well as groups of youth, teens, adults, and retirees.

Participation in youth athletics has grown steadily and is likely to continue to grow as the community grows. Community growth and increased youth participation results in a need for baseball, softball, soccer, football fields and tennis, basketball, and volleyball courts. Facilities are needed for league play as well as hosting tournament play. The number of adults participating in sports leagues is also likely to increase as population increases, and the need for appropriately sized facilities should be considered. The city lacks sufficient community park space for tournaments and for the expected growth in organized athletics. A new community athletic playfield is needed to meet future demands.

Sports such as lacrosse, field hockey and ultimate frisbee are becoming more popular, and these activities increase pressure on existing soccer and football fields.

Sport seasons are becoming longer. Demand for soccer fields during the baseball and softball seasons limits the effectiveness of multi-use (overlapping) fields.

Many people are interested in passive and natural resource based recreation such as hiking, nature study, bird watching, fishing, etc. Conservation and natural resource sites are needed to accommodate these activities. The baby boomer generation's recreation interests are often focused around healthy lifestyles and staying active. Their recreational interests include walking/running, bicycling, golfing, bird watching, nature study, community volunteering, arts and cultural activities, etc.

Needs Comparison to Framework Standards

Table 4.A (on the next page) evaluates the existing park supply and forecasted needs based on the park classification framework.

On paper, Rosemount currently appears to meet the local demand for parks on the low end of the standards. What needs to be reviewed carefully is whether the amenities being offered are meeting the needs of the community. In the 1970's and 1980's a number of parks were developed that by today's standards would be considered mini parks and most likely not used for organized events. Furthermore, a large amount of the land in the parks system is managed as preserves or conservancy lands. A number of regional parks or protected open spaces are also located near Rosemount. The development of the 57 acres of land donated by Flint Hills Resources for an outdoor Recreation complex is needed to help meet the existing and future needs of the community.

Needs Comparison to Framework Standards, continued

Between 2008 and 2030, additional neighborhood parks/playfields, athletic complex land, and community park lands are needed to meet forecasted growth and resident needs. A total of approximately 416 to 697 additional core park acres will be needed by 2030. A careful review of additional needs should be conducted based on the current number of multiple-use fields, overlapping fields, frequent school use of school facilities (limiting general public availability) and the need for field maintenance and refurbishing (field quality declines rapidly with overuse). Local needs are often a more appropriate benchmark than general framework standards. The input from park users and existing facility use may indicate a greater or lesser need for certain types of facilities.

Due to the size of the land holdings and use of Flint Hills Resources and the University of Minnesota property, portions of these large land areas may be suitable sites for a community athletic complex/community parks or other park or open-space use. Parks, trails and open-space protection should be incorporated into any land use or development changes on these properties.

TABLE 4.A - EXISTING CORE PARK AREA AND 2030 AREA NEEDS BY PARK CLASSIFICATION

	Existing	Existing needs	2030	Area Needs (Recommended # of sites)
Population	22,400	22,400	45,500	
Park classification and land/ per 1,000 capita ratio				
Mini-park 0.25-0.5 ac./1,000 pop.	14 acres	5.5-11 acres plus 3 acres	11.25-22.5 acres	1-4 acres (2 parks)
Neighborhood Park/Playfields 3-5 ac./1,000 pop.	76 acres	66-110 acres within range	135-225 acres	59-149 acres (14 parks)
Community Park 3-5 ac./1,000 pop.	73 acres	66-110 acres within range	135-225 acres	62-152 acres (2 parks)
Athletic Complex 3-5 ac./1,000 pop.	108 acres*	66-110 acres within range*	135-225 acres	60-115 acres (2 parks)
Special Use Parks**	13 acres	Varies	Varies	Varies
Conservancy/Preserve Lands Amount per population varies**	146 acres	Varies	Varies	Varies
Overall Park Area 10-20 ac./1,000 pop.	430 acres	203.5-340 acres	450-900 acres	181-420 acres

* Assumes the 57 acres donated by Flint Hills Resources will be developed in 2008/2009.

** Special Use parks and conservancy lands and preserves are not intended typically for active programming and thus are not considered part of the core parks land calculations.

Supplemental Outdoor Recreation Facilities

School District 196 also has recreation facilities that can supplement city recreation facilities. School facilities in the past have been primarily designed for school use, but are also available to the public depending upon school needs and facility availability.

Other Facilities

Special Use Parks: The need for special use parks or facilities is an on-going process based on staff, Commission, stakeholder and public input and changing recreation needs. These types of needs might include skate parks, outdoor pools, splash pads, BMX biking, disc golf, etc. These activities are often more appropriate in community parks.

Facilities for Those with Special Needs : Facilities built specifically to meet the special needs of park users are something that should be reviewed and discussed on an ongoing basis. These types of facilities might include areas such full-access ball fields, zero-slope looped trails, etc. The opportunity to partner with local school districts, non-profit service providers, and others in the community to develop these types of facilities is something the City should pursue.

Swimming Pool/Splash Pad: The cities of Eagan, Apple Valley, Farmington and Hastings have outdoor swimming pools and/or aquatic parks. Dakota County, the City of Lakeville and the City of Burnsville operate beaches at local lakes. Given the close proximity to these major outdoor pools and public beaches, at this time it is questionable if a public outdoor pool in Rosemount would get sufficient use to justify the large initial expense and the on-going operating costs. Given the presence of the nearby outdoor pools, a feasibility study should be conducted to determine what type of aquatic facility (indoor or outdoor) if any, should be pursued.

Community Tennis Courts: How best to address the need and possible location of future tennis courts is being discussed by the Parks and Recreation Commission, United States Tennis Association, local stakeholder groups and staff. The feedback from these discussions will be valuable with development of future tennis courts.

Former St. Joseph's Church and School: In 2004, the City of Rosemount acquired the St. Joseph complex, a combination of a church and school with ancillary uses such as parking and a playground. The church relocated to its new building on Biscayne Avenue in 2002 but continues to operate the school at the South Robert Trail site. A lease agreement between the parish and the City allows the school to continue occupying the school premises until 2011. The southern portion of the property is being used for a new branch of the Dakota County Library System. The City Council also feels the campus has strong potential for reuse by the local community and can enhance opportunities to visit Rosemount's downtown. In January of 2008, the St. Joseph's Facility Task Force recommended to the City Council that the long-term use of the property and buildings be focused on an Arts and Cultural Center.

Community Center: Rosemount is fortunate to have the Rosemount Community Center for recreation and community meeting use. The need for additional indoor facilities should be determined through a supply and demand analysis based on forecasted growth, recreation trends, facility use data, and a competitive market analysis of other public and private facilities in the area. Parks and Recreation Commission, stakeholder and public input, along with a feasibility study will help determine what the appropriate course of action is.

5. The System Plan

The Rosemount Parks, Trails and Open Space Plan will guide the parks, trails and open space acquisition and development through the year 2030. The Plan is based on forecasted growth and a flexible park system framework to create a pleasing and accessible system of parks, trails and open space for new and existing residents, employees and visitors. The Plan contains recommendations for the following:

- Additions and renovations to existing parks and open space
- New park, trails and open space development and land acquisition
- System funding and park dedication

The Parks, Trails and Open Space System Plan

The plan map shows existing and proposed park areas, trails and other site specific opportunities. The proposed park locations are shown on **Appendix D** and also identified in a table as **Appendix E**.

System Plan Recommendations

The following recommendations for new parks are based on the park system framework and standards and the needs analysis.

Mini-Parks

- Two new mini-parks are needed to meet the recreation needs of the forecast growth to 2030. The distribution of these parks is shown on the Rosemount Park, Trail and Open Space Map as **Appendix D**.

Neighborhood Parks/ Playfields

- Fourteen new neighborhood parks are needed to meet the recreation needs of the forecasted growth to 2030. Staff will need to work with developers and landowners to acquire land for neighborhood parks in accordance with the search area locations shown on **Appendix D**.

Community Athletic/ Community Parks

- There is a need for 122 to 267 acres of athletic facility/community park land to meet future community needs. It is important to acquire land for these parks in advance of development because of the large amount of land they will require. Potential sites should have good vehicular access, be relatively level, and have appropriate adjacent land uses. The sites should meet the criteria established in the Park, Trails and Open Space System Framework.

Conservation Areas

- Two new conservation opportunity areas are identified. These areas contain key natural resources that should be preserved and opened to the public. Depending upon the location and natural features, some of these conservation areas may also function as passive-use community parks. The locations of these proposed conservation areas are shown in **Appendix D**. Consider acquisition and/or preservation of sites with conservation easements. When feasible, the city should evaluate these sites, seek funding for acquisition, and acquire the priority sites through partnerships with non-profit, governmental or private agencies.

Greenways

- The Mississippi River Greenway Strategic Plan defines greenways as "privately or publicly owned corridors of open space which often follow natural land or water features and which are primarily managed to protect and enhance natural resources." The City of Rosemount participated in the Greenway Strategic Plan, and the City Council recognizes the report, but has not formally adopted the recommendations. The Greenway

Greenways (continued)

Strategic Plan seeks to establish a system of inter-linked natural resource features and corridors from Ravenna Township to Rosemount. The Greenway Strategic Plan recommends a minimum 150-foot width for greenways in Rosemount. Implementation of the greenway plan is recommended through a partnership that includes the commitment of the City to work cooperatively with local residents and greenway area land owners.

Trails

- The proposed trail system is designed to connect neighborhoods to parks, shopping, schools, adjacent communities' trails, and regional trails. The trail recommendations focus on creating a network of trails, which will be created as development occurs and roads are extended as identified in **Appendix C.** Most new trails are expected to be Class II shared pedestrian/bike paved trails. There will also be a need for internal trails within parks and unpaved nature trails in larger parks and conservation areas. Here are the key components to developing a comprehensive trail:

  - ➢ Acquire and develop trail corridors and linear parks in accordance with the future roadways identified in the Comp Plan and Functional Road Classification Map (**Appendix C**) and the Rosemount Park, Trail and Open Space Plan (**Appendix D**).

  - ➢ Implement the Interpretive Trail Corridor Plan into future development plans.

  - ➢ Build loop trails within parks that connect park features and facilities.

  - ➢ Ensure that trail connections are provided from developments to proposed parks.

  - ➢ Develop a north-south linear park between Biscayne and Akron Avenues from 135th Street north to the Inver Grove Heights border, connecting the ponds.

  - ➢ Interconnect existing and future parks and trails to potential greenways, wetlands and other passive recreational opportunities.

  - ➢ Work with Dakota County to continue to construct a trail parallel to County Road 42. Near TH 52, the proposed County Road 42 trail will travel north of the CR42/TH52 interchange to avoid the proposed future cloverleaf intersection design.

  - ➢ Identify and explore opportunities for a trail underpass under Highway 3, County Road 42, and other areas that might warrant such a grade separated crossing.

  - ➢ Continue implementation of the City's Pedestrian Improvement Plan (Trails and Sidewalk Plan) Improvement Program.

Regional Greenway Network

Dakota County has proposed a network of greenways in Rosemount. Some of these greenways have already been incorporated into the regional system. Other greenways and segments thereof are currently being considered for regional status. Still others have been proposed as City Greenways, and it has not yet been determined if regional status will be sought for these greenways. This network of greenways is shown on the Dakota County Parks, Trails, Lakes and Greenways map (Appendix B) and on the Rosemount Parks, Trails and Open Space map (Appendix D).

Improvements and Renovations to Existing Parks

It is important to plan and budget for future renovation along with new park development. Park facilities such as play equipment, shelter buildings, fencing, paving, etc., have a finite life span. A stand-alone comprehensive capital replacement schedule for parks and trails (i.e. play equipment lasts about 20 years) should be implemented and updated on a regular basis. Park revitalization needs should be continually evaluated by on-site observations and input from residents, Parks and Recreation Commissioners and staff. Recommendations for park improvements and renovations to existing parks is included in **Appendix E**.

Explore Acquisition & Development Partnerships

Continue and expand partnerships with School Districts 196 and 917, Dakota County, Dakota County Technical College, Flint Hills Resources and the University of Minnesota for future park, trail and open-space acquisition and development.

Explore Opportunities for Historic Sites

Evaluate the potential for preservation of significant historical or cultural sites. Continue to work with the Rosemount Historical Society to preserve Rosemount's history. Consider Rosemount's agricultural, railroad and community history when naming, acquiring or developing future parks. For instance, some parks could be named for prominent settlers of the land, or an agricultural design theme could be incorporated into a new playground.

Park Improvement/ Renovation Funding and Park Dedication

Funding of park land acquisition and development is done through a variety of sources. Park dedication from new development (either land or cash) is the primary funding source for new parks and trails. City general funds are typically used for renovation of existing parks and trails. Grant funds should be sought to help supplement city funds for certain projects.

Parks Dedication Ordinance

When new residential, commercial, industrial, business park or other subdivisions are proposed, the City requires dedication of park land or trails where shown on the Rosemount Park and Trail Plan maps or as recommended by the Rosemount Parks & Recreation Commission and approved by the Rosemount City Council. Where general park service area locations are shown on the Parks, Trails and Open Space map identified in **Appendix D**, the exact extent and location of the parkland will be determined and recommended through detailed analysis and review by City staff. Where it is decided that park, trail or open space land is not to be dedicated, the City will require cash in lieu of land payment as determined by the City's ordinance relating to park dedication and a fee which is set annually in the City's Fees and Fee Policy. Where a mix of cash and land dedication is required, the city will calculate the pro-rated cash dedication share based on the land dedication amount.

City Ordinance requires dedication of 1/25 of an acre of land for each residential dwelling unit or a per unit fee established by the City Council. New commercial, industrial, business park development and other subdivisions are required to dedicate 10% of the subdivision land area or an equivalent value in a cash payment. The per unit and per acre dedication fees should be evaluated annually and adjusted to keep

pace with rising land and construction costs. Park dedication funds should be used for construction of new park and trail facilities. The funds should not be used for facility replacement or for renovation of existing parks unless additional capacity is the result of the improvement.

General Funding

It is important to allocate sufficient capital from the General Fund to cover capital facility repair and replacement. The importance of General Funds for renovation will increase as Rosemount's parks and trails age. Rosemount should be proactive and plan and budget for park renovation and replacement of facilities such as parking lots, trail repaving, play equipment, and park shelters, etc. The city should establish a facility maintenance schedule and budget for on-going reinvestment in the park system; for example, playground equipment typically lasts 15-20 years.

Grants

Some city park construction projects and land acquisitions are eligible for supplemental grant funds. County, state, federal and non-profit grant programs are the major sources of grants for park development, conservation and special recreation land acquisition, and trail and pedestrian/bike bridge construction. These grant programs may require a local match and have limited funds, and there is intense competition for these limited resources. The City should continue to evaluate the suitability of proposed acquisition or development for these grant opportunities.

Referendum

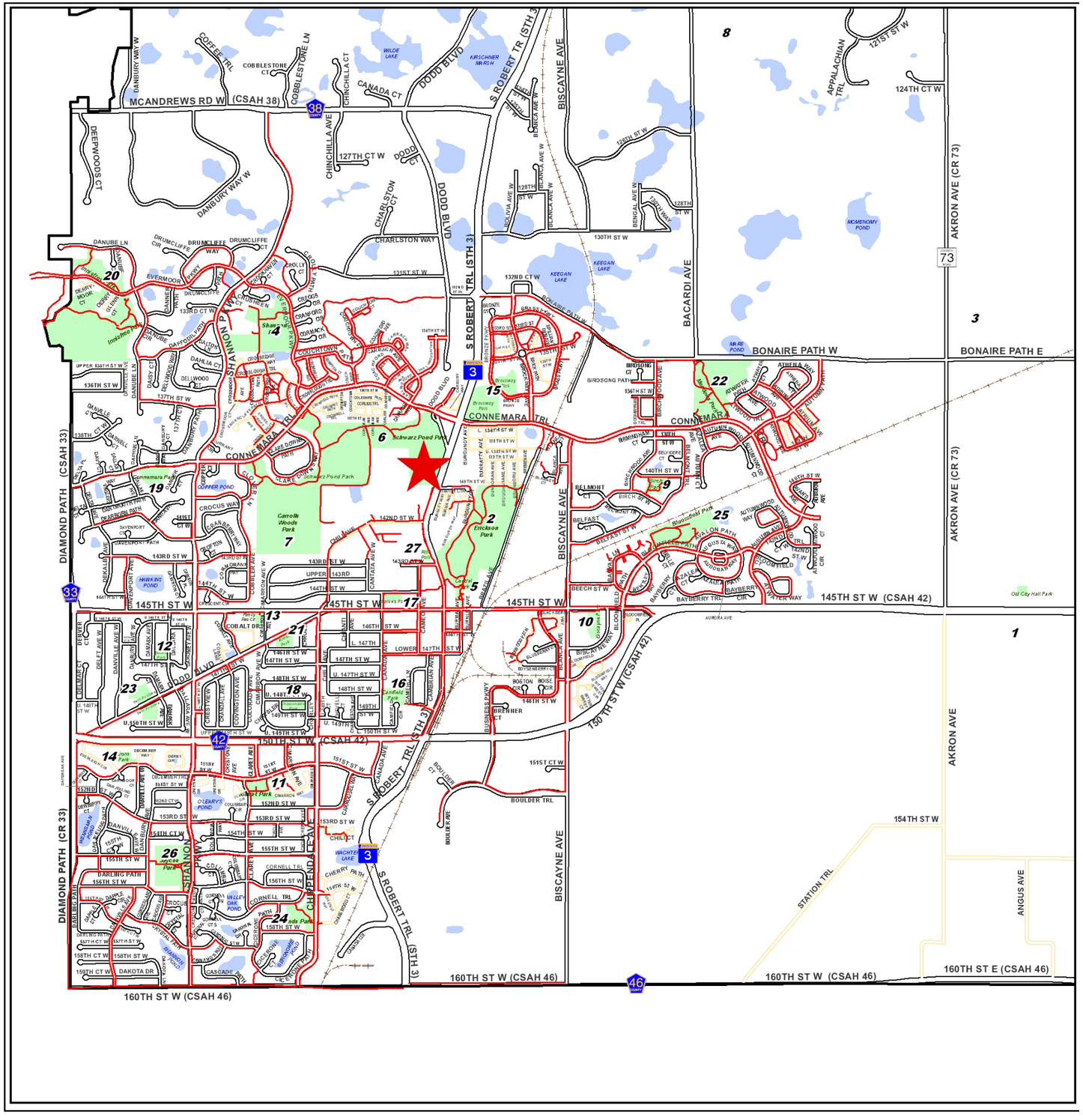
A bond referendum is a special election that allows voters to determine if they want to increase their property taxes to help pay for bonds which fund selected public improvements such as park and trail development or acquisition of conservation areas and open space. In general, park bond referendums are used to fund larger community wide projects such as a community center, aquatics center, sport complex, conservation areas trails and greenways, or a range of park improvement projects such as renovation of multiple parks. This is an option for Rosemount depending upon the specific project needs and fiscal situation.

Partnerships

Where appropriate and feasible, partnerships for acquisition and development of community facilities can reduce the up-front cost to the City and lessen the on-going operating costs of recreation facilities. The details of use, cost sharing, maintenance and other issues determine the suitability and feasibility of potential partnerships.

Appendix A
Existing Parks Map

Trails and Parks Map
City of Rosemount



Park Amenities: • *Existing Element* ◦ *Proposed Element*	Acres	Barbecue Grills	Baseball Field – Official	Basketball/hard surface	Little League Fields	Nature Areas	Parking	Picnic Shelter	Playground Equipment	Restrooms – Indoor	Skating – Hockey	Skating – Pleasure	Soccer – Official Fields	Soccer – Youth Fields	Softball – Official	Tennis Courts	Volleyball Courts	Walking Trails	Warming House	Disc Golf	Skate Park
ATHLETIC COMPLEXES																					
1. Ames Soccer Complex (at DCTC) 1300 145th St E	13.00						•						•								
2. Erickson Park, 14115 Brazil Ave	48.57						•	•	•	•			•		•			•			
3. Flint Hills Recreation Complex 135th St. W & Akron Ave	57.62																				
4. Shannon Park, 13260 Shannon Pkwy	24.76				•		•		•					•							
COMMUNITY PARKS																					
5. Central Park, 2893 145th St W	9.89					•	•		•	•								•	•		
6. Schwarz Pond Park, 13787 Dodd Blvd	62.29	•				•	•	•	•									•			•
CONSERVANCY LAND																					
7. Carroll's Woods, 3335 142nd St W	44.38					•												•			
8. Wiklund Preserve, Bacardi Ave	15.00					•															
MINI PARKS																					
9. Birch Park, 2181 Birch St	3.52			•				•	•									•			
10. Biscayne Park, 2420 145th St W	3.08								•												
11. Claret Park, 15130 Claret Ave	2.63								•							•		•			
12. Dallara Park, 4175 147th St W	1.04			•					•												
13. Family Resource Center Park 14521 Cimarron Ave	1.50			•			•		•												
14. Lions Park, 15155 December Trail	1.94								•												
NEIGHBORHOOD PARKS																					
15. Brockway Park (developing) 13669 Bronze Pkwy	14.36			o	o		o	o	o									o		o	
16. Camfield Park, 14795 Canada Ave	3.10	•			•		•	•	•				•				•				
17. Charlies Park, 3155 144th St W	2.10															•					
18. Chippendale Park, 14876 Chrysler Ave	2.11			•	•				•				•								
19. Connemara Park, 13930 Connemara Trail	4.79	•			•	•	•	•	•												
20. Innisfree Park, 4270 Evermoor Pkwy	55.82	•			•	•	•	•										•			
21. Kidder Park, 3651 146th St W	2.13				•				•												
22. Meadows Park, 13690 Azalea Ave	26.44			•	•	•	•	•	•									•	•		
23. Twin Puddles Park, 14884 Dodd Blvd	5.40				•		•														
24. Winds Park, 15675 Chippendale Ave	7.09	•		•	•		•		•									•			
NEIGHBORHOOD PLAYFIELDS																					
25. Bloomfield Park 14225 Bloomfield Path	13.78			•	•		•		•		•	•	•			•		•	•		
26. Jaycee Park, 15425 Shannon Pkwy	14.65	•	•				•		•	•	•	•	•						•		
SPECIAL USE PARK																					
22. RMS Rink, 3135 143rd St W	1.00										•								•		

Appendix B
Regional Parks, Lakes, Trails and Greenways Maps

Dakota County Parks, Lakes, Trails, and Greenways 2030:

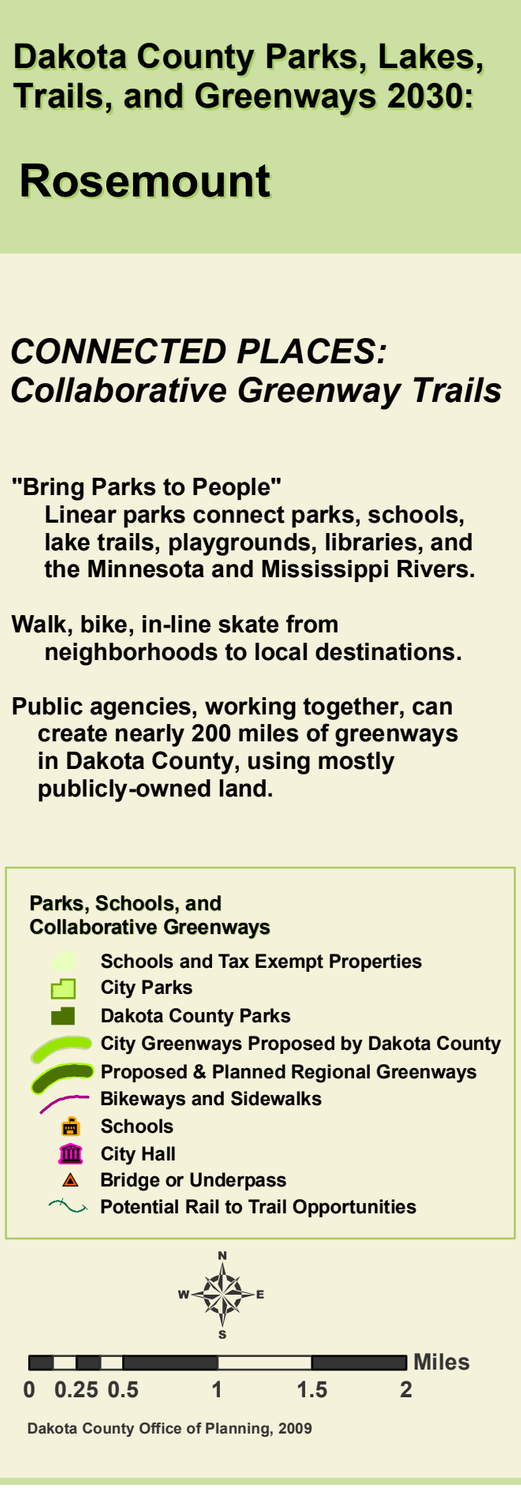
Rosemount

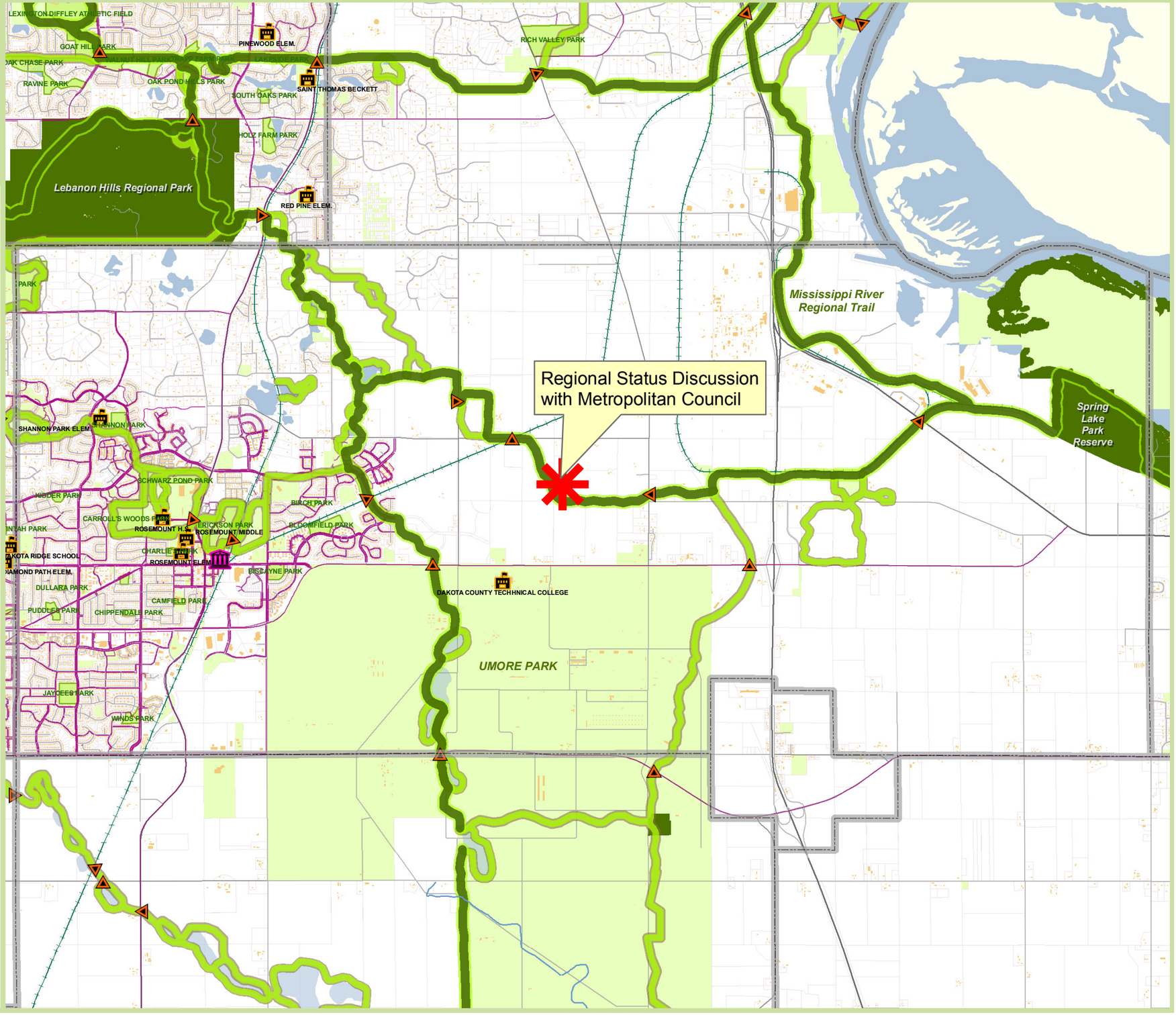
CONNECTED PLACES: Collaborative Greenway Trails

"Bring Parks to People"
Linear parks connect parks, schools, lake trails, playgrounds, libraries, and the Minnesota and Mississippi Rivers.

Walk, bike, in-line skate from neighborhoods to local destinations.

Public agencies, working together, can create nearly 200 miles of greenways in Dakota County, using mostly publicly-owned land.





Dakota County Parks, Lakes, Trails and Greenways Vision, 2030

What's New?

GREAT PLACES: Destination Parks

* New Regional Park in Vermillion Highlands
* More things to do in parks
  - Winter activity area
  - Gathering and celebration areas
  - Swimming and water play areas
* More popular "park basics"
  - Enhanced picnicking
  - Biking and accessible trail loops

CONNECTED PLACES: Greenway Trails

* "Bring parks to people" -- Linear parks connect parks, schools, lake trails, playgrounds, libraries, and the Minnesota and Mississippi Rivers.
* Walking, biking, and in-line skating
* Public agencies work together to create 200 miles of greenways using mostly publicly-owned land.

PROTECTED PLACES: Green Infrastructure

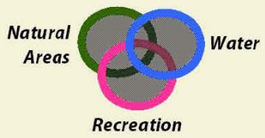
* Enhance and protect park resources
* Protect stream corridors in public/private partnerships
* Protect natural areas and open space in public/private partnerships

DAKOTA COUNTY PARK SYSTEM and COLLABORATIVE OPEN SPACE PROTECTION

- Dakota County Parks
- Federal, State, and Other Regional Open Space
- Existing and Planned Regional Greenways
- Regional Status Discussion with Metropolitan Council
- Example City Greenways (route concepts)
- Stream Conservation Corridors and Greenways
- Destinations: City Parks, Schools, Lakes, Libraries
- Privately-Owned Protected Farmland (FNAP)
- Private/Public Protected Natural Areas (FNAP)
- Potential Rail to Trail Opportunities

Concepts for Greenways

Rethinking Trails as Greenways



Multiple Benefits of Greenways

Nested Trail Loops, Trails around Lakes

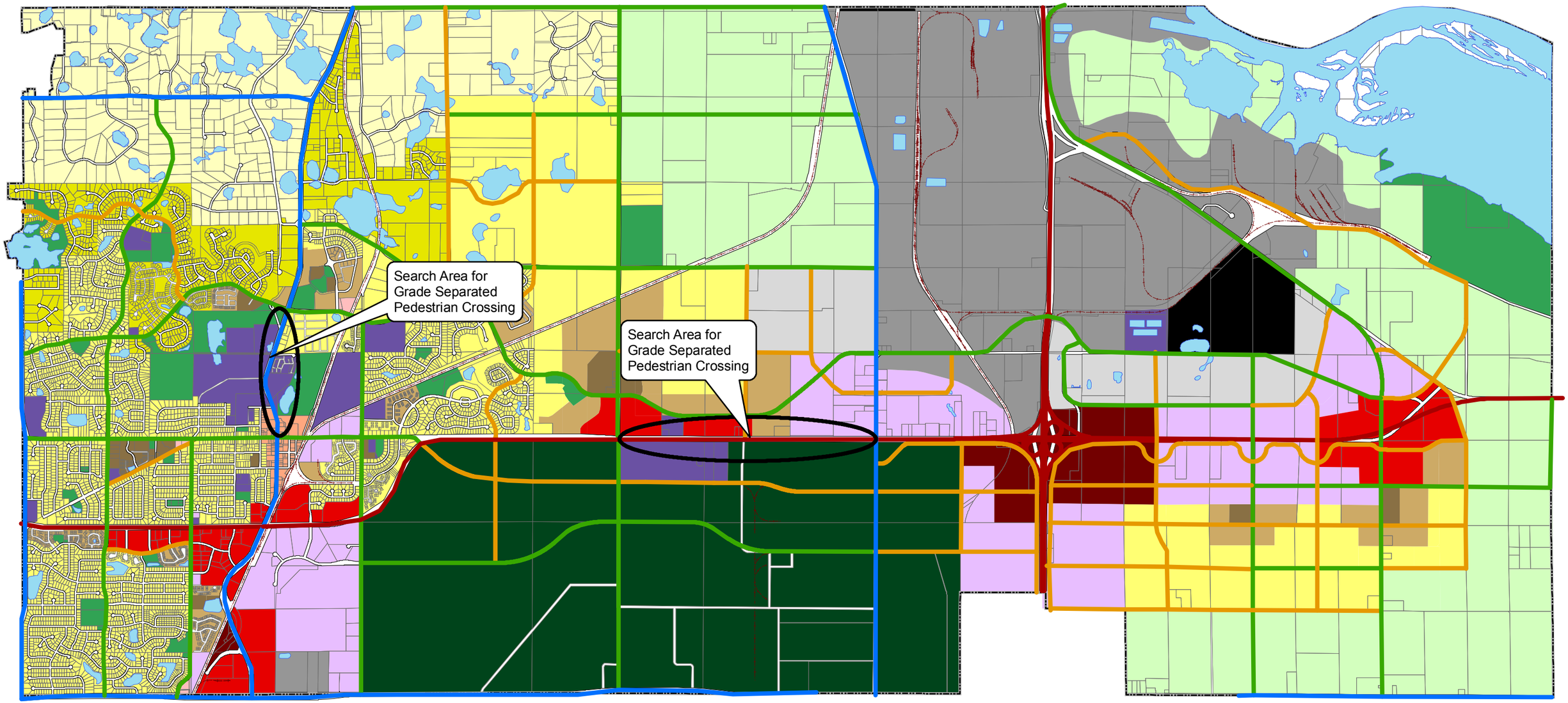
Greenways Connect Places Where People Want to Go

Appendix C
Functional Road Classification Map

Functional Road Classification and Pedestrian Crossing Areas

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS

- AG Agriculture
- DT Downtown
- NC Neighborhood Commercial
- RC Regional Commercial
- CC Community Commercial
- AGR Agricultural Research
- RR Rural Residential
- LDR Low Density Residential
- TR Transitional Residential
- MDR Medium Density Residential
- HDR High Density Residential
- PI Public/Institutional
- PO Existing Parks/Open Space
- BP Business Park
- LI Light Industrial
- GI General Industrial
- WM Waste Management
- 2020 MUSA Line
- 2030 MUSA Line
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector



0 0.25 0.5 1 1.5 2 Miles

NORTH

April 2008

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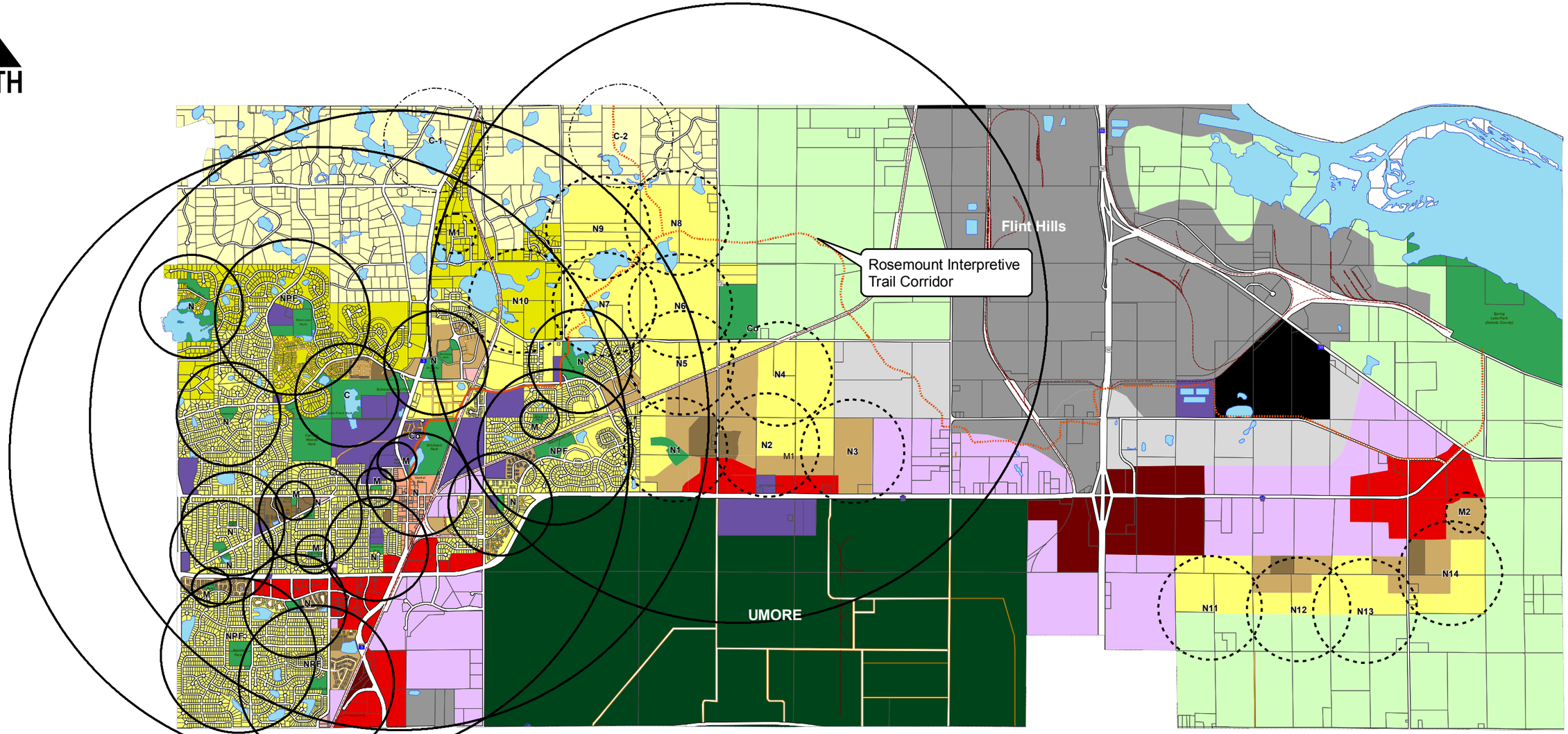
Appendix D
Rosemount Park, Trail and Open Space Plan Maps

Rosemount Park, Trail and Open Space Map

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS

NORTH



Park Service Areas
Community Park 2 mile
Neighborhood Play Field 1/2 mile
Neighborhood Park 1/3 mile
Mini Park 1/8 mile

0 0.5 1 2 3 Miles

Conservation Area
Proposed Park
Existing Park

AG Agriculture
DT Downtown
NC Neighborhood Commercial
RC Regional Commercial
CC Community Commercial
AGR Agricultural Research
RR Rural Residential
LDR Low Density Residential
TR Transitional Residential
MDR Medium Density Residential
HDR High Density Residential
PI Public/Institutional
PO Existing Parks/Open Space
BP Business Park
LI Light Industrial
GI General Industrial
WM Waste Management
Public ROW
Private ROW

Existing Trails
Proposed Trails

Data Sources:
Dakota County Land Surveyors and Office of Geographic Information Systems
City of Rosemount Community Development and Engineering/Public Works Departments

May 2009

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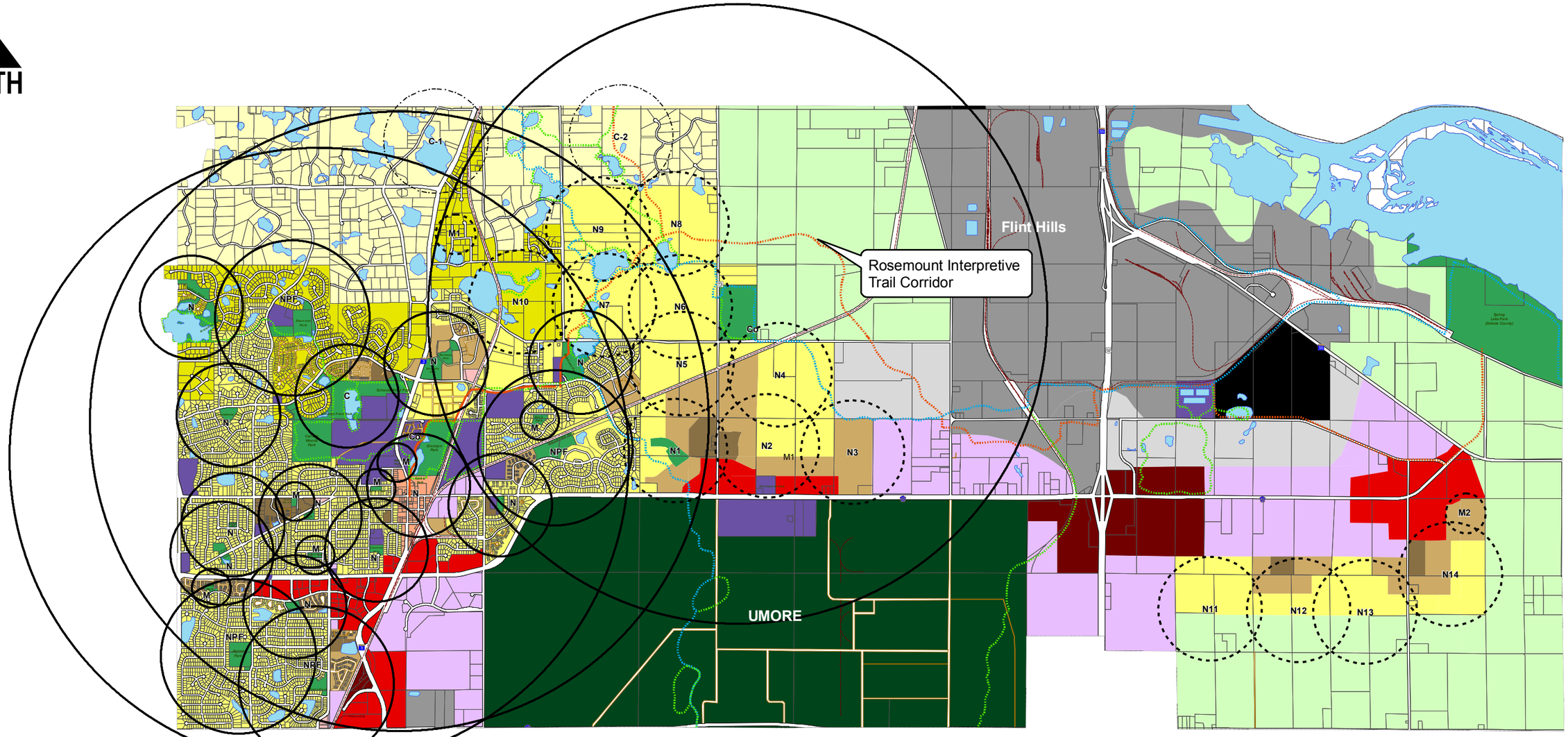
Rosemount Park, Trail and Open Space Map

ROSEMOUNT
SPIRIT OF PRIDE AND PROGRESS

NORTH



Park Service Areas
Community Park 2 mile
Neighborhood Play Field 1/2 mile
Neighborhood Park 1/3 mile
Mini Park 1/8 mile

Conservation Area
Proposed Park
Existing Park

AG Agriculture
DT Downtown
NC Neighborhood Commercial
RC Regional Commercial
CC Community Commercial
AGR Agricultural Research
RR Rural Residential
LDR Low Density Residential
TR Transitional Residential
MDR Medium Density Residential
HDR High Density Residential
PI Public/Institutional
PO Existing Parks/Open Space
BP Business Park
LI Light Industrial
GI General Industrial
WM Waste Management
Public ROW
Private ROW

Existing Trails
Proposed Trails
City Greenways proposed by Dakota County
Proposed and Planned Regional Greenways

0 0.5 1 2 3 Miles

Data Sources:
Dakota County Land Surveyors and Office of Geographic Information Systems
City of Rosemount Community Development and Engineering/Public Works Departments

May 2009

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Appendix E
Table of Existing Park Amenities and Proposed Improvements

Athletic Complexes

Park Name	Acres	Existing Amenities	Proposed improvements
Ames Soccer Complex (at Dakota County Technical College)	13.00	Official size soccer fields Parking lot	• Concession building • Press box
Erickson Fields	48.57	Picnic shelter Concession building Terraced seating Playground equipment Indoor and portable restrooms Official-size soccer/football field Official-size softball fields Walking trails Parking lot	• Internal trail • Pave parking lot • Replace playground • Light fields 4 & 5 • Tennis courts • Portable toilet enclosure • Cement pad and bleachers for soccer field • Covered players benches • Covered bleachers • Additional seating areas with shade • Outfield nets on fields 1, 2 & 5 • Field equipment storage garage • Water fountain on fields 4 & 5
Flint Hills Recreation Complex (developing)	57.62	None	• Various athletic fields
Shannon Park	24.76	Little league fields Playground equipment Portable restrooms Youth-size soccer fields Parking lot	• Hockey rinks with lights • Park building and shelter • Tennis courts • Covered players benches • Covered bleachers • Portable toilet enclosures

Community Parks

Park Name	Acres	Existing Amenities	Proposed improvements
Central Park	9.89	Bandshell/amphitheater Nature area Playground equipment Warming house/shelter building 2 outdoor ice hockey rinks Interpretive walking trail Indoor and portable restrooms Walking trails Parking lot	• Pave second hockey rink • Veteran's memorial walk • Portable toilet enclosure
Schwarz Pond Park	62.62	Grills Nature area Picnic shelter Playground equipment Walking trails Skate park Parking lot	• Horseshoe pits • Disc golf • Enlarge sun shelter • Add fire ring • Indoor restrooms • Buckthorn control

Conservancy Land

Park Name	Acres	Existing Amenities	Proposed improvements
Carroll's Woods	44.38	Nature area Walking trails	• Improve signage • Buckthorn control • Erosion control at access point on Clover Lane
Wiklund Preserve	15.00	Nature areas	• Buckthorn control • Woodland/prairie restoration

Mini Parks

Park Name	Acres	Existing Amenities	Proposed improvements
Birch Park	3.52	Picnic/sun shelter Hard surface basketball court Playground equipment Walking trails	• Open play area
Biscayne Park	3.08	Playground equipment Outdoor pleasure skating	• Sun shelter • Athletic field • Horseshoe pits • Internal trail • Volleyball
Claret Park	2.63	Playground equipment Tennis courts Walking trails	• Sun shelter • Add security lighting
Dallara Park	1.04	Hard surface basketball court Playground equipment	• Sun shelter • Add internal park trails
Family Resource Center Park	1.5	Hard surface basketball court Playground equipment Parking lot	• Plantings • Benches near play structure
Lions Park	1.94	Playground equipment	• Sun shelter • Horseshoe pits

Neighborhood Parks

Park Name	Acres	Existing Amenities	Proposed improvements
Brockway Park (developing)	14.36		• Little league field • Basketball court • Picnic shelter • Playground equipment • Portable restrooms • Walking trails • Disc golf • Parking
Camfield Park	3.10	Grills Little league field Picnic shelter Playground equipment Outdoor pleasure skating Grass volleyball courts Parking lot	• Add horseshoe pits • Convert volleyball courts to sand
Charlie's Park	2.10	Tennis courts	• Sun shelter or benches • Remove grills, add tennis courts
Chippendale Park	2.11	Little league field Hard surface basketball court Playground equipment Outdoor pleasure skating	• Internal trail • Playground improvements • Replace backstop & protective fence • Improve basketball court
Connemara Park	4.79	Grills Little league field Nature area Picnic shelter Playground equipment Parking lot	• Drainage improvements • Erosion control needed
Innisfree Park	55.82	Grills Nature area and pond Picnic shelters Playground equipment Walking trails Open play area Parking lot	• Loop trail around the pond
Kidder Park	2.13	Little league field Playground equipment	• Tree plantings • Sun shelter • Internal trails

Continued on next page

Neighborhood Parks (continued)

Park Name	Acres	Existing Amenities	Proposed improvements
Meadows Park	26.44	Hard surface basketball court Little league field Nature area Picnic shelters Playground equipment Volleyball court Walking trails Parking lot	• Complete trail connections • Boardwalk into wetland • Tree planting on north side
Twin Puddles Park	5.4	Little league field Parking lot	• Add internal trails • Improve parking lot
Winds Park	7.09	Grills Little league fields Hard surface basketball court Playground equipment Covered sun shelter Parking lot	• Shade trees

Neighborhood Playfields

Park Name	Acres	Existing Amenities	Proposed improvements
Bloomfield Park	13.78	Little league field Hard surface basketball court Playground equipment Outdoor hockey and pleasure skating Temporary warming house Official-size soccer fields Tennis courts Walking trails Parking lot	• Park shelter building with sun shelter overhang • Barbeque grills
Jaycee Park	14.65	Grills Official-size baseball field Official-size soccer field Playground equipment Indoor restrooms Outdoor skating for hockey and pleasure Warming house/park building Parking lot	• Basketball court – hard surface • Pave hockey rink • Covered benches in playground • Covered picnic tables

Special Use Park

Park Name	Acres	Existing Amenities	Proposed improvements
Rosemount Middle School Rink	1.0	Outdoor pleasure skating Temporary warming house	

Future Parks

Park Name	Acres	Classification	Existing Amenities	Proposed improvements
Future Athletic Complex/Community Parks	62-152	Athletic Complex/ Community Park	None	• Active recreation facilities for sports such as softball, baseball, soccer, football and lacrosse or space for other community uses.
Future Conservancy – C1	varies	Conservancy areas	None	Preservation and enhancement of natural resources
Future Conservancy – C2	varies	Community Park/ Conservancy areas	None	Preservation and enhancement of natural resources
Future Mini-Park M1	1-3	Mini-Park	None	• Typical Mini-park facilities to be determined at the time of development.
Future Mini-Park M2	1-3	Mini-Park	None	• Typical Mini-park facilities to be determined at the time of development.
Future Neighborhood Park - N1	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N2	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N3	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N4	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N5	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N6	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N7	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N8	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N9	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N10	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N11	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N12	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N13	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development
Future Neighborhood Park - N14	4- 17	Neighborhood Park	None	• Typical neighborhood park facilities to be decided at the time of development

ROSEMOUNT TRANSPORTATION PLAN

April 2008

(Revised April, July 2009)

Prepared by:

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701 Xenia Avenue South, Suite 300
Minneapolis, MN 55416
(763) 541-4800
(763) 541-1700 (Fax)

Table of Contents

List of Tables

List of Figures

Please note that all figures are compiled together at the end of the text.

Appendices

1.0 INTRODUCTION

1.1 Background

The City of Rosemount is located in the southeastern portion of the Minneapolis/St. Paul metropolitan area, approximately 15 miles from downtown St. Paul and 20 miles from downtown Minneapolis (***Figure 1.1***). Rosemount was founded in the mid 19th century and historically was an economic center for the surrounding farming community. In the 1950s, production began within the city limits at the Great Northern Oil Refinery, which is currently the Flint Hills Resources Refinery. Flint Hills Resources, along with the University of Minnesota, owns approximately 3,200 acres within the City, which are used as an agricultural research facility, and are the two largest landowners in the City.

Since the 1970s, Rosemount has seen significant growth, largely due to its proximity to Minneapolis and St. Paul. Census data for Rosemount's population over the past 30 years is as follows:

- 1970 – 4,034
- 1980 – 5,083
- 1990 – 8,622
- 2000 – 14,619

This general trend is anticipated to continue. According to the Metropolitan Council, Rosemount will likely be one of the top ten growing cities in the metropolitan area through 2030. With a land area of 36 square miles, there is much undeveloped land within the City limits. The primary north/south regional roadways accessing Rosemount are Trunk Highway (TH) 3 and TH 52/55. The primary east/west regional roadway accessing Rosemount is County State Aid Highway (CSAH) 42.

1.2 Purpose

With Rosemount's anticipated future development, meeting ever-growing travel demand will be an increasingly important factor in prioritizing transportation projects. There are numerous transportation issues which the City must face for the near term (less than five years) and the long term (20 to 25 years). The purpose of this Transportation Plan (Plan) is to identify these issues and begin the process of addressing them. More specifically, the tasks of this Plan intended to accomplish are listed below.

- Identify broad transportation goals and strategies for the City (Section 1.3).
- Identify and characterize the existing transportation network (Section 2.0).
- Discuss broad planning issues, including general transportation trends as well as individual planning documents of other government jurisdictions (Section 3.0).
- Analyze and identify future transportation deficiencies and needs (Section 4.0).

- Prepare a comprehensive Transportation Plan (Section 5.0), addressing a broad range of issues including:
    - Necessary roadway improvements
    - Funding needs/issues
    - Functional and jurisdictional classification
    - Right-of-way needs
    - Appropriate access management guidelines
    - Transit issues
    - Others

1.3 Transportation Goals

The City's primary transportation goals are:

- Maximize the safety of roadways.
- Increase the operational capacity of existing roadways.
- Selectively expand the roadway system in order to relieve pressure from roads near or over capacity.
- Encourage transit use.
- Support non-motorized transportation.

The primary strategies to meet these goals are:

- Use the appropriate access management guidelines. Coordinate effectively with other governmental jurisdictions on this issue.
- Plan roadway projects with central consideration given to the roadway functional classification system. This will help optimize capacity, operational, and safety characteristics of the overall network. Coordinate with other government organizations such as Mn/DOT, Dakota County, and neighboring jurisdictions in the planning and implementation of arterial and collector roadways.
- Review network needs assessment on an on-going basis regarding potential deficiencies. Use the analysis and prioritization principals from this Plan as the basis for this review. Assess these needs against available funding.
- Proactively dedicate roadway right-of-way for future network needs to minimize long-term economic and property-owner impacts.
- Require traffic impact studies for larger residential, commercial, or development projects, or where projects are unable to meet standards established in this Comprehensive Plan.
- Work with Minnesota Valley Transit Authority and Met Council Transit services to maximize transit use and to coordinate potential transit facilities.
- Provide off-road, paved bike/pedestrian facilities on either side of collector and higher level roadways.

1.4 Public Involvement and Coordination

A public involvement program was an important part of the preparation of this Plan. Early in the plan preparation process, a stakeholders group was formed to discuss transportation issues for the City and have input into the planning process. Beyond the City of Rosemount, this group was made up of representatives of the following:

- Minnesota Department of Transportation (Mn/DOT)
- Dakota County
- City of Apple Valley
- City of Inver Grove Heights
- Flint Hills Resources
- University of Minnesota

This group met on two occasions to discuss the work being performed to prepare this Plan. This gave the interested parties a chance to voice their issues and understand other perspectives.

Two public meetings were held in the early phases of preparing the Transportation Plan using an open house format. A presentation was made by WSB & Associates (WSB), followed by open time for visitors to review displayed information and discuss issues informally with representatives of the City and WSB. Comment cards were provided for visitors to make comments on issues.

As will be discussed in greater detail in Section 4.2 of this Transportation Plan, the City has recently prepared and adopted a "42/52 land-use plan." This work was initiated to evaluate future development and transportation needs in the area of the TH 52/CSAH 42 interchange, and more generally, in the eastern portion of the City. To develop this plan, the City formulated a 42/52 Land-Use Group, including City representatives and property owners, which met on six occasions. In addition, two public information meetings were held in January and February of 2005 specifically to address land use and transportation planning issues for the eastern portion of the City. In July 2005, addressing issues raised during the public involvement process, the City Council approved the 42/52 future land-use plan, which is incorporated on ***Figure 4.1*** of this Transportation Plan

1.5 Agency Review

During the preparation of this Transportation Plan, the City of Rosemount distributed drafts of the document to Dakota County and neighboring communities for review and comment. Comments were received by the following agencies:

- Dakota County
- City of Eagan
- Nininger Township

These comments, and the City of Rosemount responses to them, are included in ***Appendix A*** of this Transportation Plan.

2.0 EXISTING CONDITIONS

2.1 Roadways

Figure 2.1 provides an aerial photograph of the City identifying major roadways. More detailed information on the roadway network is provided under the following headings:

2.1.1 Functional Classification

Roadways serve two primary purposes: mobility (long trips, relatively high speeds) and access (short trips, direct connection to many land uses). These are generally competing functions. For example, a roadway with many driveways will not serve regional high speed trips efficiently or safely. However, the whole purpose of the roadway network is to ultimately provide access between land uses. The basis of a functional hierarchy system is to categorize different roadways by the degree to which they serve one of the two core functions versus the other. Establishing a network with roadways serving different functions allows the most efficient overall movement and connection within the system. Roadways in differing functional categories will have different design and operational features as dictated by how they are used. The Metropolitan Council is the Metropolitan Planning Organization (MPO) for the Twin Cities Metropolitan area. The Metropolitan Council has established a functional hierarchy which Dakota County and the City of Rosemount utilize. It is summarized below:

Principal Arterials

Principal arterials include all interstate freeways plus some non-interstate roadways. The primary function of principal arterials is mobility, and access is minimal. These roads connect the region with other areas in the state and other states. They also connect the Twin Cities metro centers to regional business concentrations. They only connect with other principal arterials and select minor arterials and collectors.

Functional classification information for roadways in Rosemount is provided on ***Figure 2.2***. The Principal Arterials in Rosemount are:

- Trunk Highway (TH) 52
- TH 55
- County State Aid Highway (CSAH) 42

Minor Arterials

The primary function of minor arterials is mobility, but they provide for and allow more access than principal arterials. The minor arterial system connects the urban service area to cities and towns inside and outside the region. These roads interconnect the rural growth centers in the region to one another as well as to similar places just outside the region. Minor arterials should connect to principal arterials, other minor arterials, and collectors. They generally service medium to short trips.

As depicted on ***Figure 2.2***, the Minor Arterials in Rosemount are:

- TH 3 (A Minor)
- CSAH 71 (A Minor)
- CSAH 38 west of TH 3 (A Minor)
- CSAH 46 (A Minor)
- CSAH 33 (B Minor)

Collector Streets

The collector system provides connection between neighborhoods and from neighborhoods to minor business concentrations. It also provides supplementary interconnections of major traffic generators within the metro centers and regional business concentrations. Mobility and land access are both important functions for collector streets.

As depicted on ***Figure 2.2*** the collectors in Rosemount are:

- Shannon Parkway
- Chippendale Avenue
- Biscayne Avenue from Connemara Trail to CSAH 46
- Bacardi Avenue between Gun Club Road and 135th Street
- County 73 (Akron Avenue) north of CSAH 42
- Fahey Avenue E.
- Pine Bend Trail
- Bonaire Path from S. TH 3 to CSAH 71 (Blaine Avenue)
- Connemara Trail from western City limit to Auburn Avenue
- 140th Street from CSAH 71 to CSAH 42
- 145th Street from Diamond Path to CSAH 42
- 151st Street from Shannon Parkway to Chippendale Avenue
- Evermoor Parkway
- Dodd Boulevard from Shannon Parkway to Chippendale Avenue
- Auburn Avenue
- Autumn Path

Local Streets

Local streets connect city blocks and individual land parcels. They serve the access function rather than the mobility function. In most cases, they will connect to other local streets and collectors.

All roadways in Rosemount not addressed in the preceding categories are local streets.

2.1.2 Jurisdictional Classification

Roadways are classified on the basis of which level of government owns or has jurisdiction over them. For Rosemount, the levels of government are: the State of Minnesota (Mn/DOT), Dakota County, and the City. Mn/DOT maintains the Interstate and Trunk Highway System. Dakota County maintains the County State Aid Highway (CSAH) and County Road (CR) systems. The remaining streets and roadways located within the City are the responsibility of the City of Rosemount with the exception of privately owned and maintained roads. ***Figure 2.3*** depicts the jurisdictional classification for roadways serving Rosemount.

2.1.3 Existing Traffic Levels

Figure 2.4 presents existing traffic levels for the City of Rosemount. This is 2004/5 Mn/DOT data.

2.1.4 Safety, Capacity, Functional Conflicts

Existing Safety Issues

Historical crash data for the years 1999-2002 and 2004 were reviewed in the preparation of this Plan. Year 2003 crash information was not used because of potential problems with the State data set. Analysis focused upon interchanges or intersections which were selected according to one or more of the following criteria:

- The location was identified by the City as an area of concern.
- The location was identified in the public involvement process as an area of concern.
- Relatively high volume intersections and/or intersections involving collector or higher level roadways.
- Scan of all crash data for the city for accident patterns or clusters.

In the years 1998-2002, there were a total of 1,094 crashes in Rosemount according to Mn/DOT records. The majority of these were relatively minor, with property (automobile) damage only. However, there were a total of five fatalities during this timeframe. ***Figure 2.5*** shows locations and corresponding number of crashes for all locations which had five or more crashes during the study period.

The primary observations to be made from reviewing the summary 1999 through 2002, 2004 Rosemount crash information are provided below:

The highest ranking locations are the TH 55/52 and TH 52/CSAH 42 interchanges. This is not a surprising result since these are high traffic locations and currently have design deficiencies. Mn/DOT intends to realign TH 55 along TH 52 south to the TH 52/CSAH 42 interchange and to reconstruct this interchange. This project is not scheduled to receive Mn/DOT funding until the 2018-2025 timeframe. Thus, Dakota County has taken the lead on advancing this project, which has an approved Environmental Assessment and a Mn/DOT staff-approved layout. With this overall realignment/reconstruction work, the TH 52/TH 55 interchange will be eliminated, and the operational and safety characteristics of the TH 52/CSAH 42 interchange will be substantially upgraded. Further information can be referenced in Mn/DOT's *Highway 52 Interregional Corridor Management Plan* (2002), and *Highway 52/42/55 Study Report* (2002).

There are high numbers of accidents along CSAH 42 between the western City boundary and TH 3. This observation reflects the competing functions that CSAH 42 serves along this segment—both mobility and access. CSAH 42 is a principal arterial but also supports substantial development. The high accident levels for this segment reinforce the need for appropriate access management guidelines. Access management is one of the key issues addressed in the 1999 *County Highway 42 Corridor Study* (see Section 5.2.3 of this Plan).

There is a relatively high number of accidents at Chippendale and 151st St. The number of crashes at this location have been increasing in recent years:

- 1999 – 1 crash
- 2000 – 3 crashes
- 2001 – 5 crashes
- 2002 – 5 crashes
- 2004 – 7 crashes
- Total (5-year study period) – 21

In 2003, a four-way stop configuration was implemented at this intersection to address safety and operational concerns. The above data suggest that further study of this location is required, with potential future signalization of the intersection.

There is a surprising number of accidents on TH 3 south of Canada Avenue (see ***Figure 2.5***). Nineteen of these were recorded as being approximately 200 feet south of Canada Avenue, and another six approximately 140 feet south of the bowling alley driveway. The City will provide this information to Mn/DOT and request that they investigate it further.

Existing Capacity/Operational Issues

Roadway capacity deficiencies are currently not a substantial problem for the City. The only collector or arterial roadway segment identified in relevant state, regional, and county documents as approaching or exceeding capacity is the eastern-most portion of TH 55. It may be noted the Dakota County Transportation Plan projects two roadway locations in Rosemount to be over capacity in 2025: CSAH 38, west of Danbury Way, and CSAH 42, west of TH 3. The County plan

also identifies that the CSAH 42/TH 3 intersection will likely have to be replaced with a grade-separated interchange in the future. Please refer also to Section 3.2 information.

While roadways in the City generally have adequate current capacity, there are some locations which do not operate at desirable levels and/or are starting to become problematic. These include:

1. Shannon Parkway/CSAH 46 to CSAH 38: While this segment of roadway does not have a specific capacity issue, lane continuity and pedestrian access is an issue. Currently, the roadway switches between two lanes and four lanes throughout different segments of the corridor. Initial study indicates that this roadway could be converted to a three-lane section with a center left turn lane. In those segments where four lanes currently exist, a wider shoulder would be available. Additional study needs are required regarding issues related to driveway access, specifically north of Connemara Trail, and pedestrian crossings along the corridor.

2. Chippendale Avenue/CSAH 42 to 145th Street: This segment of roadway has a current (2003) volume of approximately 3,350 vehicles per day. This roadway is projected to increase to close to 9,400 vehicles per day as the City continues to grow. With the large number of street accesses in this segment of roadway, a safety improvement to provide left turn lanes (i.e., three-lane section) should be considered to both improve capacity and operation.

3. 151st Street at Chippendale Avenue: This intersection has been identified with an excessive number of crashes between 1999 and 2004. In 2003, an all-way stop sign was installed, but the number of crashes actually increased in 2004 relative to previous years (please refer to information under the "Existing Safety Issues" heading, above). This intersection should be studied to determine the potential cause of these crashes and whether signalization or other operational/safety improvements should be considered.

4. 145th Street at Chili Avenue/Chippendale Avenue: Traffic levels at this intersection are continuing to increase, specifically relating to traffic entering the high school via Chili Avenue. As this traffic continues to grow, the operation of the intersection as an all-way stop will begin to see longer delays. Future consideration of signalizing this intersection should be studied.

5. Trunk Highway 3 at 132nd Street (Old County Road 38): 132nd Street (old CR 38) is a major street access to the developing area north of CSAH 42 and east of TH 3. As traffic continues to grow, access to TH 3 will become more and more difficult. Signalization of this intersection should be considered in the future, as this traffic grows and when traffic signal warrants are met.

6. Trunk Highway 3 at the High School Entrance/142nd Street: This intersection is the main access to the Rosemount High School. As traffic continues to grow on TH 3, this intersection will become more and more of an issue for safe access to TH 3. Signalization of this intersection should be considered as soon as traffic signal warrants are met. It may

be noted that advancing a signal at this location will require funding participation from School District 196 and Mn/DOT.

7. Chili Avenue North of 145th Street: With the increased traffic on TH 3, traffic to the high school will likely begin to use Chili Avenue as an alternate access. With this in mind, this roadway should continue to be monitored and considered for possible capacity and safety improvements.

8. Trunk Highway (TH) 3: Through the City of Rosemount, TH 3 is currently a two or three lane facility, with center left turn lanes throughout the primary downtown area and at other specific intersections. The traffic projections for 2025 indicate that this roadway will be over 20,000 vehicles per day. This capacity far exceeds the typical three lane operation. The City will need to work with Mn/DOT and/or Dakota County on improvements to TH 3 in the future to help alleviate these capacity issues. Physical and right-of-way constraints are substantial through the downtown area; the City will coordinate with Mn/DOT and/or Dakota County as needed to assess potential TH 3 bypass alternatives.

Mobility/Access Conflicts

There are currently two roadways within the City which experience substantial potential for conflict between mobility and access functions: CSAH 42 and TH 3. These are arterial roadways which carry relatively high levels of through traffic. However there are also increasing levels of development adjacent to and/or accessing these roadways, so conflicts are becoming more of an issue. The crash information summarized on ***Figure 2.5*** suggests that this is particularly true for CSAH 42 between the western City boundary and TH 3. The City intends to help address mobility/access conflicts through the following approaches:

- On-going coordination with Mn/DOT and Dakota County regarding roadway design and land use issues. This includes working with recommendations and guidelines in the *County Highway 42 Corridor Study*.
- Implement City access management guidelines (see Section 5.2.4).
- Improve intersections where appropriate.
- Provide parallel reliever and/or frontage roadways where appropriate.
- As development occurs west of TH 3 along CSAH 42, the City will work with Dakota County to identify opportunities for the reasonable acquisition of right-of-way for a future six-lane roadway.

2.2 Other Transportation Services, Facilities, Issues

Transit

A detail transit plan, including exiting transit services, is included in ***Appendix C***.

Bikeways and Pedestrian Facilities

The City of Rosemount recognizes the importance of non-motorized transportation for City residents. This serves a recreational, as well as a mobility, function. ***Figure 2.6*** shows current and future bike routes in the City in existing, developed areas. It is the City practice to include off-road, paved bike/pedestrian ways (dual facilities, one on either side of roadway) on all new construction of collectors and arterials. Thus, the network identified on ***Figure 2.6*** will be expanded as new areas are developed and supporting roadways are constructed.

Dakota County has expressed an interest in working with the City to ensure that City bikeways and pedestrian facilities will connect to the County system so that access is improved for residents in Rosemount and throughout Dakota County. One project which will be important regarding this coordination with Dakota County is the proposed Rosemount Interpretive Trail Corridor. Information on this project, which would connect downtown with the Spring Lake Park Reserve on the Mississippi River, is presented on ***Figure 2.7.*** Further information is provided in Section 5.3 of this Transportation Plan.

Railways

Three rail carriers operate in Rosemount: Union Pacific, Canadian Pacific, and Progressive Rail. ***Figure 2.8*** shows the location of the railroad tracks within the City. On average, the Union Pacific Railroad operates approximately 11 trains per day through Rosemount; the Canadian Pacific Railway two trains per day, and Progressive Rail one train per day, plus some local switching.

Railroad noise and safety issues represent planning challenges for the City. The City limits the number of at-grade crossings over the tracks, and attempts to take the railroads into consideration when approving residential developments and roads. The City, in cooperation with Mn/DOT, Federal Railroad Authority (FRA), Dakota County, and the railroad companies (UP, CP, and Progressive) are pursuing a Quiet Zone between 160th Street (CSAH 46) and Akron Avenue (CR 73). Improvements are being proposed at each crossing to meet the FRA requirements. It is anticipated that by early 2009, the Quiet Zone will be in effect. The conflict between trains and other forms of transportation is most notable at the at-grade railroad crossing of CSAH 42 at TH 3. This has been an ongoing area of safety concern for the City. In its *2025 Transportation Plan*, the County identifies this intersection as a roadway deficiency likely requiring reconstruction as a grade separated interchange. The railway would be grade separated from CSAH 42 under this project.

The City will continue to encourage Mn/DOT, Dakota County, and the City to investigate alternatives to complete a grade-separated crossing east of the TH 3/CSAH 42 intersection. Such a project could necessitate reconstructing the intersection as identified in the *County Highway 42 Corridor Study* and the Dakota County *2025 Transportation Plan*.

Aviation

The City of Rosemount has no public airport or any heliport facilities within its jurisdiction. A small private airstrip, Jensen Field, is located on the University of Minnesota Agricultural Research Center campus, just south of the Dakota County Technical College. The nearest airports to Rosemount are Fleming Field (South St. Paul) and Airlake Airport (Lakeville). The City does lie

within the Critical Airspace Policy Area. The FAA and Mn/DOT should be notified at least 30 days prior to any proposed project over 200 feet above ground level using Form 7460.

Commercial Waterways Navigation

Flint Hills Resources (formerly Koch Refining) operates a barge terminal that generates approximately two to three dockings per week CF Industries transfers bulk fertilizer from barges onto approximately 80 trucks per day. All barge activities take place within the Mississippi Critical Area corridor.

Snowmobiles

The use of snowmobiles is permitted within the City subject to restrictions in the City Code. Snowmobiles are not permitted on trails/sidewalks or boulevards, and must not exceed 10 miles per hour.

Other Vehicles

Other motorized vehicles such as those listed below must be operated in accordance with applicable local ordinances and state statutes:

- All terrain vehicles (ATVs)
- Motorized scooters and minibikes
- Segues
- Golf carts
- Other unlicensed motorized vehicles

3.0 TRANSPORTATION TRENDS AND OTHER PLANNING DOCUMENTS

3.1 General Transportation Trends

In the *2003 Statewide Transportation Plan*, the Minnesota Department of Transportation identifies and addresses major transportation-related trends. Relative to Rosemount transportation planning, the most significant trends and their implications are summarized below:

Demographic

- Minnesota's growing population will increase the number of transportation system users.
- Concentrations of population in the Twin Cities Metropolitan Area and in Regional Trade Centers will increase congestion on roadways and demand for transit in and around these centers.
- Population growth in all areas of the state will increase vehicle miles of travel.
- The aging of the population and increasing share of residents over 65 may necessitate changes in highway design and traffic engineering, and retraining.
- The growth in elderly population will increase the demand for travel alternatives as these individuals discontinue driving.
- Environmental justice will continue to be important when planning transportation projects due to the growth in low income and minority populations in the state.

Economic

- Minnesota's economic growth will result in increased travel and goods shipments.
- Concentrations of employment and economic activity in the Twin Cities Metropolitan Area will increase vehicle miles of travel congestion and demand for cost-effective transit to serve major employment concentrations.
- Concentrations of employment and economic activity in Regional Trade Centers will increase vehicle miles of travel and transit demand in and around these centers and on Interregional Corridors (interregional corridors in the vicinity of Rosemount are TH 52 and TH 55).
- Rising incomes may increase disposable income and the number of vehicles, contributing to increasing vehicle miles traveled.

Transportation

- Travel is increasing on Minnesota roadways—between 1980 and 2000, total vehicle miles traveled (VMT) in Minnesota increased by approximately 74 percent. This compares with an increase in population of 21 percent over the same timeframe. The average annual increase in total Minnesota VMT between 1990 and 1995 was 2.5 percent, as compared with

3.6 percent from 1995 and 2000. Increased travel on Minnesota's transportation system will continue to exacerbate congestion and other service problems.

- Highway travel is becoming more concentrated on principal arterials. This suggests that average trip lengths are increasing. This trend reflects Mn/DOT's focus upon primary interregional corridors (including TH 52) connecting economic centers throughout the state.
- Congestion is increasing at a relatively rapid rate in the Twin Cities Metropolitan area. Based on analysis by the Texas Transportation Institute, the Twin Cities Metropolitan Area was the 15th most congested metro area out of 68 metro areas in the United States in 2001. This compares with a ranking of 34th in 1990.
- Travel is increasing in Minnesota's large urbanized areas faster than the addition of miles of roadway. From 1993 to 2000, VMT grew by 25.4 percent in the Minneapolis-St. Paul urbanized area, while roadway miles grew by just 8.1 percent.
- Truck travel continues to rise—recent estimates indicate that between 1994 and 2000, total truck vehicle miles traveled (excluding pick-ups and vans) increased about 2.0 percent per year. On some routes, truck traffic is increasing at many times this rate.
- New technologies and business practices place increasing demand on the transportation network. Electronic commerce, via the Internet and other means, will increase the demand for consumer based package delivery and result in more delivery trucks on our highways. Also, the increasing "just-in-time delivery" approach to reducing inventory needs heighten the demand for an efficient, reliable, and safe transportation network.
- Traffic fatality rates have declined—the fatality rate per hundred million miles traveled declined from 1.47 in 1990 to 1.19 in 2000. In 1980, the rate was 3.03. In spite of these rate decreases, the total number of fatalities appears to be increasing by somewhat less than one percent per year.

3.2 Other Jurisdictional Planning Documents

Planning studies and documents prepared by other levels of government and jurisdictions were reviewed to help ensure that Plan is compatible with regional policies and projects. These documents are identified below and the key elements of them from the perspective of this Plan are summarized.

Rosemount/Empire/Umore Area Transportation System Study (in progress)

In early 2009, a study was initiated by Dakota County, the City of Rosemount, Empire Township, the University of Minnesota, and the Department of Natural Resources to study and plan for the future transportation needs in the Umore and Vermillion Highlands area. A key transportation factor driving this study is the future development of Umore Park, a 5,000 acre area generally bounded by CSAH 42, Biscayne Avenue, 190th Street, and Clayton Avenue. The University of Minnesota is currently considering residential, industrial, and commercial uses that would support up to 30,000 people in the future in this area. The Transportation System Study is anticipated to be completed by the end of 2009.

***Dakota County 2025 Transportation Plan* (2004)**

- A primary planning issue which the county is facing is growth and impacts of that growth on the transportation system. Between 2000 and 2020, the population of Dakota County is anticipated to grow by 28 percent, and the vehicle miles traveled is estimated to grow by 40 percent. This is an example of the Mn/DOT trend information summarized in Section 3.1.
- Most County roadways fall into the functional classification of minor arterial highways. The emphasis of arterial highways is on mobility, with limited local access. With the increasing levels of development and access demand for the county, "…local supporting roadway networks are essential to provide appropriate access to and from the County highway system and to handle local traffic."
- Funding for necessary improvements is anticipated to be limited, so management techniques will be very important.
- For 2025, CR 38 between CR 73 and TH 3 is identified as being overcapacity without improvements. Since the completion of the Dakota County 2025 Transportation Plan, old County Road 38 east of TH 3 has been turned back to the City of Rosemount. The City completed an upgrade to old CR 38 (Bonaire Path/135th Street) in 2007.
- For 2025, the following County Roadways are identified as being over capacity in 2025 without improvements: CSAH 38, west of Danbury Way; CSAH 42, west of TH 3. The following roadways are identified as approaching capacity (75 percent of the highway capacity design): CSAH 33, north of Connemara Trail; CSAH 38 between TH 3 and Danbury Way, CSAH 42 between TH 52/55 and TH 3; CR 73, north of 135th Street.
- The CSAH 42/TH 3 intersection and the CSAH 42/TH 52 interchange are identified as being deficient in the future without improvements. For the CSAH 42/TH 3 intersection, this necessitates reconstruction as a grade-separated interchange. For the CSAH 42/TH52 interchange, design work and right-of-way acquisition from willing sellers is underway. The timeline for construction activities on this project will be determined ultimately by Dakota County, who has taken the lead on advancing the project as discussed previously.
- A potential need for a North-South Principal Arterial Study is identified in Chapter 7 (page 85). The study area would extend from I-494 to CSAH 42 between CSAH 31/33 and CSAH 73. The County Transportation Plan identifies that the distance between principal arterials (TH 77 and TH 52/55) is currently approximately nine miles, and that non-freeway principal arterial guidelines call for significantly closer spacing. Making TH 3 a principal arterial south of CSAH 42 is identified as an issue to be considered and evaluated (page 82).

***County Highway 42 Corridor Study* (Dakota County, 1999)**

- CSAH 42 is the only continuous east-west roadway serving travel across central Dakota and northern Scott Counties. With intensive commercial development along CSAH 42, there a growing conflict between mobility and access functions for the roadway.

- The Counties and cites in the corridor should adopt consistent access spacing guidelines for the entire corridor. Please refer to Section 5.2.4 of this Transportation Plan for further information on access management.
- An enhanced system of supporting roadways should be provided in order to limit local trips on CSAH 42 and improve overall operations in the CSAH 42 corridor. The improvement identified for the Rosemont area is the extension of 140th Street (Connemara Trail) from Shannon Parkway east to CSAH 71.
- Specifically within Rosemount, the following recommendations are made:
    - Add cross street and mainline auxiliary lanes at CSAH 42/Chippendale (3-5 year timeframe) – *this project has been completed as of 2005*
    - Modify the CSAH 42/Chippendale traffic signal phasing (3-5 year timeframe) – *this project has been completed as of 2005*
    - Modify the CSAH 42/TH 3 traffic signal phasing (1-2 year timeframe)
    - Add auxiliary lanes on CSAH 42 at the CSAH 42/ TH 3 intersection (3-5 year timeframe)
    - Add cross-street and mainline auxiliary lanes at the CSAH 42/Biscayne intersection (3-5 year timeframe)
    - Provide a grade-separated crossing of the existing railroad tracks east of the CSAH 42/TH 3 intersection (6 years-plus timeframe)
    - Re-route TH 55 south on TH 52 and east on CSAH 42. This assumes that the TH 52/CSAH 42 interchange will be rebuilt as a new single-point urban interchange (6 years plus timeframe)
- The City of Rosemount, in conjunction with Dakota County, requested and had approved modifications to the CSAH 42 Corridor Study. The modifications included revised access across locations between 145th Street and TH 52. Additional discussions of these modifications are included in Section 5.

***Highway 52 Interregional Corridor Management Plan* (Mn/DOT, 2002)**

Recommendations of this document relevant to Rosemount transportation planning include the following (from north to south, all by 2015—all recommendations below summarized in Executive Summary Table, page ES-5 of *TH 52 IRC Management Plan*):

- Construct 117th Street Interchange (this project has been completed).
- Close access at Koch Refinery frontage road.
- Close Pine Bend Trail access after reconstructing the CSAH 42/TH 52 interchange.
- Close all remaining at-grade access in the Inver Grove Trail area.
- Reconstruct TH 52/CSAH 42 interchange.
- Construct trail with extension of 140th Street under TH 52.

Apple Valley Comprehensive Plan (1999)

The information in the Transportation section of the 1999 Apple Valley Comprehensive Plan is consistent with Rosemont's intentions for transportation planning and development in the future. The functional classifications for the east-west roadways which the cities share are consistent.

4.0 FUTURE TRANSPORTATION NEEDS

4.1 Land Use Projections

Background

In 2000, the City of Rosemount adopted its *2020 Comprehensive Plan*. This document provided a 2020 land use plan, as well as 2020 population projections. The future land use plan and population projections have since been updated with the CSAH 42/TH 52 land use study and plan as summarized below.

The City of Rosemount initiated a land use study in June 2004 to begin looking at future land uses along CSAH 42 near its intersection with TH 52. A small task force was assembled, comprised of property owner representatives, Planning Commission members and a City Council representative. The reasons for initiating the project were many. One was the State and County plans to upgrade the CSAH 42/TH 52 interchange. Another was the recent higher rate of growth in the community and the need for a MUSA expansion. Before this expansion was initiated, it was decided that the land uses should first be evaluated. There was also a concern that there was not enough Business Park and Commercial land in the community, and more opportunities could occur for these uses along County Road 42. Finally, the Council wanted to ensure that there was an adequate and steady supply of land to permit orderly, managed growth.

The 42/52 Land Use Group met on six occasions and developed a land use concept plan and a transportation concept plan. Two public information meetings were held in January and February of 2005 with approximately 100 property owners in attendance.

The Concept Plan was forwarded to the Planning Commission in May and June for further discussion and to take formal comments during the formal public hearing. The Commission also held five public meetings to permit discussion of the Task Force recommendation. There have been some modifications from the initial Land Use Group recommendation although the general location of different land uses has not changed significantly. Much of the discussion has been regarding the land uses between Akron Avenue and Hwy 52 on the north side of County Road 42.

In July 2005, the City Council approved the 42/52 future land use plan. Since that time, staff has initiated the approval process by the Metropolitan Council for a 2000 acre Municipal Urban Service Area (MUSA) expansion north of County Road 42 and west of Hwy 52.

It may be noted that the CSAH 42/TH 52 interchange reconstruction design has been officially mapped to preserve right-of-way. Interchange modifications will require additional mapping.

2030 Future Land Use Plan and Roadway Network

To forecast traffic levels, it is necessary to assume future land use patterns associated traffic generation levels and distribution patterns. The 2030 land use assumed in this Transportation Plan is depicted on ***Figure 4.1.*** This is a combination of the land use map from the *2020 Comprehensive*

Plan, along with the 42/52 land use plan referenced above. The 42/52 work also established a planned network of new roadways in the eastern portion of the City. The traffic forecasts, as discussed in Section 4.2, assumed these new roadways. The locations of the new roadways on Figure 4.1 are conceptual. The intent of the roadways in the vicinity of CSAH 42 in the 42/52 study area is to allow access to development adjacent to CSAH 42, thereby supporting access management on CSAH 42.

4.2 Forecast 2030 Traffic Levels

The traffic modeling performed for this Transportation Plan utilized a widely used traffic forecasting program called Viper. The Rosemount transportation forecasting was set up to be consistent with the Metropolitan Council Regional Transportation Model and Dakota County traffic projections.

Traffic forecasting involves breaking the study area into individual Traffic Analysis Zones (TAZs), and identifying land use information for each. Each TAZ will have trip generation and attraction characteristics based on future land uses assumed. Using the Viper program, trip productions are matched with attractions routed through the roadway network, and external trips (those originating and or terminating outside the study area) are also accounted for.

Based on the methods summarized above, the forecast 2030 traffic levels are depicted on ***Figure 4.2***. Additional information regarding how the model was set up and used for this Plan Update is provided in ***Appendix B.***

5.0 TRANSPORTATION PLAN

5.1 Financial Resources

Funding for construction and reconstruction can be obtained from a variety of sources. Further information is provided below.

General Ad Valorem (Property) Taxes – transportation projects can be funded with the general pool of municipal revenues raised through property taxes.

Assessments – Properties that benefit from a roadway scheduled for improvement may be assessed for the cost of construction. In order to assess the owner, it must be demonstrated that the value of their property will increase by at least the amount of the assessment.

Municipal State Aid – Cities with populations of greater than 5,000 are eligible for funding assistance from the highway user Task Distribution Fund (gas tax and vehicle registration tax). These funds area allocated to a network of Municipal State Aid (MSA) streets. Currently, the City of Rosemount receives an apportionment per year for improvements to their MSA streets.

Cooperative Agreements with Mn/DOT and/or Dakota County - Different levels of government can cooperate on planning, implementing, and financing transportation projects which provide benefits to all the concerned agencies. The financial terms and obligations are generally established at the front end of the projects.

Tax Increment Financing (TIF) – This is a method of funding improvements that are needed immediately by using the additional tax revenue anticipated to be generated because of the given project's benefits in future years. The difference between current tax revenues from the targeted district and the increased future tax revenues resulting from the improvements is dedicated to retiring the municipal bonds used to finance the initial improvement(s).

5.2 Roadway Improvements

5.2.1 Investment Strategies

The bulk of City transportation investments will go for roadway projects. Roadway investments are made to meet the following basic types of needs:

- Maintenance—the existing system must be maintained, or it will not effectively meet user needs over time. (Please refer to Section 5.2.2)
- Access—newly developed and redeveloping areas need efficient connection to the local and regional transportation network.

- Safety—as traffic levels increase, or as required by specific development projects, infrastructure improvements must sometimes be made to maintain or improve existing safety levels; this includes vehicular and pedestrian safety.
- Capacity and operations—as travel demand increases with local and regional growth, roadways must be improved to be able to carry more traffic with acceptable operational characteristics.

Roadway projects are best planned and programmed within a systematic, forward-looking framework that has an appropriate balance of meeting the needs identified above.

Transportation investments also need to address transit and non-motorized transportation issues (i.e. sidewalks and trails). Investment strategies for these types of projects should reflect community needs and priorities.

5.2.2 Pavement Maintenance

The City has implemented a pavement maintenance program that is designed to protect and extend the useful life of paved surfaces throughout the City in a systematic, cost-effective manner. This program uses ICON, a specialized software application which allows staff to track and inventory the growth of the streets system, its structural performance, and overall condition. The basis of this approach is that the cost of maintaining or repairing roads can increase dramatically if they are allowed to deteriorate past certain levels (better to pay a little now vs. a lot later).

On-going field inspections, every three years for individual street sections, are used to rate the physical conditions of the sections. This information is used to calculate a Pavement Condition Index (PCI) for each section. The ICON program uses the PCI information, combined with maintenance policy objectives set by the City, to schedule maintenance projects in such a manner as to minimize life-cycle maintenance costs over an extended planning period. The primary types of projects included in the pavement management program are sealcoating, mill, and overlay (resurfacing), reclaim/recycle the roadway pavement, and complete roadway reconstruction.

Through the City's Pavement Management Program, a five-year Capital Improvement Plan (CIP) is reviewed annually for the identification of individual street projects and budgeting.

5.2.3 Future Improvement Projects

Based upon anticipated future land use development and travel demand as discussed in previous sections of this Transportation Plan, key roadway extension and/or improvement projects are identified in ***Table 5.1***, below.

Table 5.1
Future Roadway Improvement Projects

Roadway	Segment	Improvement
2008 – 2015		
1. Akron Avenue (CR 73)	CSAH 42 to North City Limit	Widen/pave 4-lane or 3-lane section
2. TH 3 at high school entrance	Intersection	Signalization(1)
3. Shannon Parkway	CSAH 46 to CSAH 38	Reconfigure for lane continuity
3.a Shannon Parkway at CSAH 42	Intersection	Intersection alignment improvement
4. Chippendale Ave at 151st Street	Intersection	Signalization
5. TH 52/TH 55/CSAH 42	Interchange area	Construct frontage roads and other supporting roadways to support the new interchange(2)
6. TH 3 at 132nd Street	Intersection	Signalization
7. Chippendale Avenue	CSAH 42 to 145th Street	Capacity improvements
8. 145th at Chippendale/Chili	Intersection	Capacity improvements
9. Chili Avenue	145th Street to high school	Capacity improvements
2016 – 2030		
10. 145th Street	Shannon Parkway to TH 3	Capacity improvements
11. TH 3	CSAH 46 to CSAH 38	Evaluate capacity/safety improvements

(1) This project would be suggested by the City, but would be implemented at the initiative of School District 196.
(2) Design and right-of-way activities for the interchange reconstruction project are underway; the final construction schedule to be determined by Dakota County pending federal funding availability).

The locations of these future roadway improvement projects are depicted graphically on ***Figure 5.1***.

5.2.4 Access Management

General

As discussed in Section 2.1.1, roadways serve some combination of two functions: mobility and access. Principal arterials primarily serve the mobility function, local streets primarily provide the access function, and minor arterials and collectors serve a combination of the functions. Appropriate management of access to arterials and collectors is necessary to achieve operational, capacity, and safety objectives.

In Rosemount, access to adjacent roadways is overseen by three primary jurisdictions: Mn/DOT along state highways, Dakota County along county roads, and the City of Rosemount along City

collector roadways, local streets, and private streets. The plat approval process is the point in the land development process that allows control by Dakota County and City of Rosemount for their respective roadways.

Table 5.2 presents City of Rosemount access management guidelines, which are based on Mn/DOT guidelines. Different land use categories are used that apply to existing and future development in Rosemount. "Rural" should be applied to those roadway segments not planned for urbanization within the next twenty years, including agricultural or sparsely developed areas. "Urban" should be applied for those areas that are either currently urbanized or planned for urbanization within the next twenty years, including most suburban-type development. "Urban Core" should be applied to those areas of cities that are fully developed in a dense, compact, pedestrian-oriented manner, including typical downtown districts.

Rosemount intends to use the Mn/DOT access management guidelines for plat and site plan reviews. Since these guidelines are provided within a planning framework rather than by city ordinance, some discretion is expected for each site. However, access control can best be enforced through an early review mechanism that is coordinated with all interested jurisdictions.

Dakota County has identified access management guidelines in its *2025 Transportation Plan*, 2004). These guidelines are presented in ***Table 5.3***. The City of Rosemount will continue to work with Dakota County as access is requested along County roadways.

CSAH 42

The roadway with the most significant access management issues in Rosemount is CSAH 42. This is a principal arterial roadway, yet has much development taking place adjacent to it and this trend is anticipated to continue. The 1999 *County Highway 42 Corridor Study* identified recommendations including the following regarding access to CSAH 42:

- A target of one-half mile average spacing between full access, signalized intersections.
- One-quarter mile spacing for three-quarter access locations.
- One-eighth mile spacing for right-in/right-out locations.

The study also identified specific access locations along the corridor; for Rosemount these locations are depicted on Figure 8-18 and 8-19 of that document. Some of the access locations identified east of TH 3 (Figure 8-19) show spacing distances greater (more restrictive) than those identified above. The City's acceptance and adoption of the *County Highway 42 Corridor Study* in 1999 was conditional as noted in Council Resolution 1999-11.

Based on the CSAH 42/TH 52 Area Study referenced in Section 4.1 of this Transportation Plan, the City of Rosemount has proposed a system of access points of CSAH 42 between 145th Street and TH 52 which has some spacing of intersections closer than what is depicted on Figure 8-10 in the *County Highway 42 Corridor Study*. The City felt that its proposed system of access onto CSAH 42 east of 145th Street is consistent with the overall access management goals and guidelines as recommended in the CSAH 42 study, as well as the Dakota County access management guidelines identified in Table 5.3.

This plan has been reviewed with Dakota County staff, and approved by both the City and County.

Figure 5.2 depicts the CSAH 42 Access Plan for Rosemount. From TH 3 to the west, the information is taken directly from the County Highway 42 Corridor Study. East of TH 3, it is taken from the 42/52 Study referenced previously.

Table 5.2
Rosemount Access Management Guidelines

Functional Class	Median Treatment	Land Use	Typical Posted Speed	Full Median Opening Spacing (Miles)[1]	Minimum Spacing Between Connections[2]	Maximum Connection Points Per Mile[3]
Minor Arterial	Full	Rural	55	1/2	820	12
		Urban	≥40	1/4	490	20
		Urban Core	<40	1/4	275	32
	None	Rural	55	1/2	820	12
		Urban	≥40	1/4	490	20
		Urban Core	<40	1/4	350	24
Collector	Full	Urban	≥40	1/4	490	16
		Urban Core	<40	1/8	275	32
	None	Rural	55	1/2	820	12
		Urban	≥40	1/4	490	16
		Urban Core	<40	1/8	310	32

[1] If route has no median control, the spacing refers to the minimum distance between traffic signals.
[2] Distances are based upon spacing between connections (major roads, local public streets, and private driveways).
[3] Connections are counted by adding each public and private approach as they occur along the roadway (for example: a full intersection is counted as two connections while a right-in right-out driveway is counted as one).

TABLE 5.3
Dakota County Access Management Guidelines

	Divided Highways			Undivided Highways		
Functional Classification	**Principal Arterial**	**Non-P.A.**	**Non-P.A.**	**Non-P.A.**	**Non-P.A.**	**Non-P.A.**
2025 Projected ADT	All	>35,000	15,000 to 35,000	15,000 to 22,000	<15,000	<3,000
Full Movement Public Street Intersections (a)	½ mile	½ mile	¼ mile (c)	¼ mile (c)	⅛ mile (c), (d)	(b), (d)
¾ Public Street Access (a)	¼ mile (a)	¼ mile (a)	⅛ mile Right-in/ Right-out only (c)	N/A	N/A	N/A

Source: Dakota County 2025 Transportation Plan

Roadway type refers to the anticipated cross section. Divided section must be in place for conditional intersection (right-in/right-out or ¾ intersection) to be built.
(a) Median access points may be removed or modified to address safety and operational issues identified through engineering review.
(b) Determined based on engineering review, judgment considering location, distance from other driveways, nearby intersections, alignment with other access points, visibility and other operation/safety issues.
(c) Multiple commercial access permitted.
(d) Private residential or individual commercial access permitted.
N/A – Not applicable to undivided roadway segments.

5.2.5 Roadway Functional Classification

The concept of roadway function classification was discussed detail in Section 2.1.1 of this Transportation Plan. The primary classes of roadway to serve Rosemount will be:

- Principal Arterial
- Minor Arterial (A and B)
- Collector (major and minor)
- Local

Each of these classes has its own set of design standards and access management guidelines reflecting the differing transportation functions which they provide.

Figure 5.3 depicts the proposed 2030 roadway function classification system for Rosemount. It can be seen that the network of local collector roadways is significantly expanded to accommodate anticipated future land use development. This figure also includes the anticipated number of lanes on each arterial and above roadway.

5.2.6 Roadway Jurisdictional Classification

In general, roads which serve higher mobility functions are under the jurisdiction of higher levels of government. Conversely, roadways which serve relatively short trips and local access needs are

under the jurisdiction of local municipalities. The existing jurisdictional classification system was discussed in Section 2.1.2 of this Plan and is depicted on ***Figure 2.3***.

The Mn/DOT Metro Division *2008 -2030 Transportation System Plan* (Appendix B, "Draft Jurisdiction Plan") identifies the fiscally unconstrained goal of assuming jurisdiction over principal arterials from metro counties. This includes CSAH 42 in Scott and Dakota Counties. However, sufficient funding has not been identified, and the fiscally constrained jurisdictional transfer plan in Appendix B of the TSP does not show CSAH 42 being transferred to Mn/DOT.

The Dakota County *2025 Transportation Plan* has identified the following roadways as part of its County Jurisdictional Transfer Plan (Table T-18):

- County Road 38 between TH 3 and CSAH 71—transfer from county to city jurisdiction; this transfer has taken place (2005).
- Blaine Avenue from CSAH 42 to southern municipal boundary—transfer from University of Minnesota to County jurisdiction.
- CSAH 42 from TH 52 to TH 55—transfer from county to state jurisdiction.

The anticipated 2030 jurisdictional classification network is depicted on ***Figure 5.4.***

5.2.7 Future Right-of-Way Needs

It is advisable for the City to purchase right-of-way for future or to-be-expanded roadways as early as practicable. This helps to limit future high costs and unforeseen purchase issues as on-going development occurs in the areas of the roadways. ***Table 5.3*** shows right-of-way requirements for different types of roadway cross sections. These guidelines should be considered for inclusion in the City's relevant ordinance sections. The identified right-of-way widths could vary with topography and requirements for sidewalks or off-street facilities, and are intended to provide minimum street needs and green space. ***Table 5.4*** Dakota County's right-of-way guidelines for its roadways.

TABLE 5.4
Right-of-Way Guidelines – City Streets[1]

Functional Classification	ADT	Lanes	Right-of-Way Required	
			Urban	Rural
Minor Arterial	15,000-30,000	4 - Lane Divided	120 to 150 ft	150 to 200 ft
Major Collector	7,500-18,000	4 - Lane Undivided	100 ft [2]	100 ft
	10,000-25,000 +	4 - Lane Divided	100 ft [2]	150 ft
Minor Collector	2,000-8,000	2 – Lane	80 ft	100 ft
	4,000-16,000	3 – Lane	80 ft	100 ft
	7,500-18,000	4 - Lane Undivided	100 ft [2]	100 ft
Local	0-9,000	2 – Lane	60 ft	80 ft

(1) Mn/DOT and Dakota County right-of-way requirements apply for Trunk Highways and County roadways, respectively.
(2) Additional R.O.W. may be required on a case-by-case basis for channelized turn lanes at intersections.

TABLE 5.5
Right-of-Way Guidelines – Dakota County[1]

Roadway Type	Right-of-Way Required
2-Lane Urban/Rural	100/110 ft
4-Lane Undivided	120 ft
4-Lane Divided	150 ft
6-Lane	200 ft

(1) Source: Dakota County Road Plat Review Needs (11/22/2005)

5.3 Transit and Non-Motorized Transportation

Transit

A detail Transit Plan is included as ***Appendix C***.

Non-Motorized Transportation

Ensuring pedestrian safety is a critical goal for the City. In general, most pedestrian accidents and injuries take place at roadway intersections; thus, intersections must be properly designed to accommodate both vehicular and pedestrian movements.

At this time, there do not appear to be undue pedestrian safety issues at roadway intersections in Rosemount. However, with the anticipated growth of the City as discussed in Section 4.0,

vehicular and pedestrian traffic levels will increase, and safety conditions will have to be reviewed on an on-going basis. Should given intersections become problematic, safety measures including the following will be assessed and implemented as-needed:

- Installation of new traffic control signals
- Revised timing of existing signals
- Revised roadway geometry (layout and design of lanes)
- Curb bump-outs
- Traffic calming measures

Another way to promote pedestrian safety, as well as access, is to provide a coordinated network of sidewalks and trails. It is the City's practice to provide (or require developers to provide) paved, off-road bike/pedestrian ways on either side of collector level and higher roadways. This means, at minimum, an eight foot trail on one side and a five foot sidewalk on the other, or eight foot trails on both sides of the roadway.

Trails

The City is committed to providing a comprehensive and coordinated series of trails, which provide transportation as well as recreational value. ***Figure 2.6*** depicts existing and anticipated future trails and sidewalks within currently developed areas. This network will expand as future roadways are constructed in currently undeveloped portions of the City. The City will continue its practice of providing bike/pedestrian facilities on both sides of all collector level and higher roadways (please refer to information under the previous heading). The City will continue to coordinate with Dakota County to allow the local trail network to tie in with regional trails to the greatest degree feasible.

Figure 2.7 includes a conceptual corridor for the Rosemount Interpretive Trail Corridor. This would be a trail from downtown Rosemount to the Spring Lake Park Preserve. It is envisioned to be an off-road trail with its own alignment in some locations, and roadway alignments in others. The City intends to construct this trail over the next 5-10 years as development occurs and additional right-of-way is secured. The design standards which will be used are not known at this time. The City would like to build the trail with ten-foot width where possible, but environmental and local impact issues must be carefully addressed.

Transportation Demand Management (TDM)

The primary emphasis of Transportation Demand Management (TDM) is to reduce the number of vehicular trips on congested roadways during peak travel times. Since many or most these trips are commuter (work) trips, TDM strategies primarily involve the workplace context and associated travel behavior.

The primary methods or strategies are identified below:

- transit
- car/van-pooling
- telecommuting

- flex-time
- non-motorized commuting

In general, the policies or incentives to promote TDM activities are provided through employers. For example, employers can provide monthly discounts or passes to employees to use transit. They can provide coordination services to match up individuals for car/van pooling activities. They can allow or promote telecommuting, particularly in various industries for which face-to-face contact is not important for task performance. Similarly, employers can allow or promote flex time, which enables employees to travel to/from work at non-peak travel times. Regarding non-motorized commuting, the provision of shower and changing facilities is often helpful to promote bicycle commuting.

There are a number of reasons for employers to promote TDM activities. In some cases, vehicle parking is at a premium and anything they can do to reduce parking requirements is beneficial. Another example may be a large employer or group of employers accessed by congested road systems. If these employers can reduce rush hour trips into their facilities and associated congestion, it benefits their workers and makes their places of business more attractive places to work. Some employers wish to reduce vehicle trips to their facilities simply because it is "the right thing to do" for environmental reasons.

Cities can increase TDM activities through promotional activities and by coordinating with key employers to identify and implement TDM plans. Cities may require TDM plans for new developments if they are large enough to have significant traffic impacts. The City of Minneapolis actively uses this approach, for example. Cities can also form or coordinate the formation of Transportation Management Organizations (TMOs). These organizations pool resources and strategies to get the biggest "bang for the buck" for reducing traffic levels in a given area.

It is difficult to project the quantitative benefits of Transportation Demand Management activities with confidence. However, as fuel prices and congestion on major roadways in the metro region increase into the future, the demand for and potential of this approach will increase accordingly.

The City of Rosemount currently does not require businesses to prepare and implement TDM plans. However, it will review the option of requiring proposers of new development projects over a given threshold in terms of traffic generation, to submit a TDM plan as part of the plat approval process. It will also review the option of working with existing larger employers to promote and facilitate TDM activities.

ROSEMOUNT
MINNESOTA

NORTH

0 12500 FT 25000 FT

PROJECT LOCATION
COUNTY: DAKOTA
DISTRICT: METRO

City of Rosemount, Minnesota
Transportation Plan

Regional Location Map

Figure 1.1

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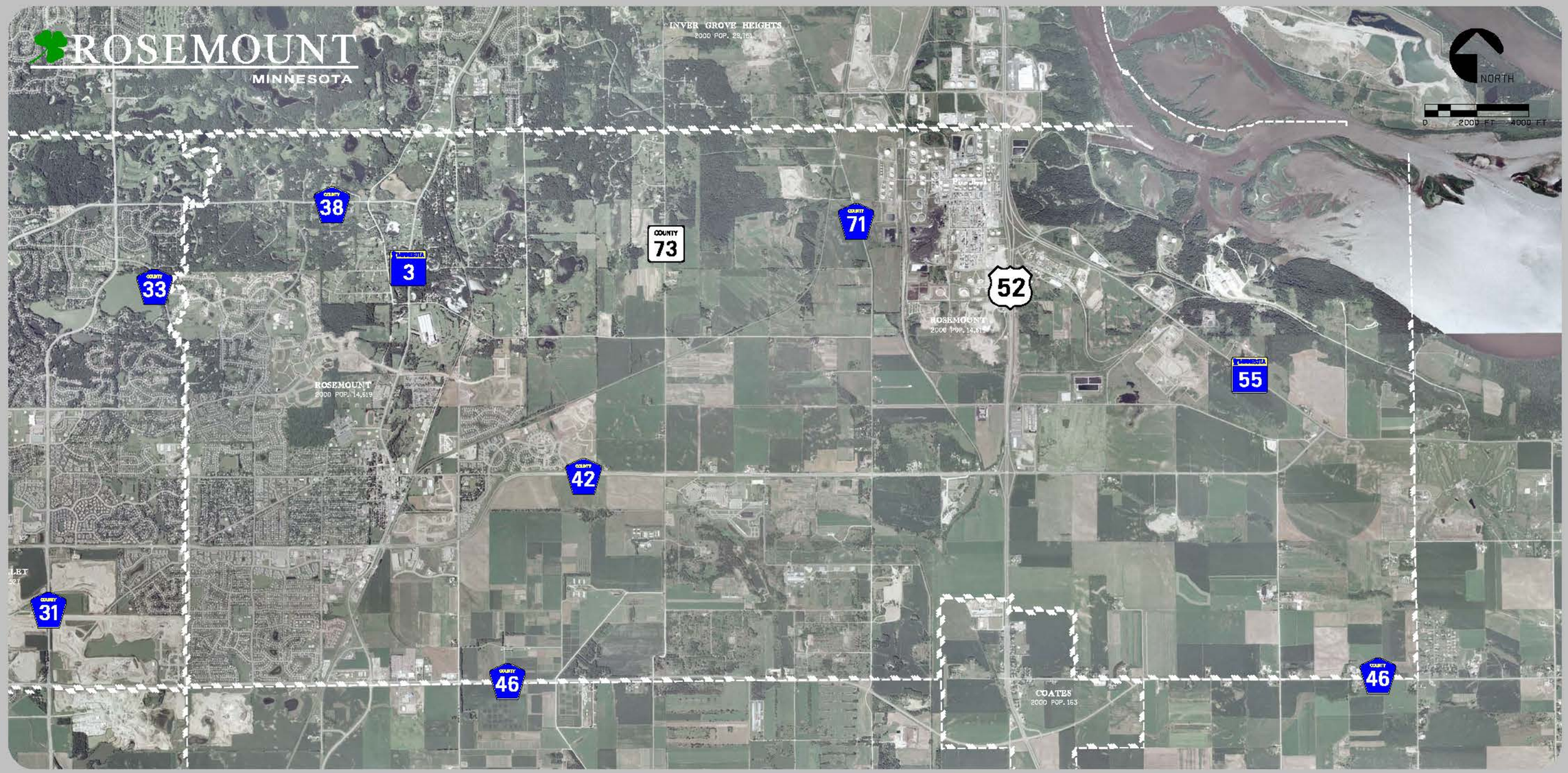

City of Rosemount, Minnesota
Transportation Plan

Rosemount Aerial Photo

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Figure 2.1

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ROSEMOUNT
MINNESOTA

INVER GROVE HEIGHTS
2000 POP. 29,751

Gray Cloud Island

NORTH

0 2000 FT 4000 FT

WASHINGTON CO.
DAKOTA CO.

Pine Bend

ROSEMOUNT
2000 POP. 14,519

ROSEMOUNT
2000 POP. 14,619

Trailer Court

VALLEY
P. 45,527

UNIVERSITY OF MINNESOTA ROSEMOUNT RESEARCH CENTER

COATES
2000 POP. 163

EMPIRE TOWNSHIP
2000 POP. 1,638

EMPIRE TOWNSHIP
2000 POP. 1,638

VERMILLION TOWNSHIP
2000 POP. 1,243

COUNTY 73

COUNTY 38 · COUNTY 33 · COUNTY 71 · COUNTY 42 · COUNTY 31 · COUNTY 46 · COUNTY 46

MINNESOTA 3 · MINNESOTA 52 · MINNESOTA 55

City of Rosemount, Minnesota
Transportation Plan

Legend

- Principal Arterial
- Minor Arterial
- Collector
- Local Public Road
- Private Road
- (N) Number of Lanes

Existing Roadway Functional Classification

Figure 2.2

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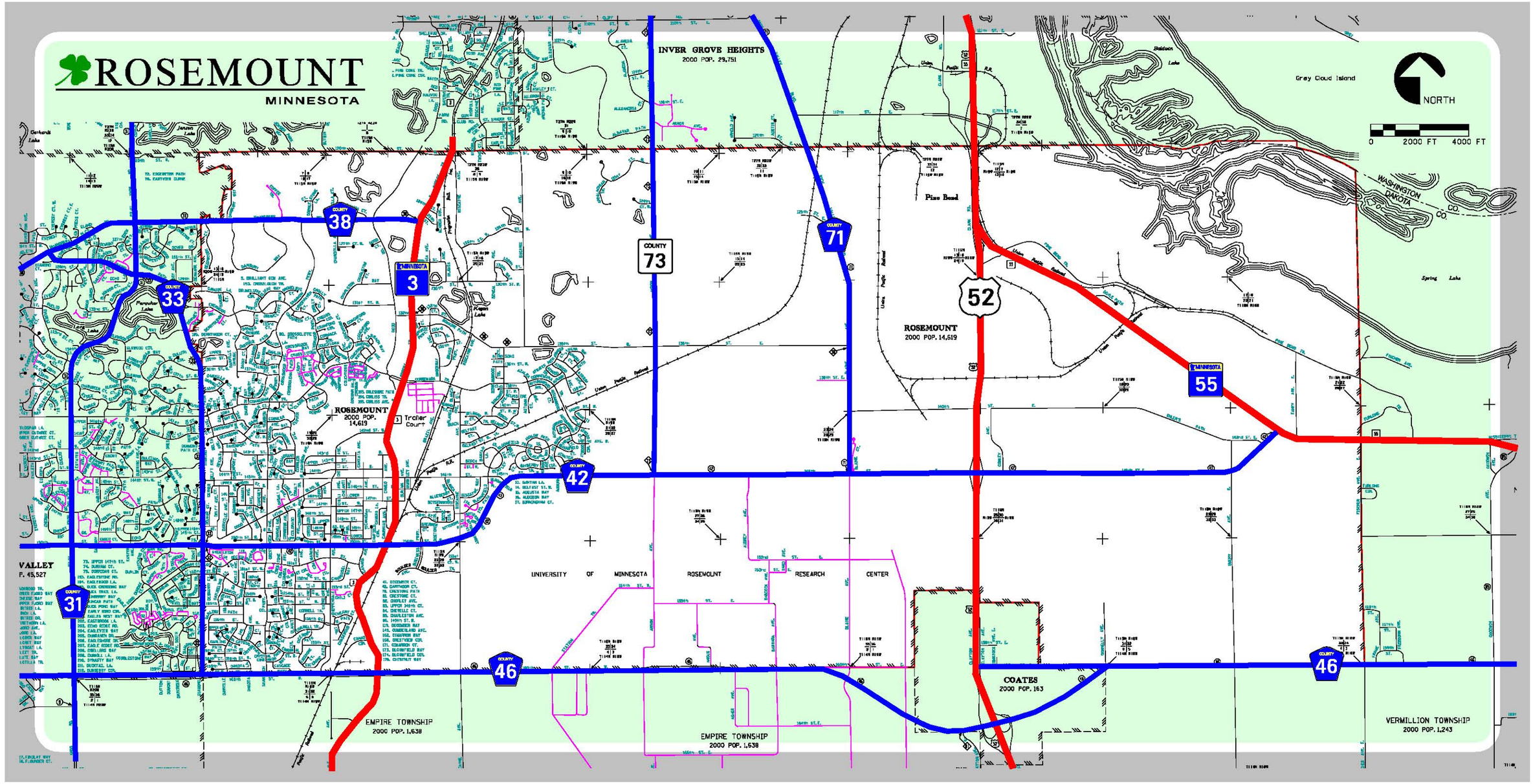

City of Rosemount, Minnesota
Transportation Plan

Legend

- Minnesota Department of Transportation
- Dakota County
- City of Rosemount
- Private Road

Existing Roadway Jurisdictional Classification

Figure 2.3

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MINNESOTA

INVER GROVE HEIGHTS
2000 POP. 29,751

Gray Cloud Island

NORTH

0 2000 FT 4000 FT

WASHINGTON CO.
DAKOTA CO.

Pine Bend

ROSEMOUNT
2000 POP. 14,619

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2000 POP. 1,243

COUNTY 38 · COUNTY 33 · COUNTY 31 · COUNTY 73 · COUNTY 71 · COUNTY 42 · COUNTY 46 · MINNESOTA 3 · 52 · MINNESOTA 55

7000 4650 2700 14000 390 5300 3050 13200 4600 5300 5900 5500 1350 12800 5800 21000 18100 14800 4600 2750 10200 2900 170 8300 90 2000 440 265 14000 14000 12700 30400 30200

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Transportation Plan

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Legend

Source: Minnesota Department of Transportation

xxx 2005 Average Daily Traffic
xxx 2004 Average Daily Traffic

Current Traffic Volumes

Figure 2.4

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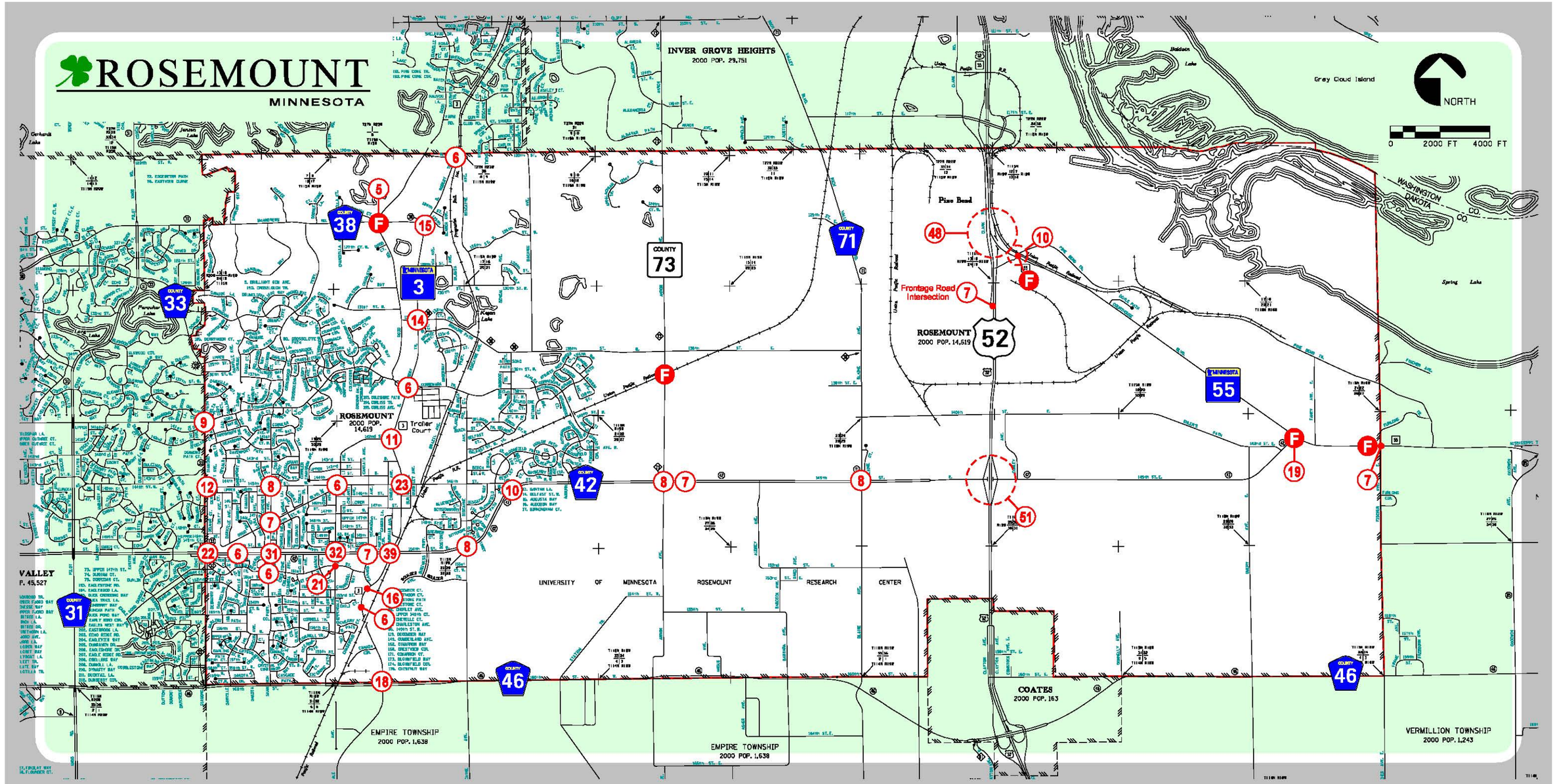

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Legend

- (N) Number of Accidents
- (F) Fatality

Notes:
1. *The identified accidents are only a portion of all accidents in Rosemount during the Study Period. Please refer to text for further information.*
2. *2003 information was not used because of potential Mn/DOT data problems.*

Crash Analysis

1999 - 2002, 2004 Mn/DOT Data

Figure 2.5

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ROSEMOUNT
MINNESOTA

INVER GROVE HEIGHTS
2000 POP. 29,751

Gray Cloud Island

NORTH

0 2000 FT 4000 FT

WASHINGTON CO.
DAKOTA CO.

Pine Bend

ROSEMOUNT
2000 POP. 14,619

MOU
2000 POP. 14,619

VALLEY
P. 45,527

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EMPIRE TOWNSHIP
2000 POP. 1,638

EMPIRE TOWNSHIP
2000 POP. 1,638

COATES
2000 POP. 163

VERMILLION TOWNSHIP
2000 POP. 1,243

COUNTY 38
COUNTY 33
MINNESOTA 3
COUNTY 73
COUNTY 71
52
COUNTY 42
COUNTY 31
COUNTY 46
COUNTY 46

City of Rosemount, Minnesota
Transportation Plan

Note: Pedestrian and bicycle way network will be expanded as roadway network is expanded (see Section 2.2 text)

Legend

- Existing Bituminous Path
- Existing Concrete Walk
- Proposed Bituminous Path
- Proposed Concrete Sidewalk
- Existing Bituminous Path to be Replaced with Concrete Walk

Existing and Future Pedestrian & Bicycle Ways

Figure 2.6

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ROSEMOUNT
MINNESOTA

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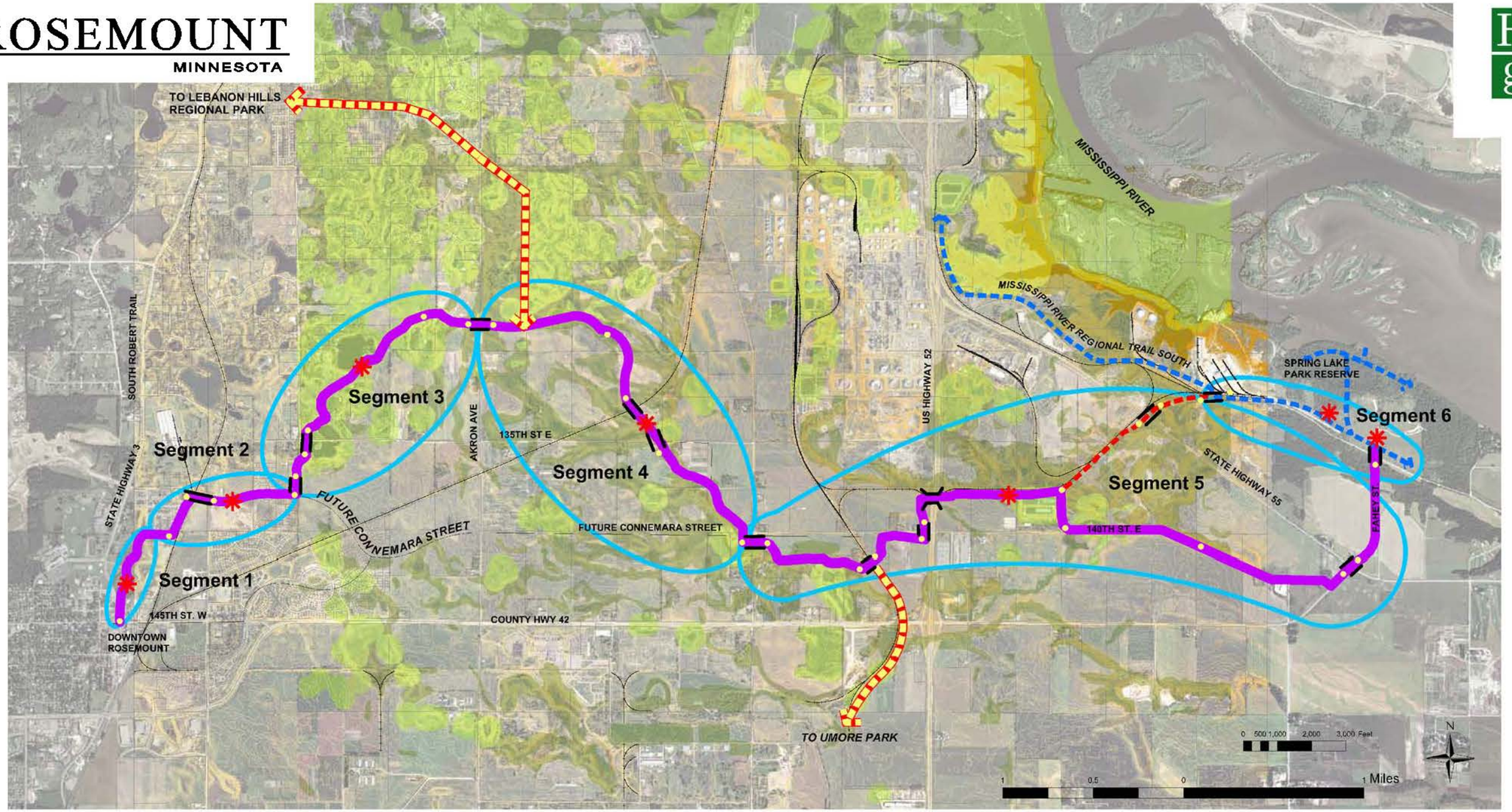

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TRAIL CORRIDOR OPPORTUNITIES
- TRAIL ROUTE
- LONG TERM FUTURE ALTERNATE ROUTE

TRAIL CONNECTIONS
- LINKS
- MISSISSIPPI RIVER REGIONAL TRAIL

INTERPRETATION
- INTERPRETIVE STOPS
- WAY-FINDING MARKER

CROSSINGS
- AT GRADE CROSSING
- SEPARATED CROSSING

GREENWAY PRESERVATION OPPORTUNITIES
- HIGH LANDSCAPE SENSITIVITY AREAS
- LOW LANDSCAPE SENSITIVITY AREAS

ELEVATION
1000-1098 | 900-998 | 800-898 | 700-798 | 600-698

Rosemount Interpretive Trail Corridor

Figure 2.7

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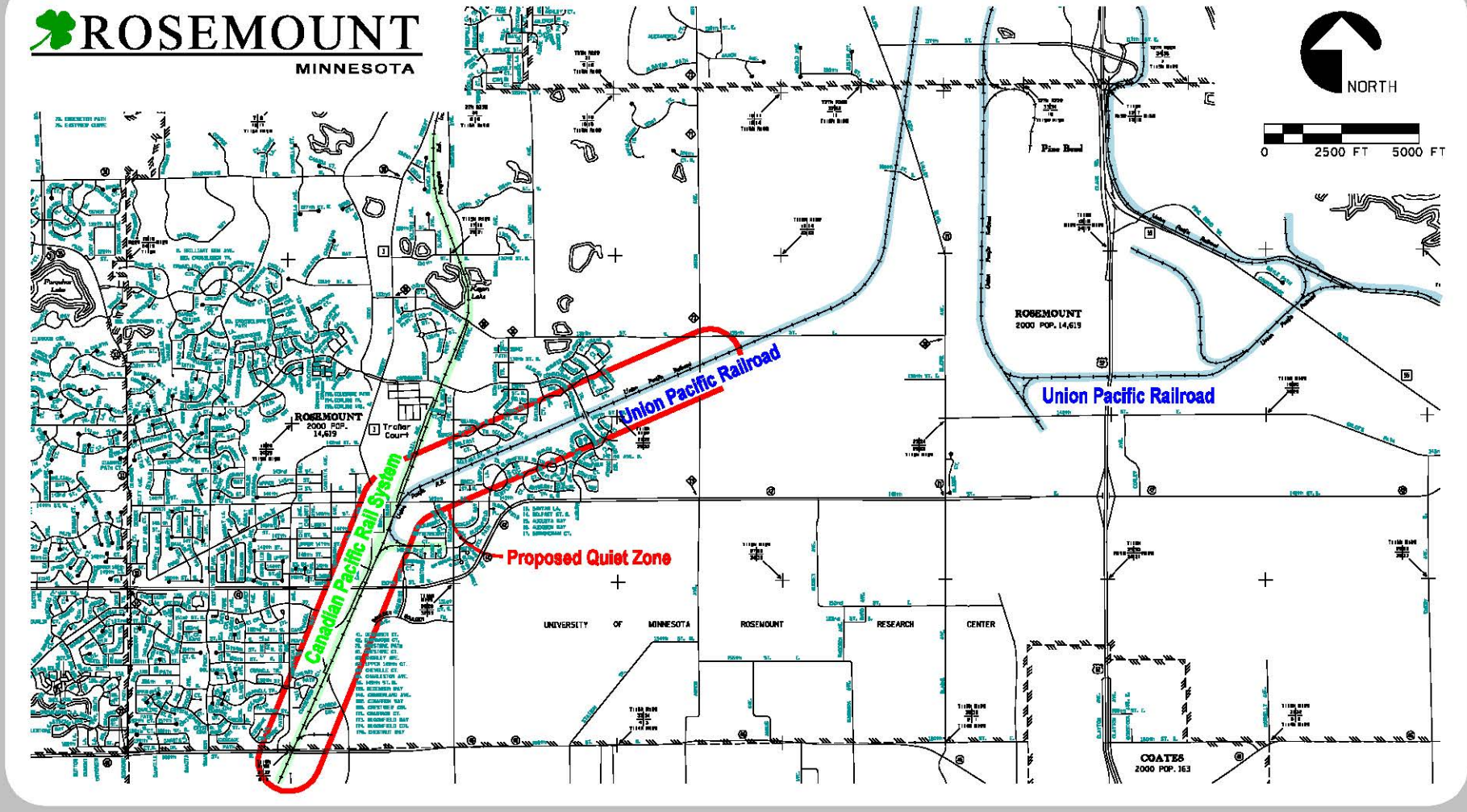

City of Rosemount, Minnesota
Transportation Plan

Railroad Lines

Figure 2.8

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ROSEMOUNT
MINNESOTA

INVER GROVE HEIGHTS
2000 POP. 25,761

Gray Cloud Island

NORTH

0 2000 FT 4000 FT

WASHINGTON CO.
DAKOTA CO.

COUNTY 38
COUNTY 33
MINNESOTA 3
COUNTY 73
COUNTY 71
52
MINNESOTA 55
COUNTY 42
COUNTY 31
COUNTY 46
COUNTY 46

VALLEY
P. 45,527

EMPIRE TOWNSHIP
2000 POP. 1,638

EMPIRE TOWNSHIP
2000 POP. 1,638

COATES
2000 POP. 163

VERMILLION TOWNSHIP
2000 POP. 1,243

City of Rosemount, Minnesota Transportation Plan

Legend

AG Agriculture	AGR Agricutural Research	HDR High Density Residential	GI General Industrial
DT Downtown	RR Rural Residential	PI Public/Institutional	WM Waste Management
NC Neighborhood Commercial	LDR Low Density Residential	PO Existing Parks/Open Space	2020 Musa Line
RC Regional Commercial	TR Transitional Residential	BP Business Park	2030 Musa Line
CC Community Commercial	MDR Medium Density Residential	LI Light Industrial	

Note: Source: 2030 Comprehensive Plan Update City of Rosemount plus 42/52 Land Use Plan.

2030 Land Use Plan Map

Figure 4.1

Prepared by:

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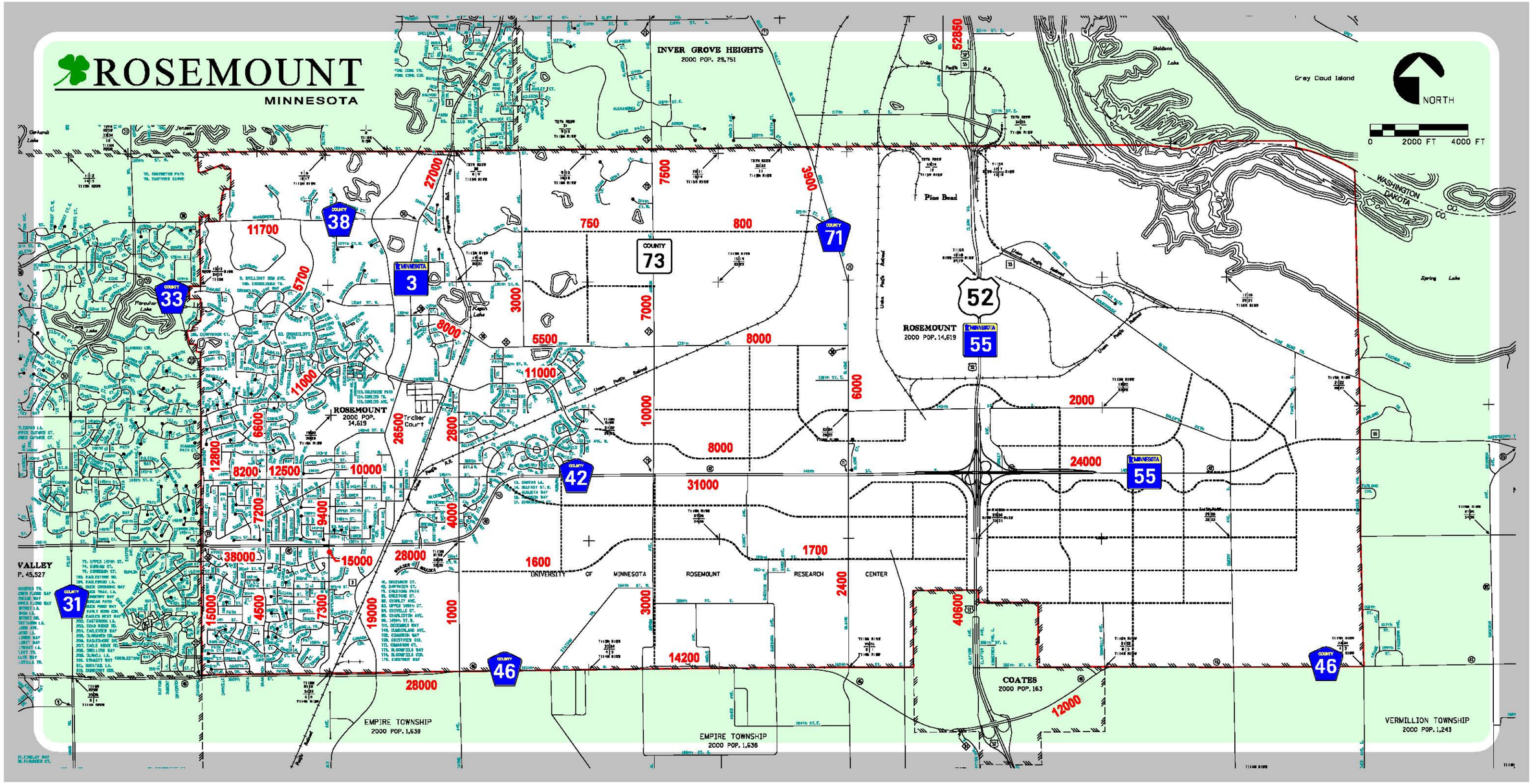

City of Rosemount, Minnesota
Transportation Plan

Legend

Future Roadways

2030 Forecast Traffic Levels

Figure 4.2

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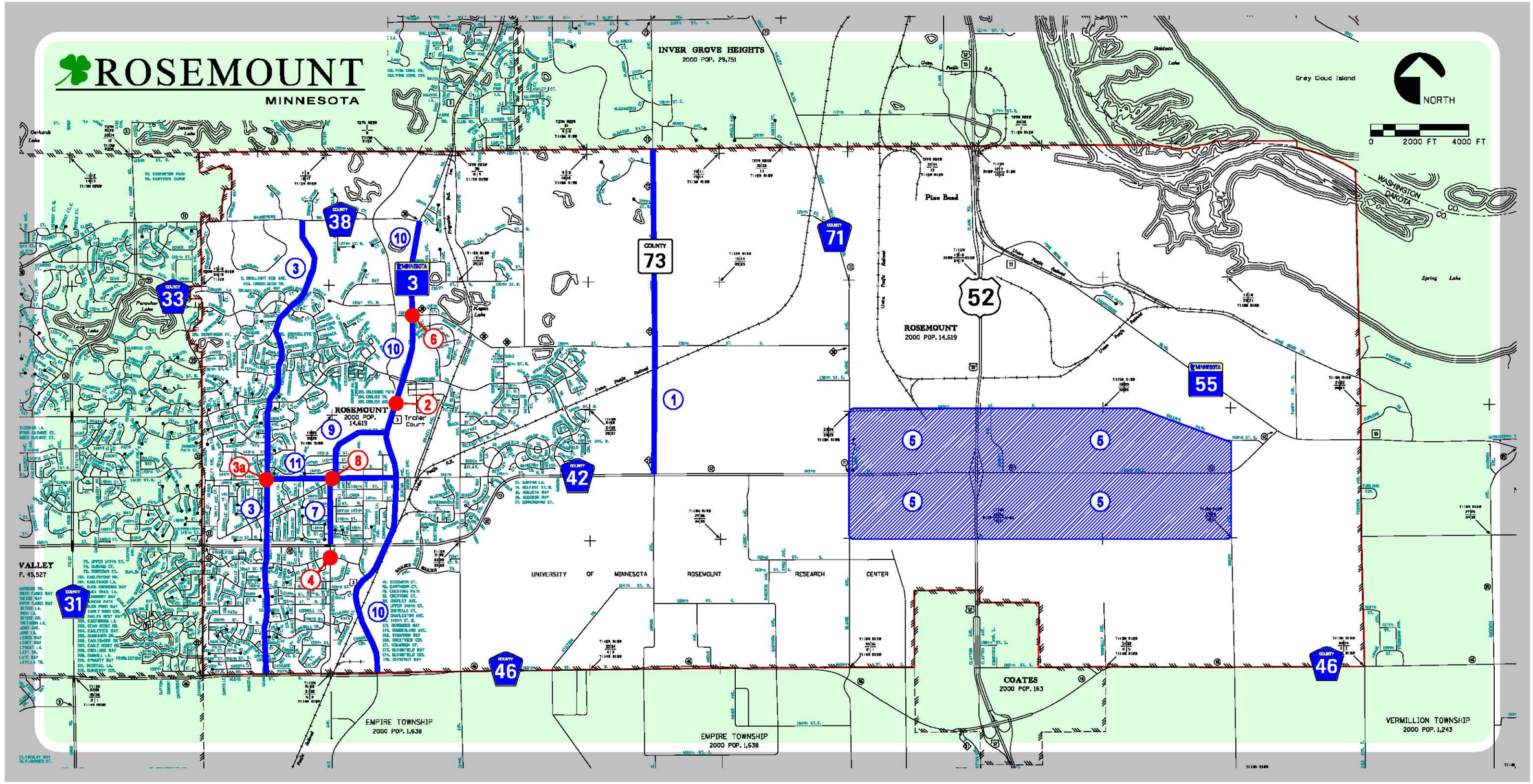

City of Rosemount, Minnesota
Transportation Plan

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Legend

- (N) Improvement Project
- (N) Intersection Improvement Project

Notes:
The numbers correspond to the information provided in Table 5.1 of the Transportation Plan text.

Future Capital Improvement Projects

Figure 5.1

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ROSEMOUNT
MINNESOTA

NORTH

0 2000 FT 4000 FT

INVER GROVE HEIGHTS
2000 POP. 29,751

Grey Cloud Island

Pine Bend

Spring Lake

ROSEMOUNT
2000 POP. 14,619

ROSEMOUNT
2000 POP. 14,619

COATES
2000 POP. 163

EMPIRE TOWNSHIP
2000 POP. 1,638

EMPIRE TOWNSHIP
2000 POP. 1,638

VERMILLION TOWNSHIP
2000 POP. 1,243

UNIVERSITY OF MINNESOTA ROSEMOUNT RESEARCH CENTER

COUNTY 38
COUNTY 33
COUNTY 31
MINNESOTA 3
COUNTY 73
COUNTY 71
52
MINNESOTA 55
COUNTY 42
COUNTY 46
COUNTY 46
MINNESOTA 55

City of Rosemount, Minnesota
Transportation Plan

Legend

Interchange | Full Access | Partial Access (Right-In / Right-Out or 3/4)

CSAH 42 Access Plan

Figure 5.3

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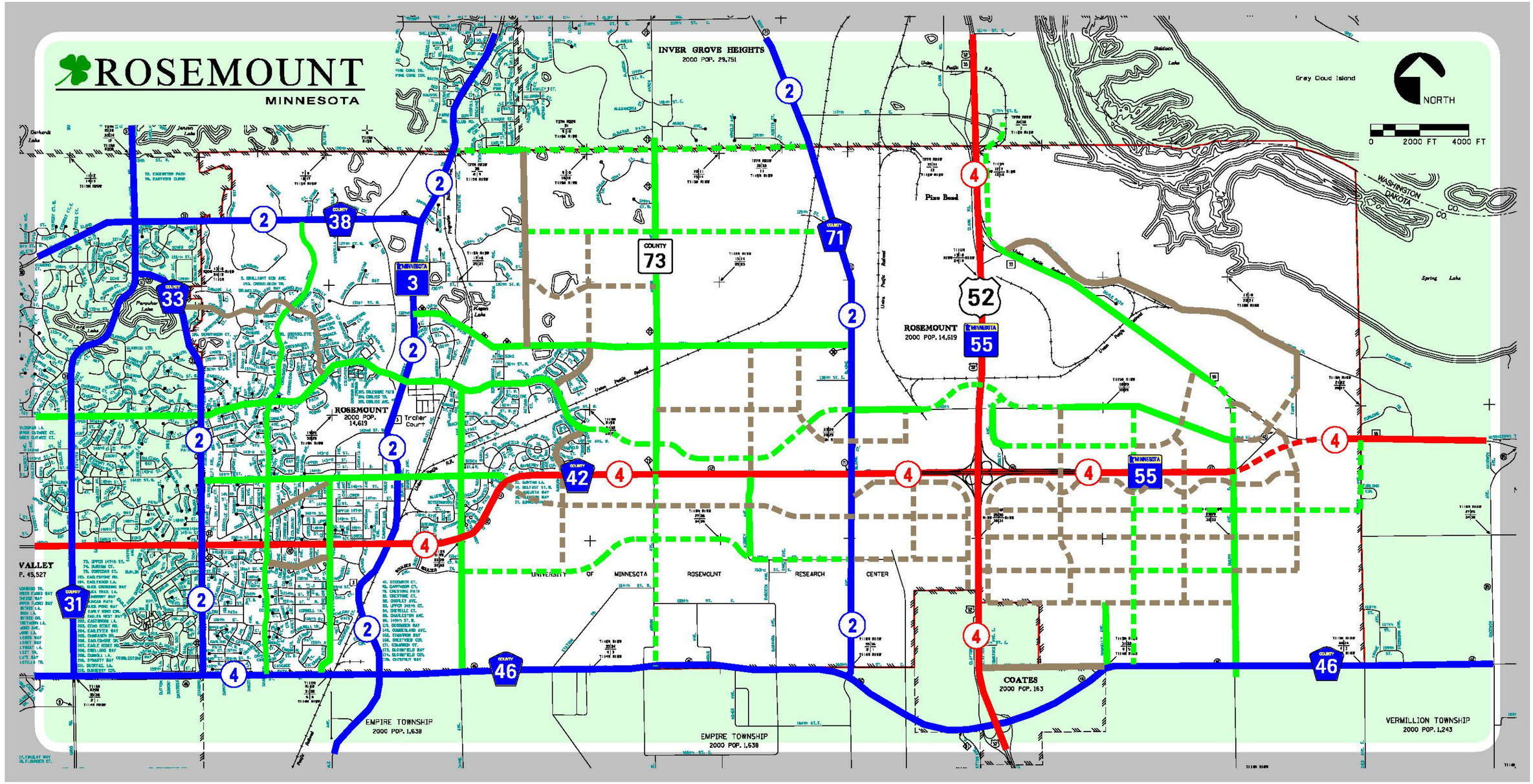

City of Rosemount, Minnesota
Transportation Plan

Legend

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local Road
- Principal Arterial (future roadway)
- Major Collector (future roadway)
- Minor Collector (future roadway)
- (N) Number of Lanes

2030 Roadway Functional Classification

Figure 5.3

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ROSEMOUNT
MINNESOTA

INVER GROVE HEIGHTS
2000 POP. 29,751

Grey Cloud Island

NORTH

0 2000 FT 4000 FT

Pine Bend

WASHINGTON CO.
DAKOTA CO.

ROSEMOUNT
2000 POP. 14,619

Trailer Court

VALLEY
P. 45,527

UNIVERSITY OF MINNESOTA ROSEMOUNT RESEARCH CENTER

EMPIRE TOWNSHIP
2000 POP. 1,638

COATES
2000 POP. 163

VERMILLION TOWNSHIP
2000 POP. 1,243

COUNTY 38
COUNTY 33
COUNTY 31
COUNTY 73
COUNTY 71
COUNTY 42
COUNTY 46
MINNESOTA 3
MINNESOTA 52
MINNESOTA 55

City of Rosemount, Minnesota
Transportation Plan

Legend

- Minnesota Department of Transportation
- Minnesota Department of Transportation (future roadway)
- Dakota County
- City of Rosemount
- City of Rosemount (future roadway)

2030 Roadway Jurisdictional Classification

Figure 5.4

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APPENDIX A

AGENCY COMMENTS ON DRAFT TRANSPORTATION PLAN AND CITY RESPONSES

Dakota COUNTY

Office of Planning
Lynn G. Moratzka, AICP
Planning Manager

Dakota County
Western Service Center
14955 Galaxie Avenue
Apple Valley, MN 55124

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Fax 952.891.7031
www.co.dakota.mn.us

February 1, 2006

Andy Brotzler
City of Rosemount
2875 145th Street West
Rosemount, MN 55068

RE: City of Rosemount Draft Transportation Plan

Dear Mr. Brotzler:

Thank you for the opportunity to review and comment on the Draft Transportation Plan for the City of Rosemount. The draft plan has been reviewed by staff in the Physical Development Division. Our comments are attached to this letter.

We look forward to working with you and other City staff as new developments that need access to County roads are proposed in Rosemount.

If you have any questions, please call me at (952) 891-7033.

Sincerely,

Lynn Moratzka, Manager
Office of Planning

Encl

c: Willis E. Branning, Dakota County Commissioner – District 7
Brandt Richardson, County Administrator
Greg Konat, Director, Physical Development Division
Phyllis Hanson, Manager, Metropolitan Council
Lisa Freese, South Area Manager, MnDOT Metro District

DAKOTA COUNTY COMMENTS – City of Rosemount Transportation Plan

General Comment
County staff support a continued close coordination between Dakota County and the City of Rosemount on the CSAH 42/TH 52 land use plan and necessary highway and interchange improvements.

Section 2.0 – Existing Conditions

Part 2.1, Roadways (page 4)

2.1.1 – Functional Classification
(1) → Figure 2.2 Existing Roadway Functional Classification shows CSAH 31 (Pilot Knob Road) as a Local Road; however, it should be shown as a Minor Arterial highway. Please revise the map.

Part 2.2, Other Transportation Services, Facilities, Issues (page 9)

Bikeways and Pedestrian Facilities
(2) → County staff have talked with Rosemount Parks staff about the omission of the City's trail to the Mississippi River from downtown through the Flint Hills property. Other city trails are included on maps in the draft plan, but this project was not. County staff suggest that this trail be added to the final plan in the text and on Figure 2.6.

In another section of the plan (page 25), the City indicates that it *"will continue to coordinate with Dakota County to allow the local trail network to tie in with regional trails to the greatest degree feasible."* The City's trail would connect to the County's Mississippi River Regional Trail and to other City trails. Dakota County is considering a new trail connection from Lebanon Hills Regional Park to this proposed City trail. In discussions with City staff, County staff have suggested that Rosemount could build the City trail to regional standards, so it could become the regional trail connection between Lebanon Hills Regional Park and Spring Lake Regional Park Preserve. County staff are willing to meet with City staff to further discuss this possibility.

Part 2.1.4, Safety, Capacity, Functional Conflicts (Page 7)

Existing Capacity/Operational Issues
The draft plan states: *"The only collector or arterial roadway segment identified in relevant state, regional, and county documents as approaching or exceeding capacity is the eastern-most portion of TH 55 (east of CSAH 42)."* County staff note that the *Dakota County 2025 Transportation Plan* does not identify any current capacity deficiencies on County highways within Rosemount. However, the County plan does forecast the following capacity deficiencies in 2025.

(3) → Over Capacity: CSAH 38 (McAndrews Road), west of Danbury Way; CSAH 42, west of TH 3.

Approaching Capacity (75 percent of the maximum highway capacity design): CSAH 33 (Diamond Path), north of Connemara Trail; CSAH 38 (McAndrews Road), between TH 3 and Danbury Way; CSAH 42, between TH 52/55 and TH 3; CR 73 (Akron Ave.), north of 135th Street.

Deficient Intersections: Interchanges and high capacity controlled intersections are the nodes that interconnect the most important, heavily traveled, principal and minor arterial highway segments of the system. As traffic volumes increase, the need for an interchange to provide safe and efficient operation of opposing traffic grows in importance. The following locations on the County system are likely to require an interchange or interchange improvement in the future: the proposed TH 52/55/CSAH 42 interchange; and the TH 3 and CSAH 42 intersection.

3 The draft plan adequately identifies the needs associated with the proposed TH 52/55/CSAH 42 interchange. Although it is identified in Section 3.2, Other Jurisdictional Planning Documents, County staff request that the City also identify the need for an interchange at TH 3 and CSAH 42 (based on the County's projected traffic volumes) in this section of the final plan.

County staff suggest that these forecasted capacity deficiencies be added to the final plan.

Section 4.0 – Future Transportation Needs

4.1, Land Use Projections (page 15)

2025 Future Land Use Plan and Roadway Network

4 The plan states that *"The 2025 land use assumed in this Transportation Plan is depicted on Figure 4.1."* Figure 4.1 shows an area south of CSAH 42 and east of US TH 42 as "Air Cargo". However, there is no discussion of the proposed Regional Distribution Center (air cargo facility) in the text of the draft plan. County staff are unable to determine whether any of the City's traffic forecasts are taking this proposed facility into account. The proposed air cargo facility could have a very large impact on County roads, as well as city and state roadways. The maps in the draft plan do indicate a number of new streets in this location, but roadway access issues from an air cargo facility site to CSAH 42 or US TH 52 are not specifically discussed.

5 The draft plan indicates that the City is proposing a number of new east/west roadways located east of Akron Avenue (County Road 73) to accommodate the new commercial and industrial growth that they have planned. The opinion of County staff is that these are good roads, but they will not help the County with future roadway access issues along CSAH 42.

County staff recommend that the City consider re-configuring some of these roadways so they can act as frontage/backage roads for CSAH 42, at least on the north side of CSAH 42 between Akron Avenue and US TH 52. County staff believe that the City would not need to plan for more roads, but just move the proposed roads closer to CSAH 42, so they can service landlocked parcels. Without this proposed reconfiguration, it will be difficult for the County to maintain its access spacing guidelines along CSAH 42 in this area of Rosemount.

Section 5.0 – Transportation Plan

Part 5.2.3, Access Management (Pages 19 - 22)

Table 5.2 presents the City of Rosemount's access management guidelines, which are based on MnDOT guidelines. The draft plan states that *"Rosemount intends to use the MnDOT guidelines for plat and site plan reviews."* The plan also notes that *"Dakota County has identified access management guidelines in its 2025 Transportation Plan"*, and presents these guidelines in Table 5.3. The plan further states that *"The City of Rosemount will continue to work with Dakota County as access is requested along County roadways."*

County staff note that the *Dakota County Road Plat Review Needs Map* identifies the following needs in Rosemount that are of concern:

6
- The need of 120 feet of right-of-way is required for 4-lane undivided County highways. Currently, this applies to CSAH 33 (Diamond Path) and CSAH 38 (McAndrews Road) in Rosemount. The draft plan identifies a need for 100 feet of right-of-way.
- The need of 200 feet of right-of-way is required for 6-lane highways. Currently, this applies to CSAH 42, west of TH 3.

7
- Full access spacing of ½ mile is required for the entire segment of CSAH 42 within Rosemount.

County staff suggest that the City address these access management needs in the final plan.

Rosemount Transportation Plan
Response to Dakota County Comments on January 2006 Draft

Comment 1: *Figure 2.2 has been revised as suggested.*

Comment 2: *Information has been added to Section 2.2 and Section 5.3 to address the Rosemount Interpretive Trail Corridor. In addition, a new Figure 2.7 has been created to provide further information on this corridor.*

The City has had discussions with Dakota County regarding using design standards for regional trail facilities for this project. The City would like to use this approach, but it may not be feasible due to environmental and/or local impact issues. The City will continue these discussions with the County, and will be addressing it further in an upcoming update of its Parks Master Plan.

Comment 3: *The volume/capacity and interchange need information from the Dakota County Transportation Plan noted has been included in Section 2.1.4 (Existing Capacity/Operational Issues heading) and Section 3.2 (Dakota County 2025 Transportation Plan heading)*

Comment 4: *The traffic forecasts shown on Figure 4.2 do not assume the potential Air Cargo facility. Text has been included in Section 4.2 to give background on this issue.*

Comment 5: *The roadway locations depicted on Figure 4.1 in the vicinity of the CSAH 42/TH 52 interchange are conceptual and not intended to show precise alignments. The roadways parallel to CSAH 42 east of CR 73 are intended to provide access to land uses adjacent to CSAH 42, and therefore to promote access management for this facility.*

Comment 6: *Information has been added to Section 5.2.6 to clarify that the City right-of-way guidelines apply to City streets, and that Mn/DOT and Dakota County have their own right-of-way standards. The County right-of-way standards have been added as Table 5.5.*

Comment 7: *Information on the City's position regarding access spacing on CSAH 42 had been previously provided in the January 2006 Draft Rosemount Transportation Plan. This information has been carried forward in the final document, and has been enhanced with a new graphic, Figure 5.2 (42/52 Study – Access Spacing Plan). This plan has been discussed with Dakota County staff, and it appeared that general agreement on this approach had emerged during the 42/52 study process.*

city of eagan

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Co./Dept.	Co.	
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Fax #	Fax #	

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Fax: 651.675.5012
TDD: 651.454.8535

Maintenance Facility:
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Eagan, MN 55122
Phone: 651.675.5300
Fax: 651.675.5360
TDD: 651.454.8535

www.cityofeagan.com

Mr. Andy Brotzler
City Engineer
City of Rosemount
2875 145th Street West
Rosemount, MN 55068

March 9, 2006

Re: Eagan's comments to Rosemount Draft Transportation Plan

Dear Mr. Brotzler:

Thank you very much for the opportunity to comment on the Draft Rosemount Transportation Plan. In the recent past, the City has submitted the following general comment when given the opportunity to review proposed Comprehensive Guide Plan Amendments in the City of Rosemount:

> The City of Eagan recognizes that pressure for development will result in continued development in the City of Rosemount and other communities to the south and east of Eagan. The City is concerned about the traffic impacts of continued development that will affect Highway 3, Highway 52, Highway 55, and Highway 149 and believes that there is a need for the cities, Dakota County, the region, and the state to cooperatively address the need for transportation improvements in this part of the County and region between County Road 42 and I-494.

Expanding upon these previous general comments, we would like to submit the additional following comments for consideration regarding the draft Rosemount Transportation Plan:

1. CSAH 71 is indicated as a future Minor Arterial (Figure 5.2). However, the 2025 forecast volume (Figure 4.2) is only 2100-3900 vpd. This forecasted volume is inconsistent with this future classification and other Collector Street classifications with higher volumes (i.e. Co. Rd. 73 at 3000-7500 vpd).
2. The draft plan does not mention the future North/South Principal Arterial Study identified in the *Dakota County 2025 Transportation Plan* (Chapter 7, Goal 3, pg 82/85 & Figure T-16; and Chapter 9, Goal 5, pg 112 & Figure T-22). This possible north/south principal arterial would be constructed in a corridor extending from I-494 to CSAH 42 (8½ miles) through the middle of Rosemount between CSAH 31/33 and CSAH 73. The construction of such a principal arterial is at the heart of Eagan's concerns with traffic generated by development in Rosemount and other communities further to the south and east.

3. The *Dakota County 2025 Transportation Plan* also suggests that the TH 3 corridor south of CSAH 42 be considered as a Principal Arterial. Also, the segment between Inver Grove Heights and Farmington is expected to experience a capacity deficiency over the next 20 years, assuming no additional highway improvements are made. Although the Rosemount's draft plan identifies capacity improvements to TH 3 within its borders, from CSAH 46 to CSAH 38, this only addresses a portion of the forecasted deficiency. This further highlights the need for a broader study for a possible north/south arterial as suggested by the *Dakota County 2025 Transportation Plan*.

4. The draft Transportation Plan does not mention the possible International Air Cargo facility which is currently being discussed. Should this proposal materialize, significant burdens would be placed on the TH 55 and TH 3 corridors in the City of Eagan. While Eagan has no objections to the construction of an International Air Cargo facility in Rosemount, the regional impact of such a facility must be addressed.

5. The draft Transportation Plan identifies Bacardi Ave and Gun Club Rd as a Minor Collector street with a future extension and connection to TH 3 near 120th St. This collector designation along Gun Club Rd. (shared jurisdiction) is inconsistent with the City of Eagan's classification of it as a local residential street. Further dialogue is necessary to coordinate an appropriate functional classification from both Cities' perspective.

Thank you for the opportunity to review and comment on your draft Transportation Plan. Please let us know if we need to clarify or expand on any of our comments. We will look forward to working with the City of Rosemount on those issues of common and/or regional significance.

Sincerely,

Thomas A. Colbert, P.E.
Director of Public Works

G:\TransIssues\RsmtTransPlan\Comments, 3-09-06

Rosemount Transportation Plan
Response to City of Eagan Comments on January 2006 Draft

Comment 1: *The functional classification information for CSAH 71 was taken directly from the Metropolitan Council functional classification network.*

Comment 2: *Information on the Dakota County identification of a potential need for a North-South Principal Arterial Study has been added to Section 3.2 under the Dakota County 2025 Transportation Plan heading.*

Comment 3: *Information on the Dakota County identification that TH 3 south of CSAH 42 could be considered to become a principal arterial has been added to Section 3.2 under the Dakota County 2025 Transportation Plan heading. Remainder of comment noted, but beyond the scope of a City of Rosemount response.*

Comment 4: *The traffic forecasts shown on Figure 4.2 do not assume the potential Air Cargo facility. Text has been included in Section 4.2 to give background on this issue.*

Comment 5: *The identification of Gun Club Road on Figure 5.2 as a collector roadway is predicated on the assumption that it will ultimately be extended to the west and east to connect with TH 3 and CSAH 71, respectively. These are "A" minor arterial roadways, and the roadway spacing depicted on Figure 5.2 suggests this would be a logical location for a collector roadway. The City looks forward to coordinating further with the City of Eagan on this issue.*

TANNER, HAMILTON & ASSOCIATES, P.A.

755 Westview Drive
P.O. Box 65
Hastings, MN 55033

Attorneys and Counselors at Law

TELEPHONE (651) 437-8037
FAX (651) 437-1731

DAVID E. TANNER+
MICHAEL G. HAMILTON*

January 24, 2006

Mr. Andy Brotzler
Rosemount City Hall
2875 145th Street West
Rosemount, MN 55068-4997

RE: **Comprehensive Plan Amendment - Rosemount Transportation Plan**

Dear Mr. Brotzler:

As I discussed with you by telephone yesterday, our office represents Nininger Township. In that capacity we have reviewed the Rosemount Transportation Plan and find it to be in order except for a concern about the Highway 52 inter-regional corridor outlined on page 13 of the January draft. One of the recommendations in that document is to close the Pine Bend Trail access after reconstructing the CSAH 42/TH 52 interchange. I am not quite sure what this means, but assume it means that the Pine Bend Trail intersection at Highway 55 would be closed. I am concerned that traffic on Pine Bend Trail would be greatly impacted. As I read the map and drive the road, there are currently only three (3) exits for Pine Bend Trail, the westerly most at the Highway 52/55 intersection, one at Fahey Avenue and the easterly most at Highway 55 between Goodwin and Fisher Avenue. The effect of closing the westerly most intersection would be to divert all traffic to either Fahey Avenue or Pine Bend at 55 by the Emerald Greens Golf Course. Neither Fahey nor Emerald Greens would be a favorable intersection because of the heavy industrial traffic generated at the commercial properties on Pine Bend Trail. I assume that there is some other alternative to closing the westerly most end of Pine Bend Trail, but it is not indicated on the Plan. Would you please review this matter and take it into consideration when further revising your Transportation Plan.

If you have any questions please feel free contact me.

Very truly yours,

/s/

David E. Tanner

DET:kss
File No. 4118.0006
cc: WSB & Associates, Inc.
Bob Rotty

+ qualified neutral under Rule 114 of the Minnesota General Rules of Practice
* also admitted in Maryland

Rosemount Transportation Plan
Response to Nininger Township Comments on January 2006 Draft

General: *It is correct that closure of access to TH 52 at Pine Bend Trail as recommended in Mn/DOT's TH 52 Interregional Corridor Management Plan means that the Pine Bend Trail intersection at TH 52 would be closed upon reconstruction of the CSAH 42/TH 52 interchange. Information has been added to the Rosemount Transportation Plan to further clarify that the source of this recommendation is Mn/DOT's document. The City of Rosemount can discuss this matter further with Nininger Township, but it is really an issue under Mn/DOT's control.*

APPENDIX B

TRAVEL FORECASTING MODEL AND METHODS

TRAVEL FORECASTING MODEL AND METHODS

Travel forecasting is based upon computer modeling which uses land use and population data in conjunction with transportation network information to determine future roadway deficiencies and needs. The projections for this Transportation Plan were performed by WSP & Associates, Inc. (WSB) using a software program by Citilabs called Viper. This is the most recent version of a TranPlan, which has been one of the most widely used travel forecast software products available.

Viper can be used to simulate current and future traffic conditions. For this Plan, it was used to prepare city-wide model allowing traffic projections on a system-wide basis. The model is dynamic, such that assumptions can be revised as future land uses are developed and new roadways are constructed. For use in this Plan, the development and use of the Rosemount travel forecasting model involved the steps discussed under the headings below.

Data Collection

The data used for the analysis in this Plan was collected by WSB staff. This included existing traffic data and information on the existing and anticipated roadway network. Information regarding existing and future land use and population was generated based upon a 2030 land use plan for the City of Rosemount (***Figure 4.1*** of the main document). This plan is a combination of the 2020 land use plan for Rosemount found in the *2020 Comprehensive Plan*. Regional traffic forecast information was obtained from Dakota County, Met Council, and Mn/DOT sources.

Traffic Analysis Zone System

Land use and population data for the transportation planning process is organized and assigned according to Traffic Analysis Zones (TAZs). The system used was based upon the Metropolitan Council zones, with some refinement appropriate to the local analysis. Each TAZ has trip generation and attraction characteristics determined by the data assigned to it as referenced above. ***Figure C-1*** illustrates the current TAZ boundaries. ***Table C-1*** outlines the population, household, and employment data by TAZ.

Table C-1 Rosemount TAZ Data

Year 2000				
TAZ	**Population**	**Households**	**Retail Employment**	**Non-Retail Employment**
221	4,592	1,439	117	1,029
222	8,074	2,549	41	1,087
223	1,682	663	65	792
224	40	16	0	1,065
225	64	25	0	973
226	53	17	0	487
227	277	97	18	669
Year 2030				
TAZ	**Population**	**Households**	**Retail Employment**	**Non-Retail Employment**
221	4,530	1,665	400	932
222	10,575	3,820	125	1,264
223	22,075	8,220	343	1,800
224	14	5	111	2,110
225	55	20	25	1,413
226	41	15	106	2,538
227	4,710	1,805	93	940

Trip Generation

Vehicle trips are classified into purpose categories: Home Based Work (HBW), Home Based Nonwork (HBN), Home Based Other (HBO), and Non-Home Based. The differing types of trips have significance in how the model relates trip productions and attractions to each other and, accordingly, how it matches origins with destinations for individual trips. The primary trip types determined as part of this forecasting process are:

> Through trips—these trips do not have origins or destinations within the study area (the City). These trips, for the purposes of this study, were based on regional forecasts by Dakota County, Mn/DOT, Met Council, as well as historical trend analysis of traffic levels in the overall project area.

Internal trips—these trips begin and end within the study area. The numbers of trips produced and attracted are based on the population and land use data assigned to each TAZ.

External to internal trips—these are trips generated from outside the study area but have destinations within the City. These trips are based upon the number of "attractions" within the City balanced against internal trip productions and external trips which would not pass completely through the City based upon Met Council forecast information.

Internal to external trips—these are trips generated inside the City with destinations elsewhere. These are based upon trip productions within the City balanced against internal "demand" for these trips and regional traffic patterns.

Transportation Network

The roadway network used in the model includes all arterial and collector roads as well as primary local streets. For 2025 analysis, the network used included all existing roadways plus primary anticipated improvements included on ***Figure 4.2*** of the main document.

Trip Distribution/Route Assignment

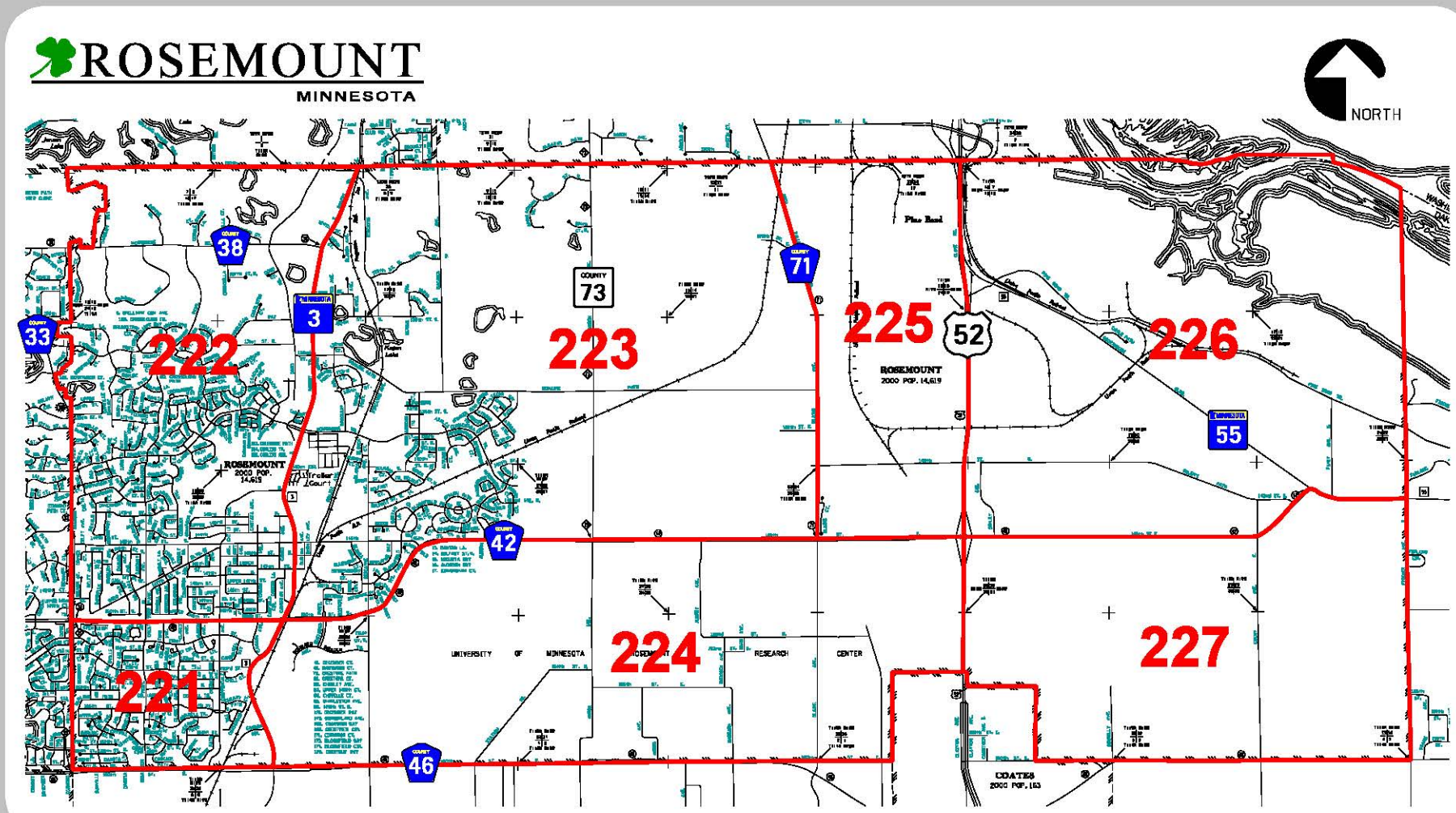
For individual trips, origins and destinations are matched between TAZ areas, based primarily on a system-wide balance between trip generations and trip attractions, and relative distances between them. Once the trips are distributed between TAZ areas, they are assigned to individual routes (streets) in a way which minimizes delays on the network. This assumes that motorists will choose the route between origin and destination which minimizes travel time. The model performs iterations to balance all trip productions and attractions and minimize delays.

Model Calibration

The National Council of Highway Research Program (CHRP) Circular 255 was used to determine the maximum allowable difference between modeled trip volumes/route assignments and actual traffic counts. In the analysis used for this Plan, the modeled outputs for 2000 were compared with observed traffic counts. Some adjustments to road capacity and vehicle travel speeds were made to calibrate the model results to observed conditions.

Future Traffic Levels

Once the travel model for the City was established and calibrated as described in the preceding steps, it was ready to be used for forecasting purposes. To perform forecasting, future land use and population information data (as discussed above) was loaded into to the model, organized according to TAZ areas. The model performs iterations to generate, distribute, and assign total trips throughout the overall network.



City of Rosemount, Minnesota
Transportation Plan

Traffic Analysis Zones

Figure B-1

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WSB Filename: T:\01005-57\Cad\Fig-B-1.dgn

APPENDIX C

TRANSIT PLAN

Approved by City Council August 4, 2008

ROSEMOUNT TRANSIT PLAN

JULY 2008

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Table of Contents

1.0 INTRODUCTION

Background

The City of Rosemount is a rapidly growing community in Dakota County located approximately 15 miles from downtown St. Paul and 20 miles from downtown Minneapolis. As local and regional travel demand grows, congestion conditions worsen, and gas prices rise, the City wishes make transit a convenient and viable alternative for its residents. The City also intends to proactively plan and advocate for Park-and-Ride facilities that will benefit and enhance the community.

This document will be included by reference into the Rosemount Transportation Plan, which, in turn, will be referenced into the City of Rosemount 2008 Comprehensive Plan Update.

Currently, there are no transit facilities in the City of Rosemount. The primary issue surrounding transit service or lack of transit service in the City is outlined below:

A. Minnesota Valley Transit Authority (MVTA) service equity.
B. Transit service need.
C. Transit funding.

Each of these issues is discussed in detail below.

A. Minnesota Valley Transit Authority and Service Equity Concerns

In 1982, the state legislature gave cities in the Metropolitan Transit Taxing District area the option of "opting out" of the Metropolitan Transit Commission (the forerunner of Metro Transit). The issue that this legislation addressed was that a number of suburban communities were paying substantial funding (raised through local property taxes) to support MTC operations, but were not receiving corresponding service. With this 1982 legislation, funding was to continue to be raised in the same manner for the Opt Out communities, but the majority of it was retained by the cities to operate transit which best met their needs.

In response to this legislation, the Cities of Prior Lake, Savage, Burnsville, Apple Valley, Eagan, and Rosemount opted out and joined to form the Minnesota Valley Transit Authority (MVTA). In the early 2000s, the City of Prior Lake withdrew from MVTA. MVTA's service area, as well as Metro Transit and the other opt out providers, is illustrated on ***Figure 1***. MVTA's service has focused on express service to downtown Minneapolis, and to a lesser degree to downtown St. Paul and other employment centers. Park-and-Ride facilities are a very important part of MVTA's operations.

Rosemount has been a member of MVTA since its inception but has no transit facilities and only one flex route bus. The City's position is that a transit facility within Rosemount and associated MVTA service is needed and overdue. **As stated in the MVTA's 2007-2008 Strategic Priorities, one of their core values as a provider is "Fairness and Equity" of service for its**

member communities. A summary of transit payments that the City has made over the past five years is summarized in the table below.

Summary of Rosemount Payments to Transit Fund

	2003	2004	2005	2006	2007	2008 (Estimated)
Motor Vehicle Sales Tax	$684,496 (7.27%)	$742,549 (7.65%)	$736,382 (8.12%)	$740,276 (8.57%)	$778,843 (9.22%)	$810,195 (9.60%)
Property Taxes	$215,926 (7.25%)	$245,841 (7.74%)	$260,127 (8.23%)	$315,631 (8.83%)	$304,452 (9.24%)	$328,682 (9.59%)
Total	**$900,422**	**$988,390**	**$996,509**	**$1,055,907**	**$1,083,295**	**$1,138,879**
MVTA-Area Share	7.3%	7.7%	8.1%	8.6%	9.2%	9.6%

Source: Metropolitan Council

Minnesota Vehicle Sales Tax (MVST) is a tax on all motor vehicles sold in the state of Minnesota. Based on the location in which the vehicle is titled, statistics are drawn as to the amount of motor vehicle sales tax that is paid by each community. The property tax transit payments are based on a percentage for each county. For Rosemount residents, this is between 2.5% and 3% of the property valuation. All of these monies are collected through the State of Minnesota and distributed to each transit provider based on specific formulas.

All of the other MVTA cities have Park-and-Ride facilities and scheduled, fixed-route transit service. By comparison, Rosemount has no Park-and-Ride facility, and only has Route 420 which provides flex route service during the a.m. and p.m. peak travel times. Rosemount has the population base and has contributed to the budget where commuter express services and permanent transit facilities should be provided in the community.

To compare what Rosemount residents contribute financially versus what the City has received in service over the years, it is illustrative to evaluate costs associated with Route 420. This service is analogous to paratransit service the Metropolitan Council contracts through Metro Mobility and other operations. Typically, the Metropolitan Council pays approximately $50/hour for this service. At this rate, Rosemount receives approximately $100,000 per year worth of Route 420 service while expending almost $1 million per year for transit services. While City residents can and do use the Park-and-Ride facilities in other communities, these are not as convenient to most residents as a strategic Rosemount location would be, and this raises equity and fairness concerns relative to MVTA's service area and operations. A Park-and-Ride facility would also relieve congested conditions at other MVTA facilities.

As of July 2008, the Metropolitan Council has reached an agreement with MVTA and the City to establish a temporary Park-and-Ride location within Rosemount and dedicate two buses to this facility with service to downtown Minneapolis. This commuter service will provide two northbound trips in the morning, and two southbound trips in the afternoon. As will be further

discussed later in this report, the City welcomes this effort and anticipates it to be continued and enhanced in the near future.

As discussed previously, the City has been a member of MVTA since its inception in the early 1980s, with yet limited service in comparison to transit funding contributions. The City's goal is to provide transit facilities and services for its residents in a fiscally responsible manner. Therefore, if in the City's opinion, there continues to be a lack of "Fairness and Equity" in the facilities and services provided by MVTA, the City may begin to explore alternatives to MVTA-provided transit service.

B. Transit Service Needs

Transit service for suburban areas such as Rosemount is a commitment that both the Metropolitan Council and MVTA have made. Studies throughout the country have shown that there is a need for transit services in suburban areas. One such study is the Transit Cooperative Research Program (TCRP Report 116) "Guidebook for Evaluating, Selecting, and Implementing Suburban Transit Services." This study outlines several transit services that are tailored to the specific needs of the service areas. These services include:

Fixed Route Service – This is the most commonly deployed transit service, fixed routes are routes that follow a predetermined alignment and schedule.

Diverted Fixed Routes – A diverted fixed route service is one in which vehicles have the flexibility to move off a given route to service specific demands of an area. This is a service similar to Flex Route 420 currently in Rosemount.

Demand Responsive Service – This type of service is sometimes called "Dial-a-Ride." This is a service similar to the existing DART service within the City of Rosemount.

Subscription Services – A subscription service is a tailored transit service for specific individuals which have paid a fee. This service is typical of a van pool type service.

There are several key issues that support the need for transit service and facilities in the City of Rosemount. These include:

1. The current (2006) population of the City of Rosemount was 20,207. Based on the Longitudinal Employer-Household Dynamics (LEHD) data, approximately 8,850 Rosemount residents are in the work force. Metropolitan Transit data indicated that approximately 5% of work trips in the Metro region currently use transit service for their daily commute. This suggests approximately 450 Rosemount residents would if available.

2. Although the majority of the City of Rosemount is considered non-transit dependent, Met Council demographics indicate that approximately 1% of the Rosemount population does not own a car and would rely on transit for their mobility needs if available. In addition, with the increase in cost to operate and maintain a vehicle, persons at or below the poverty level will be relying more and more on transit as an alternate means of

transportation. Based on Metropolitan Council demographics, there are approximately 3.3% of the City of Rosemount residents that are considered below the poverty level.

3. Based on Metropolitan Council data, overall transit ridership in the Twin Cities region is increasing. Total ridership for 2007 was 5% greater (4.5 million riders) than 2006. Likewise, the first quarter of 2008 has shown an increase of 5% over that of the first quarter of 2007. In addition, ridership grew by close to 25% between 2004 and 2006 for the Suburban Transit Association providers, including MVTA.

4. The Metropolitan Council's methodology for projecting Park-and-Ride demand is based on national research and assumes the primary service area for a Park-and-Ride facility is within 2.5 miles of the facility. ***Figure 2*** indicates the Park-and-Ride facilities located adjacent to the City of Rosemount, including the proposed Rosemount Depot Park-and-Ride facility. As can be seen from this graphic, the majority of the City, including the high growth areas in the City, are not currently covered by this 2.5 mile standards. With the addition of the proposed Park-and-Ride facility at the Depot location, the majority of the City, including the growth areas, would be covered.

5. Based on LEHD demographics, there are approximately 440 Rosemount residents that currently work in downtown Minneapolis, 236 residents that work in downtown St. Paul, and 481 residents that work in the I-494 corridor, including the Mall of America and airport area. With congestion on the increase and fuel costs rising, a significant number of these workers could and will ride transit.

6. Based on Metropolitan Council and MVTA studies, approximately 13.4% of the transit riders at the Apple Valley Transit Center Station are Rosemount residents. These residents are currently driving to this facility and other facilities increasing commuting times and costs for Rosemount residents. Future Rosemount commuters are competing for limited parking spaces and seating capacity on buses.

C. Transit Funding

Transit funds for projects in the Twin City metropolitan area and specifically the City of Rosemount is available through several sources. These include:

1. Baseline regional transit funding – This funding source is primarily legislative authorized bonding and supported by the property tax levies and Motor Vehicle Sales Tax (MVST).

2. Federal Congestion Management and Air Quality Improvement Program Funding (CMAQ) – This is a Federal program for congestion management and air quality improvement projects. These projects are awarded based on a solicitation process through the Metropolitan Council typically on a two-year cycle.

3. County Transit Improvement Board Funding – This is a new source of funding established in the 2008 Minnesota Legislative session. This program is being administered by five Metro counties, including Dakota County. Similar to the CMAC

funding, there is a solicitation process for selecting transit improvement projects through this funding source.

The details of each of these funding sources is included in Section 4.0 of this document.

An increasingly important form of transit funding is transitway development. Transitways are defined by the Metropolitan Council as facilities on dedicated right-of-way that provide a travel time advantage over the single occupant vehicle, improve transit reliability, and maximize the potential for transit oriented development. In the area surrounding the City of Rosemount, Cedar Avenue is classified as a transitway. Metropolitan Council further defines that Park-and-Ride facilities, including express route service, should be constructed to support transit growth in both express commuter and transitway corridors. Based on these definitions, the City of Rosemount feels that any Park-and-Ride facility that is located within the City of Rosemount and the associated transit service will be supporting the transitways and express commuter corridors adjacent to the City.

Based on the analysis in this document, the City of Rosemount will be actively pursuing funding for the following activities:

1. A permanent Park-and-Ride facility on or near the temporary Depot Park-and-Ride site, with expanded express service to Minneapolis, St. Paul, and the I-494 corridor.

2. Future study of transit needs in the City of Rosemount, including a potential circulator system. This would be a joint study with the adjacent communities and MVTA.

3. Transit facility development associated with Umore Park.

4. Development of an east-west service line on CSAH 42 to support the Robert Street and Cedar Avenue corridors. The City would partner with Dakota County.

5. A study to determine future Park-and-Ride lot needs and associated Transit Oriented Development guidelines.

6. Develop and promote van pools and car pools in conjunction with future Park-and-Ride lots.

2.0 BACKGROUND DATA/ANALYSIS

2.1 Existing Service and Facilities

Metropolitan Council Transit Market Areas

The Metropolitan Council has established a series of Transit Market Areas (I through IV) throughout the metropolitan region as a guide for the provision of appropriate transit service and facilities. The western, more developed, portion of Rosemount is designated as Market Area III, and the eastern portion of Rosemount is designated as Market Area IV. As defined by the Metropolitan Council in this system, potential service options for Market Area III include peak-only express, small vehicle circulators, midday circulators, special needs paratransit (ADA, seniors), and ridesharing. Service options for Market Area IV include dial-a-ride, volunteer driver programs, and ridesharing.

Existing Service

Regional service for the overall Metro area is depicted on ***Figure 3***. Local service and connections are depicted on ***Figure 4***. As is noted on ***Figure 4***, existing transit service in Rosemount consists of Flex Route 420. This route provides east-west service between the Rosemount Plaza in downtown Rosemount and the Apple Valley Transit Center just east of TH 77 (Cedar Avenue), at 155th Street and Gaslight Drive. From the Rosemount Plaza, the scheduled route runs along 145th Street, 147th Path West, Emery Path, and CSAH 42. The word "flex" signifies that the van will deviate from the standard route to pick up or drop riders "off-route", as long as those pick up/drop off points are within ¾ mile of the standard route. Those who wish to be picked up or dropped off-route request this with a telephone call to MVTA.

Paratransit services in Rosemount are provided by Dakota Area Resources and Transportation for Seniors (DARTS). DARTS is a Dakota County social service agency. Handicapped-equipped vans are used to provide door-to-door rides to County residents to and from any point in the County. The rides need to be requested and scheduled ahead of time. The two categories of trips are: a) American Disability Act (ADA), and b) general dial-a-ride (DAR).

Users of the ADA service need to register with the Metropolitan Council. General DAR service is available to any resident of the County. ADA service is provided between 5:15 a.m. and 7:00 p.m. on weekdays. DAR service is available between 8:00 a.m. and 4:30 p.m. on weekdays. The fares are the same for both the ADA service and general DAR service. The current 2008 fares are:

- Base fare - $2.50 per ride
- Peak travel times (6 a.m. to 9 a.m., and 3 p.m. to 6 p.m.) - $3.50 per ride

For all DARTS service, rides may be formally requested up to four days in advance. They are scheduled on a "first come, first serve" basis. DARTS can usually accommodate same day requests for service.

Existing Facilities

There are five Park-and-Ride facilities that are within driving distance of Rosemount residents:

- Apple Valley Transit Center (AVTC) – 5.5 miles from Rosemount City Hall
- Eagan Blackhawk Park-and-Ride – 9.0 miles from Rosemount City Hall
- Apple Valley Palomino Park-and-Ride – 8.0 miles from Rosemount City Hall
- Eagan Transit Center – 12.5 miles from Rosemount City Hall
- 157th Street Park-and-Ride – 4.0 miles from Rosemount City Hall

The locations of these facilities are depicted on ***Figure 5***. The 157th Street facility is relatively close to Rosemount, but has very limited service. The most attractive of the available sites in terms of service frequency and coverage is AVTC. However, this facility has been significantly over capacity for years. Recently, parking was expanded onto the adjacent Watson's site. This has helped parking demand at the AVTC site. In addition, Blackhawk and Palomino Hills are at or approaching capacity. These facilities have significantly less service than the AVTC. Details of each transit facility are discussed in **Appendix A**.

2.2 Dakota County Transit Plan (draft)

Dakota County is currently preparing a Transit Plan. A draft review copy has been provided to participating agencies including the City of Rosemount. This document builds on the information in the transportation section of the Dakota County Transportation Plan. Key points of the draft Transit Plan relative to this study include the following:

- The County is anticipating continued rapid growth, and highways will see corresponding increases in congestion levels. This reinforces the need for improved regional transit service to remove single-occupancy vehicles from the roadways.
- Much of the County has low-density residential development, and this is projected to continue. Given that density is a key factor determining potential ridership, this makes mid-day, frequent transit service a challenge. More potential exists for expanding express service, and associated facilities, into major employment centers such as downtown Minneapolis and St. Paul.
- The County places a high priority on coordinating with cities to support the development of transit and transit-related infrastructure.
- The County is committed to providing and supporting effective service to transit-dependent individuals through special/paratransit transportation services.
- The County will provide a leadership role and work with its partners to ensure permanent, dedicated and reliable funding sources for transit at the Federal, State, regional, and local levels.

2.3 Cedar Avenue Bus Rapid Transit

Bus Rapid Transit (BRT) is an express transit service on dedicated lanes that provides movement and speed advantages for the buses relative to general traffic. BRT has been designated as the transit technology for the Cedar Avenue Corridor.

Dakota County Regional Railroad Authority has taken the lead on planning and implementing this transitway. It ultimately will extend from the Mall of America Transit Station in Bloomington to CSAH 70 (215th Street) in Lakeville along Cedar Avenue. The Cedar Avenue Corridor is identified on the Metropolitan Council's transitway map (***Figure 6***) as a Tier 1 corridor. The buses will run along the shoulders of the roadway, and transit advantages such as prioritized signal timing will be utilized. The plan as outlined in a corridor study adopted by the Dakota County Regional Railroad Authority in 2004 was to implement the project in five-year phases, as summarized below. These actions will be accelerated with the US Department of Transportation Urban Partnership Agreement, as discussed in Section 2.4, below.

Phase 1: 2004 – 2009

- Completion of environmental documentation and preliminary engineering of the overall transitway
- Continued express bus operations on shoulders of TH 77 portion of Cedar Avenue
- Improvement of shoulders of CR 23 portion of Cedar Avenue to allow bus usage
- Addition/improvement of transit stations and Park-and-Ride lots in the corridor

Phase 2: 2010 – 2014

- Introduction of special low-floor BRT buses
- Increased frequency of service
- Improvement of Palomino Hills Transit Station

Phase 3: 2015 – 2019

- Extension of express service south to a new Park-and-Ride lot in Lakeville
- Intermediate station stops added in southern service area

Ultimately the BRT service may be provided on center-running bus lanes between TH 13 and Palomino, with dedicated bus access to and from the center lanes at the Cedar Grove station (TH 13), and a station stop at Cliff Road.

2.4 Urban Partnership Agreement (UPA)

The US Department of Transportation has initiated a major program to limit congestion on key urban roadways. This program is often referred to as the *Congestion Initiative*. Cities were asked to submit proposals for congestion relief programs to receive federal funding under this program. In 2007, Minneapolis/St. Paul was selected as one of five model cities to receive funding for the projects identified in their proposal. The federal grant amount will be $133 million, including $86 million for transit projects. A local match of approximately $55 million has been secured legislation.

One of the primary projects which will receive substantial UPA funding is the Cedar Avenue transitway corridor/BRT. This funding will accelerate the development of the Park-and-Ride facilities planned for the corridor, allowing them to be completed by end of 2009. It will also fund new projects such as Park-and-Ride facilities in Lakeville that will relieve demand at such facilities further to the north along Cedar Avenue. UPA funding is already committed to specific projects. Further information on UPA funding and projects in the Cedar Avenue corridor is provided in ***Appendix B***.

2.5 Robert Street Corridor Transit Feasibility Study

This study, initiated in 2007, is being led by Dakota County Regional Railroad Authority. The study area, depicted on ***Figure 7***, is generally bounded by Downtown St. Paul to the north, CSAH 31 (Pilot Knob Road) to the west, CSAH 46 to the south, and the Mississippi River to the east. There currently is not extensive transit service in this study area. This factor, combined with anticipated continued development, increasingly congested roadways, and an aging population, create the need to explore potential transit options and improvements.

This study is a long-term, planning level effort to evaluate general alternatives and make recommendations for future evaluation and potential implementation steps. Rather than just TH 3 (Robert Street), it evaluates a number of alternatives/segments including north-south, east-west, and radial (i.e., TH 55) corridors. A project report has not yet been finalized (as of July 2008), but the County has presented study findings and recommendations at various meetings and on the County web site. A Long-Term Corridor Vision has been identified and released by the County, as depicted on ***Figure 8***. From the perspective of Rosemount residents, the most significant features of the Corridor Vision are:

- Light Rail Transit (LRT) or Bus Rapid Transit (BRT) in railroad right-of-way adjacent to TH 3 and TH 149 to the north, with connecting service to downtown St. Paul and the Hiawatha LRT line via express bus service on TH 55.
- Limited stop Bus Rapid Transit (BRT) along CSAH 42

With the anticipated development of the Umore site and growth in the City of Rosemount, the City would encourage the Metropolitan Council to extend any future transitway investigation and/or designation to the Umore site. This would provide opportunities, not only for the City, but for the University of Minnesota to develop and fund transit facilities in the corridor.

It may be noted that the Metropolitan Council's *2030 Transportation Policy Plan* does not identify any intensive transit investments in the Robert Street Corridor between now and 2030. It does call for a study of arterial BRT for Robert Street operating in mixed traffic.

2.6 2030 Transit Master Plan

The Metropolitan Council is in the process of preparing the 2030 Transit Master Plan (TMP) for the Twin Cities Metropolitan Area. The new plan will incorporate regional population, employment, and land-use changes, since the last transit plan was adopted in 1999. The plan will consider ways to respond to new regional projections to the year 2030. The 2030 Transit Plan is proposed to be completed by February 2009.

As part of the 2030 TMP, Minnesota Valley Transit Authority (MVTA) submitted several requests for additional routes impacting the City of Rosemount. These routes include:

- Rosemount/MOA – This route will travel between Rosemount and the Mall of American beginning at the Depot Park-and-Ride. This route will travel through the City of Rosemount and the City of Apple Valley to Cedar Avenue, then north to the Mall of America.
- Rosemount/Minneapolis – This route is proposed to be an express route traveling from the Depot Park-and-Ride in Rosemount north along TH 3 to CR 38 west to Cedar Avenue, then north to the City of Minneapolis.
- Rosemount/St. Paul – This route is proposed to be an express route traveling from the Depot Park-and-Ride along CSAH 42 to TH 52, then north to the City of St. Paul.

2.7 Rosemount Transit Public Involvement

On April 28, 2007, the City held a public meeting at City Hall to gather public input on transit issues. The public meeting was advertised in advance in the Rosemount Town Pages, City newsletter, direct mailings, and City website. Poster boards were displayed showing information on existing regional and local transit service, and other regional transit studies. City staff was available to answer questions and take comments. As part of this effort, a transit questionnaire was prepared and administered.

Twenty residents responded at the Open House (or using questionnaires they picked up at the Open House), and 37 responded to the on-line version of the questionnaire. A summary of the results is provided in Table 2.1.

Table 2.1 Summary of Rosemount Transit Survey Results, 2007

Total Responses	**57**
Number of respondents who currently regularly use bus service to commute to work:	9
Number of respondents who currently use one or more Park-and-Ride lots:	8
Number of respondents who would use a Park-and-Ride lot if one were more accessible to them:	27
length of time respondents (on average) would be willing to travel to a Park-and-Ride lot:	9.3 minutes
Number of respondents identifying as best location for a Park-and-Ride facility:	
- CSAH 42/TH 3	13
- TH 3/CSAH 38	12
- TH 3/160th Street	10
- CSAH 42/TH 52	5
- CSAH 42/Chippendale	4
- Dakota County Technical College	3
- CSAH 42/CR 73	2

In addition to the open house, a Transit Task Force was appointed by the City Council to discuss transit issues and help direct the development of the Transit Plan. This group was made up of City Council representatives, Planning Commission representatives, and local residents who had an interest in improving transit in the City.

3.0 TRANSIT SERVICE ANALYSIS

3.1 Proposed Rosemount Depot Park-and-Ride, Fleet, and Service

The Minnesota Valley Transit Authority (MVTA) submitted a federal funding application in 2007 for the "Depot" Park-and-Ride facility along with associated buses and service. The proposed Park-and-Ride facility would be generally bounded by 145th Street, the CP tracks, and Burma Avenue. Four buses were proposed to be acquired and dedicated to express service between the Depot facility and downtown Minneapolis. Four runs during the a.m. and p.m. peak, respectively, were envisioned.

Although this application was not successful in securing funding, it has been the basis for discussion for approved temporary Park-and-Ride lot and service.

A Park-and-Ride facility within the City would not only provide Rosemount residents with more convenient access to express service, but would also relieve existing MVTA Park-and-Ride facilities in the area, which are over or approaching capacity . Roughly half of those who completed the transit survey conducted by the City of Rosemount in 2007 as discussed previously stated that they would use a Park-and-Ride facility if one were more convenient to them.

As documented in the 2007 federal funding application for the Depot facility and operations, MVTA estimates that ridership would be 280 per day. This assumes four buses operating at approximately 90 percent capacity making direct runs between the Depot Park-and-Ride location and downtown Minneapolis during the a.m. peak, and four return runs in the p.m. peak. A specific route was not identified in the 2007 CMAQ funding application.

Using the methodology and land use assumptions from the Metropolitan Council's 2005 Park-and-Ride Plan, the theoretical demand for Park-and-Ride vehicle spaces for a downtown Minneapolis destination is as follows:

- Year 2010 – 380 spaces
- Year 2020 – 520 spaces
- Year 2030 – 750 spaces

(Please note: these estimates only include projected commuters to downtown Minneapolis, not St. Paul)

The above parking estimates assume some reduction in demand due to the 157th Street Park-and-Ride based on Metropolitan Council guidance. These estimates appear to be high based on MVTA's estimate for ridership. However, it gives further evidence for the need for Park-and-Ride capacity at this location based on the Metropolitan Council's methodology.

The estimated costs associated with the proposed service supporting the Depot Park-and-Ride facility as presented in MVTA's federal funding application are summarized in **Table 3-1**, below.

Table 3-1 Direct Express Service to Minneapolis – Estimated Costs (MVTA)

Capital Costs		
Buses	4 x $345,000	$1,380,000
Park-and-Ride Lot		$562,000
Total Capital Costs		**$1,942,000**
Operating Costs		
Platform Operating Hours	3,4680 hours/yr x $90/hr	$312,120
Revenues	71,400 riders x $2.25/rider	$160,650
Net Operating Costs	$312,120 - $151,470	**$151,470**
Subsidy per Passenger	$151,470/71,400	**$2.12**
MVTA Average Subsidy (2006)		**$3.98**

These costs are considered relatively small in relationship to the tax dollars which Rosemount residents contribute to MVTA. As presented in Section 1.0 of this report, the average tax revenue from Rosemount residents provided to MVTA over the past five years has averaged approximately $1,000,000 per year and has increased steadily every year.

The 2007 Metropolitan Council transit system performance evaluation indicates that the average operating subsidy for MVTA is $3.98 per passenger. As indicated above, the anticipated operating subsidy for the expanded express service from Rosemount to Minneapolis would be $2.12 per passenger. This is significantly less than the average for the MVTA system.

3.2 Future Transit in Rosemount

Most of the demand for scheduled transit service in Rosemount and adjacent communities is associated with express commuter travel to major job centers. This factor is anticipated to continue, and shapes the discussion provided in this section.

Within Section 3.2, the City provides several locations for potential future park-and-ride locations. The City acknowledges that these park-and-ride locations are not within the Metropolitan Council's Transportation Policy Plan, but the City believes that it is important to consider transit improvements, including park-and-ride locations, that would either become feasible because of the growth depicted within the City's 2030 Comprehensive Land Use Plan or would help to facilitate the growth depicted within the Plan. The City anticipates working with our transit provider and the Metropolitan Council to include the City's proposed park-and-ride facilities into future versions of the Metropolitan Council's Transportation Policy Plan.

A. Short-Term Issues and Planning

The City of Rosemount's residents have not received transit service and facilities commensurate with the tax dollars they have contributed towards MVTA over many years. Roughly half of those who completed the transit survey conducted by the City of Rosemount in 2007 of this Transit Plan stated that they would use a Park-and-Ride facility if one were more convenient to them. In 2007, MVTA did apply for federal CMAQ funding for a Park-and-Ride facility in downtown Rosemount and associated direct service to downtown Minneapolis. While this application was not funded, it documented the need for such a facility and associated service.

In coordinating with the Metropolitan Council, MVTA has recently agreed to begin providing express transit service directly to Rosemount residents. This service, anticipated to commence in September 2008 will use a temporary Park-and-Ride lot. Two buses will be dedicated to this service. From the Park-and-Ride lot, each bus will make a northbound run to downtown Minneapolis via the 157th Avenue Station during the a.m. commuter rush. During the p.m. commuter rush, each bus will make a southbound run to bring workers home.

The City welcomes this service and anticipates that it will be sustained and enhanced in the near future. A permanent Park-and-Ride facility will be required. While the initial service to be provided will include two 40-foot buses to downtown Minneapolis, MVTA projects (2007 CMAQ funding application) that ridership demand from Rosemount at 280 per day, necessitating four dedicated buses. In consideration of the employment base in downtown St. Paul, an express route to St. Paul should also be included in future funding applications.

A Park-and-Ride facility in downtown Rosemount will function as part of the Cedar Avenue transitway. Instead of Rosemount residents going to other cities' Park-and-Ride facilities, the Rosemount service will feed into the Cedar Avenue transitway. The City believes that facilities and service from Rosemount should be considered a part of the larger Cedar Avenue transit system and be eligible for transitway funding. Improved transit operations in the Cedar Avenue corridor are a high priority within the region, and UPA funding will accelerate planned improvements significantly. Linkage between Rosemount and the Cedar Avenue corridor could be provided via CSAH 42 or CSAH 38 (McAndrews Road).

The City, again, is excited and welcomes the proposed transit facilities and services discussed above. However, there still is concern with the "Fairness and Equity" of facilities and services within the MVTA service area. As previously noted, should these concerns continue, the City may begin to explore the option of opting out of the MVTA.

B. Longer-Term Issues and Planning

At least one permanent Park-and-Ride facility will be required in Rosemount. One site to be further investigated is the Depot site. The City will coordinate with MVTA to investigate this and other sites as appropriate.

It is important for the City to consider potential future locations for Park-and-Ride facilities from the perspective of general land use planning and control. Relative to the potential longer term

need for Park-and-Ride capacity, significant planning issues to consider are covered under the following headings.

Planning Considerations

Future Land Use

Park-and-Ride transit stops should be located in proximity to residential areas so residents can easily access them, potentially by walking and/or biking. The City's 2030 Land Use Plan is included as ***Figure 9***. The City anticipates a significant amount of development in the easterly portions of Rosemount that are currently undeveloped. It can be seen that High Density Residential is identified for the CSAH 42/Akron Avenue (CSAH 73) intersection representing a potentially attractive location for a Park-and-Ride facility.

University of Minnesota Outreach Research and Education (UMore)

The University of Minnesota's Outreach Research and Education (UMore) Park Area is depicted on ***Figure 10***. This area, 5,000 acres in size, is currently undeveloped. In 2006, the University of Minnesota commissioned an extensive study to evaluate alternative approaches to manage and/or develop the site. The recommended approach which has been adopted by the University's Board of regents has been to pursue development of a residential community in a manner using sound planning principals to limit environmental impacts and promote active and healthy living. The approach recommended by the University's lead consultant for the project calls for redevelopment of the area over the next 20 to 30 years, with the potential for 20,000 – 30,000 residents.

If the UMore residential development does, in fact, move forward, this would significantly enhance demand for transit facilities in the Rosemount area. One of the goals of the development would be to use sustainable practices, which would include the use of transit to the greatest degree feasible.

Preliminary plans for the Umore site show transit station locations within the development. In addition, the Robert Street corridor plan shows a direct connection into the Umore development site (see ***Figure 8***). The City will continue to work through the development review process in locating and developing transit facilities within the Umore Park development.

Future Transit Service Routes

Any Park-and-Ride facility would have to be located adjacent to limited stop transit service. Transit vehicles should not spend substantial time going off-route to pick up riders because this decreases the time-attractiveness for other riders and the overall service. Thus, it is important to consider where future transit service through Rosemount may be located.

Based on study and recommendations by Dakota County (see ***Figure 8***), it is considered unlikely that express transit service will be provided along TH 52 in the vicinity of Rosemount in the foreseeable future. Metro Transit staff has indicated that their agency is not planning service in this corridor. There is limited population in this corridor to support express service to major employment centers.

According to Metro Transit staff, it is unlikely that express or other transit service would ever be implemented within the TH 3 roadway right-of-way because its alignment is too circuitous for efficient bus operations. The most viable option in this general corridor is railroad right-of-way east of TH 3. As seen on ***Figure 8***, Dakota County has identified this as a Potential Transitway, with either LRT or BRT operations. If this transitway is implemented, it likely would have a long term timeframe.

An important potential future service line to consider is along CSAH 42. As is indicated in Section 2.5 of this Transit Plan, all of the alternatives currently identified for future study in Dakota County's Robert Street Corridor Transit project (***Figure 8***) include east-west BRT service along CSAH 42. From the perspective of Rosemount commuters, the primary importance of such enhanced bus service would be to link to Cedar Avenue BRT service. CSAH 42 bus service would not have to be full-scale BRT, as is currently being considered in the Robert Street Transit Corridor study. It could include other general transit advantage measures, such as bus-only shoulders and/or signal prioritization, to be effective.

Circulator Transit Service

With the growth of employment centers and retail hubs in the southeast Metro area, a need for a reliable circulator transit system is becoming more evident. This type of service would operate on a limited regular schedule, providing access to the employment centers and retail hubs throughout the area. This type of service would require commitments from not only MVTA as the operator, but the local communities in the area that would benefit from the service. This circulator system should be studied in partnership with MVTA and the communities adjacent to the City of Rosemount to determine need and potential service routes.

Potential Park-and-Ride Locations

Potential future Park-and-Ride locations have been identified for longer-term consideration. These locations are depicted on ***Figure 11***. Using the Metropolitan Council's methodology for estimating parking demand at Park-and-Ride facilities, Table 3-2 provides generalized demand estimates. The Metropolitan Council's methodology for estimating demand for given Park-and-Ride locations is based on information according to transportation analysis zones (TAZs). These TAZs have been established by the Metropolitan Council for use of the Council's regional traffic forecasting model, and transportation-related information is organized according to this system. The Metropolitan Council has estimated demand for each TAZ in the region for trips to downtown Minneapolis and downtown St. Paul, respectively. The TAZs within the area of the proposed Park-and-Ride sites are identified and the Metropolitan Council information used to project parking demand for those sites.

Regarding Table 3-2, it should be noted that the locations identified are individual alternatives, and thus that the demand estimates are not cumulative between the locations. The Metropolitan Council methodology for projecting Park-and-Ride demand calls for the values for each TAZ identified in the Council's "Regional Park-and-Ride Demand Estimation Model" spreadsheet to be doubled. This is because those values are for a demand within a 2.5 mile radius, which is assumed to be approximately 50 percent of the overall draw. Since Table 3-2 provides

generalized estimates for longer term options, the effect of the potential draw of other Park-and-Ride facilities is not included. The 157th Street Park-and-Ride currently has very little use.

Table 3-2 Projected Park-and-Ride Demand – 2005 Met Council Methodology and Assumptions

Location	Vehicle Space Demand		
	2010	2020	2030
CSAH 42/TH 52	50	200	300
CSAH 42/CSAH 73	150	350	500
CSAH 42/TH 3	550	700	1,100
TH 3/CSAH 38/Biscayne	450	600	850

Note: these estimates do not include the development associated with UMore Park. **They include ridership to downtown Minneapolis plus St. Paul**

CSAH 42/TH 52

This location would serve the future development planned for this interchange area, as well as other local and regional commuters. It most likely would support bus operations along CSAH 42, carrying passengers to Cedar Avenue BRT and/or points west.

CSAH 42/Akron Avenue (CSAH 73)

A key consideration for the attractiveness of this location will the potential development of the UMore site as discussed above. If this site is developed, it would be close enough to the CSAH 42/CSAH 73 location such that UMore residents could walk and/or bike to the transit stop. The development of a facility at this location would be dependant on bus service along the CSAH 42 corridor.

CSAH 42/TH 3

This site is attractive because of its proximity to a large number of residences and is at the intersection of two arterial roadways for good vehicular access.

TH 3/CSAH 38/Biscayne Avenue

It is unlikely that bus service will be provided north on TH 3 at this location because of hilly/winding conditions. However, if a transitway is developed in the railroad right-of-way adjacent to TH 3, a potential location for a Park-and-Ride to support this service would the intersection of TH 3 and Biscayne. Although a Park-and-Ride at this location would not be serviced by buses on TH 3, there would be potential for service from this location along CSAH 38 to the Cedar Avenue corridor. Residents could access this location via TH 3 or CSAH 38 (McAndrews Road), both of which are arterial roadways.

Van Pool / Car Pool

Van pools and car pools are an important function of the Park-and-Ride facilities proposed in the above section. These Park-and-Ride facilities not only will support fixed route or other types of transit service, but will support locations at which van pools and car pools can originate. The Metropolitan Council operates a van pool program called "VanGo," which is a program that can

be utilized for Rosemount residents. Van pools are made up of 5-15 people commuting to and from work together on a regular basis. Typically, the monthly van pool costs average approximately $100 per month, per person. One of the requirements of the VanGo program is that the service must not duplicate any of the Twin Cities' public transportation system services. With minimal fixed route or other service to the City of Rosemount, having van pools begin and end at the Park-and-Ride locations would qualify for this service. The City will work with Metropolitan Council and local residents in providing adequate parking and promoting and developing van pools and car pools.

3.3 Park-and-Ride Design Considerations

A basic approach for implementing Park-and-Ride facilities will be based on the needs at each specification location. Demand for Park-and-Ride capacity can be projected using established methods. However, on a location-by-locations basis there will always be some uncertainty as to what the demand would actually be. The basic types of Park-and-Ride facilities are as follows:

1. Park and Pool – A surface lot could be established at a location where there currently is not transit service, but such service is anticipated in the future. Travelers would coordinate and meet at this location such that only one vehicle (car or van) would carry multiple commuters to a common downstream employment area.
2. Park-and-Ride Surface Lot – A park-and-pool lot could then be converted to a Park-and-Ride lot when transit service is actually introduced. The demand for spaces and surface area would then be increased significantly.
3. Expanded Park-and-Ride Surface Lot – As Park-and-Ride demand grows, area should ideally be established ahead of time for potential expansion of the surface lot.
4. Structured Parking – As Park-and-Ride demand outgrows the ability to expand the parking capacity on the surface level, the facility may vertically expand with structured parking on an additional level or levels.
5. Transit Center – Park-and-Ride facilities can be further developed into transit centers where multiple transit lines meet with timed transfers.

Successful design of Park-and-Ride facilities addresses and balances the following factors:

- Ease of access – To maximize utilization, motorists should be able to readily access the facility without having to travel far from arterial roadway. Likewise, transit buses should be able access the facility without traveling far from their line haul route to maximize route efficiency. Access points should meet all applicable requirements and guidelines for sight distances, turning radii, and other access design elements.
- Separation of Modes – Access for different modes should be well organized and separated to the degree feasible to minimize conflicts and maximize efficiency of the various operations. Factors to consider include separate access driveways for transit and non-transit modes, as well as a designated access point for "drop-and-ride" activities. Non-motorized access needs to be properly accommodated.

- Sufficient bike storage and pedestrian accessibility – For Park-and-Ride facilities to be truly multi-modal, they should effectively accommodate non-motorized travelers. Bike lockers are non-motorized versions of vehicle stalls and need to be included.
- Aesthetic integration into the surrounding community – Park-and-Ride facilities should be clearly visible from the roadway with unambiguous access design, but at the same time should fit the surrounding context to the greatest degree feasible. For surface facilities, this would include measures such as appropriate site location and configuration, and attractive landscaping and lighting. Large, featureless expanses of pavement/vehicles should be avoided. For structured parking, attention to basic architectural design quality and appropriate materials should receive a high priority.
- Comfort, Safety, and Security – Users of the facility should feel comfortable and secure when using the facility. Measures to address this would include effective lighting, minimizing required walking distances, and sheltered/heated waiting areas. A balance should be struck between having the facility fitting unobtrusively into its context (see above) versus having parked vehicles be visible for security purposes. Surveillance cameras should be considered for personal and property security purposes.
- Transit Oriented Development (TOD) – Park-and-Ride lots can be incorporated into broader land use development areas that feature mixed land use, relatively dense development, and enhanced walkability. TOD is discussed in greater detail in the following section of this report.

Any Park-and-Ride facility in Rosemount would likely be developed and constructed in partnership with the Minnesota Valley Transit Authority and/or Dakota County and/or the University of Minnesota (UMore Park). Detailed design considerations regarding factors such as private vehicle access points and circulation, and bus access and passenger collection configurations, would be coordinated with those agencies meeting all applicable standards and guidelines.

3.4 Transit Oriented Development

Overview

Transit Oriented Development (TOD) is a concept which is increasingly being considered and implemented in Twin Cities' metro area and elsewhere. The basic premise is to concentrate a mix of land uses and activities in close proximity to a transit stop such that the transit ridership and the TOD-based activity will support each other. The core principals of TOD development are summarized under the following headings.

Compact Development - Medium to high density development in proximity to a transit station means that more people and activities will be within a walkable distance from the transit stop. The Metropolitan Council considers approximately ¼ mile to be a comfortable walking distance.

Mix of Land Uses - Mixing land uses such as residential, retail, and office within walking distance of the transit stop means that the stop will be both an origin and a

destination for trips at the station. From a broader planning perspective, mixed land use should have the affect of reducing the need for vehicular trips, because residents in the TOD area can easily access local jobs and shopping opportunities, workers can access retail and services, and so forth.

Pedestrian Orientation - A central component of the TOD concept is walkability, such that there is attractive non-motorized access between land uses within the TOD area, and between those land uses and the transit stop. Some of the basic walkability goals would be street-facing buildings on a network of pedestrian-scaled streets on a grid pattern, attractive streetscaping, and appropriate traffic control at pedestrian crossing points.

Transportation Interfaces - Different travel modes need to be effectively linked for TOD to be successful. This includes transit, pedestrian, bicycle, and vehicular. While the TOD concept is based on a reduced need to use private vehicles, there will still be a need for vehicles to be appropriately accommodated. This could include Park-and-Ride capacity such that people could drive to the transit stop, take transit to work and back, and then shop within the TOD area prior to driving home at night.

Considerations for Rosemount

The City of Rosemount is currently undertaking a downtown revitalization effort which will increase the mix of land uses and overall development densities. As envisioned by the City, this redevelopment will be generally consistent with the TOD approach, and would be compatible with the Depot a Park-and-Ride location (145th Street and Burma Avenue) as depicted on ***Figure 8***.

In reviewing other potential locations for TOD development, it is helpful consider existing and future land use as envisioned on ***Figure 9***, along with potential Park-and-Ride locations as identified on ***Figure 11***. The City anticipates continued residential land use in the vicinity of the TH 3/CSAH 38 location, so rezoning would have to take place to allow retail, office, or other uses to take place there. For the other potential Park-and-Ride locations, the adjacent areas either have or are planned to have a mix of land uses which would be consistent with a TOD approach.

The basic components of TOD, including mixed land use, medium to high density development, walkability, and effective multi-modal accommodation, are planning goals which have value in their own right, even if transit is not part of the limited development process. The City should continue to promote these concepts in developing and/or redeveloping areas with an eye towards potential integration with transit service, primarily at the locations identified as candidates for Park-and-Ride facilities (with the exception of the TH 3/CSAH 38 location as discussed above).

4.0 TRANSIT FUNDING SOURCES

The primary sources of transit funding in the Twin Cities metropolitan area are summarized below:

Baseline Regional Transit Funding

For years, regional transit operating costs (driver wages, administrative costs, utilities, etc.) over and above fare box recovery were funded primarily by local property taxes, with significant contributions also from the state general fund. Beginning in 2001, property taxes could no longer be used for this purpose, and they were replaced by the Motor Vehicle Sales Tax (MVST). Allocations from the state general fund continue to represent a significant portion of transit operating funding in the metro region.

Funds for capital costs, including vehicles, facilities, and equipment, are allocated by the Metropolitan Council. The primary sources of capital funding are federal discretionary and formula funds administered by the Federal Transit Authority, and the Regional Transit Capital (RTC). The RTC, controlled by the Metropolitan Council, is funded by legislatively authorized bonding and supported by property tax levies. State highway bonds and general bonds can also be used for transit capital expenditures.

Federal Congestion Management and Air Quality Improvement Program Funding (CMAQ)

Every two years, the Metropolitan Council solicits applications for federal transportation funding. Applications are submitted by Mn/DOT, county and local government agencies, and transit authorities. Selection of projects for funding are made through a competitive process as administered by the Metropolitan Council. There are various project categories. Transit projects fall under the Congestion Mitigation and Air Quality (CMAQ) Improvement Program. During the 2007 regional solicitation cycle, approximately $55 million in SAFETEA-LU federal funds were allocated to CMAQ projects in the region. Traditionally, CMAQ has been the most important source of funding for transit projects outside of the baseline funding. Operating costs for existing transit service are not eligible for funding under this program.

Federal New Starts Funding

The Federal Transit Administration's (FTA) discretionary New Starts program is the federal government's primary financial resource for supporting locally-planned, implemented, and operated transit "guideway" capital investments. This includes heavy rail, light rail, commuter rail, bus rapid transit; transit systems that have dedicated right-of-way and require large capital startup investments. For example, the Hiawatha LRT line was constructed with New Starts funding in combination with local matching funds.

Counties Transit Improvement Board

During the 2008 session, the Minnesota Legislature passed legislation giving counties in the metropolitan area the authority to form a joint powers board and impose a one-quarter percent sales and use tax, and an excise tax of $20 per vehicle purchased to support transit services and facilities. Five metro counties, including Dakota County, have established a Joint Powers Agreement based on this legislation. This program will provide key funding in a stable and predictable manner to promote transit availability and ridership in the metro area. Minnesota Statute 297A.992 (subdivision 6), the statutory basis of CTIB, defines four categories of eligible grant applications:

- Capital improvements to transitways including, but not limited to, commuter rail rolling stock, light rail vehicles, and transitway buses
- Capital costs for Park-and-Ride facilities
- Feasibility study, planning/environmental study, engineering, property acquisition, and construction of transitways
- Operating assistance for transitways

Dakota County has estimated that the CTIB program will raise approximately $50 million for metro region projects in calendar year 2009, increasing to approximately $110 million by calendar year 2010. Allocation of this funding will be based on a competitive application process, generally analogous to the Metropolitan Council's regional solicitation for federal funding program described above.

Five of the seven metropolitan counties have entered into a joint powers agreement establishing the Counties Transit Improvement Board (Board) as authorized by the state legislation discussed above. The five counties are: Anoka, Dakota, Hennepin, Ramsey, and Washington. Scott and Carver Counties have chosen not to participate. Per requirements of Minnesota Statute 297A.992, subdivision 5, the Board established a Grant Evaluation and Ranking System (GEARS) committee. This committee evaluates grant applications following objective criteria to be established by the Board.

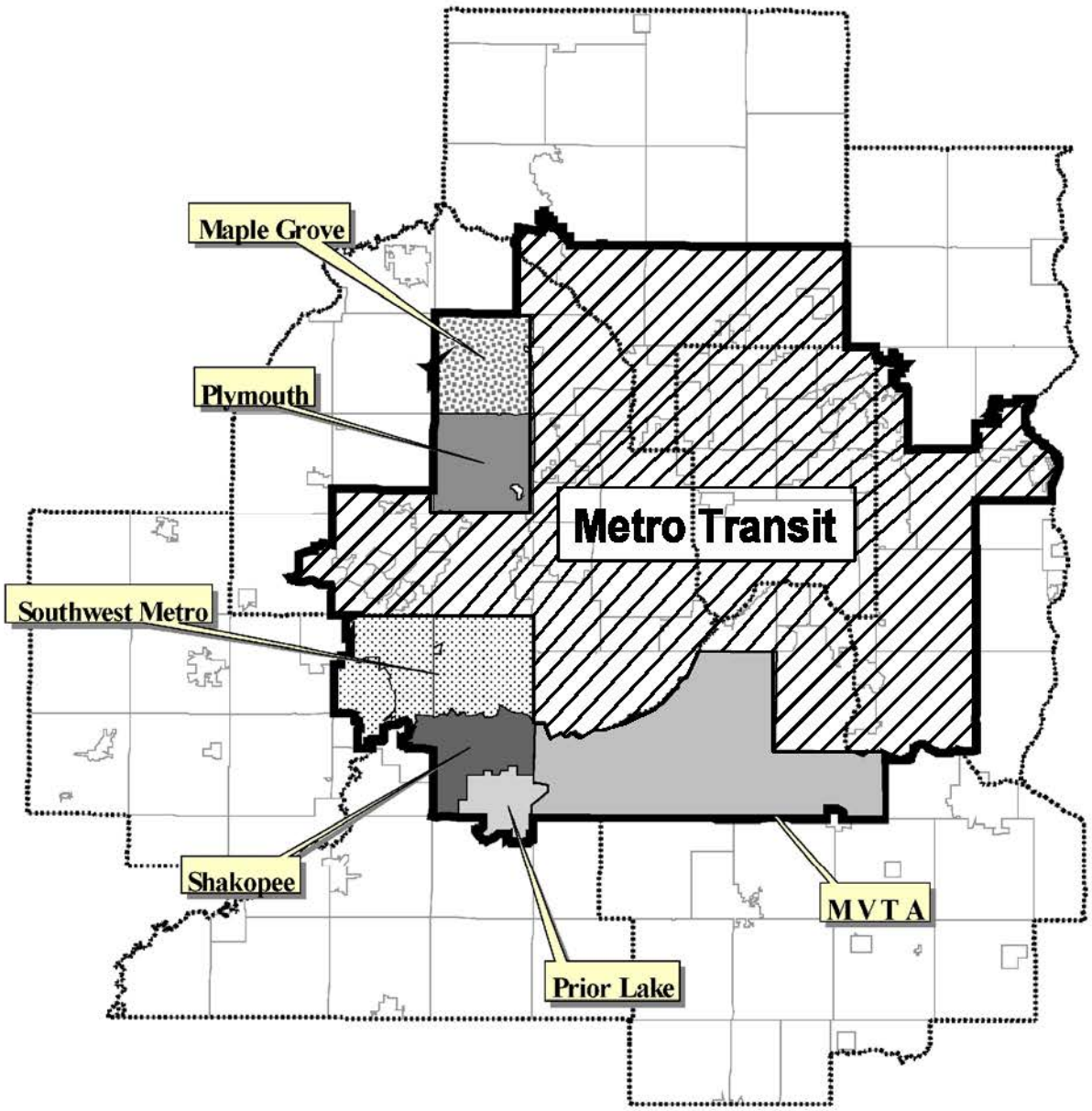
The Board will consist of two commissioners from each of the member counties, as well as the Chair of the Metropolitan Council. Ninety five percent of the voting authority on the Board is allocated to the member counties, with the remaining five percent allocated to the Metropolitan Council. Within the 95 percent, each county will receive votes proportionate to its share of the total population and sales tax of the Board counties. The full Joint Powers Agreement is included as **Appendix C**.

Of direct interest to the City of Rosemount is the potential funding for a Park-and-Ride facility or facilities and associated express services in the City of Rosemount. Per Minnesota Statute 297A.992, which references Minnesota Statute 174.256, subdivision 2, a Park-and-Ride facility is defined as "a facility consisting of a Park-and-Ride lot where commuters' automobiles are parked and, within a reasonable walking distance, a station or some transfer point where commuters board the transit mode. 'Transit mode' includes transportation by bus, car pool, van-pool, and other similar services." Based on review of the statutes, eligible Park-and-Ride

facilities need not be directly on enhanced transitways as formally defined by the Metropolitan Council. Park-and-Ride facilities within Rosemount, including the associated transit service, would support transitway operations on the Cedar Avenue corridor or on a potential future transitway along current railroad right-of-way adjacent to the Robert Street (TH 3) corridor.

TRANSIT PLAN FIGURES

ROSEMOUNT
MINNESOTA



City of Rosemount, Minnesota
Transit Plan

Service Areas of Metro Area Transit Providers

Figure 1

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ROSEMOUNT
MINNESOTA

NORTH

0 3500 FT 7000 FT

Blackhawk Park-and-Ride

Palomino Hills Park-and-Ride

Apple Valley Transit Center

157th Street Station Park-and-Ride

Proposed Rosemount Depot Park-and-Ride

2.5 Mile Service Area

2.5 Mile Service Area

2.5 Mile Service Area

2.5 Mile Service Area

ROSEMOUNT

35W 35E 35 77 33 38 3 73 71 52 55 42 46 46

City of Rosemount, Minnesota
Transit Plan

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Park and Ride Location / Service Areas

Figure 2

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ROSEMOUNT
MINNESOTA

Downtown Minneapolis
See Reverse

Downtown St. Paul
See Reverse

Southern Suburbs

City of Rosemount, Minnesota
Transit Plan

Source: Metropolitan Council / Metro Transit

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Existing Regional Transit Service

Figure 3

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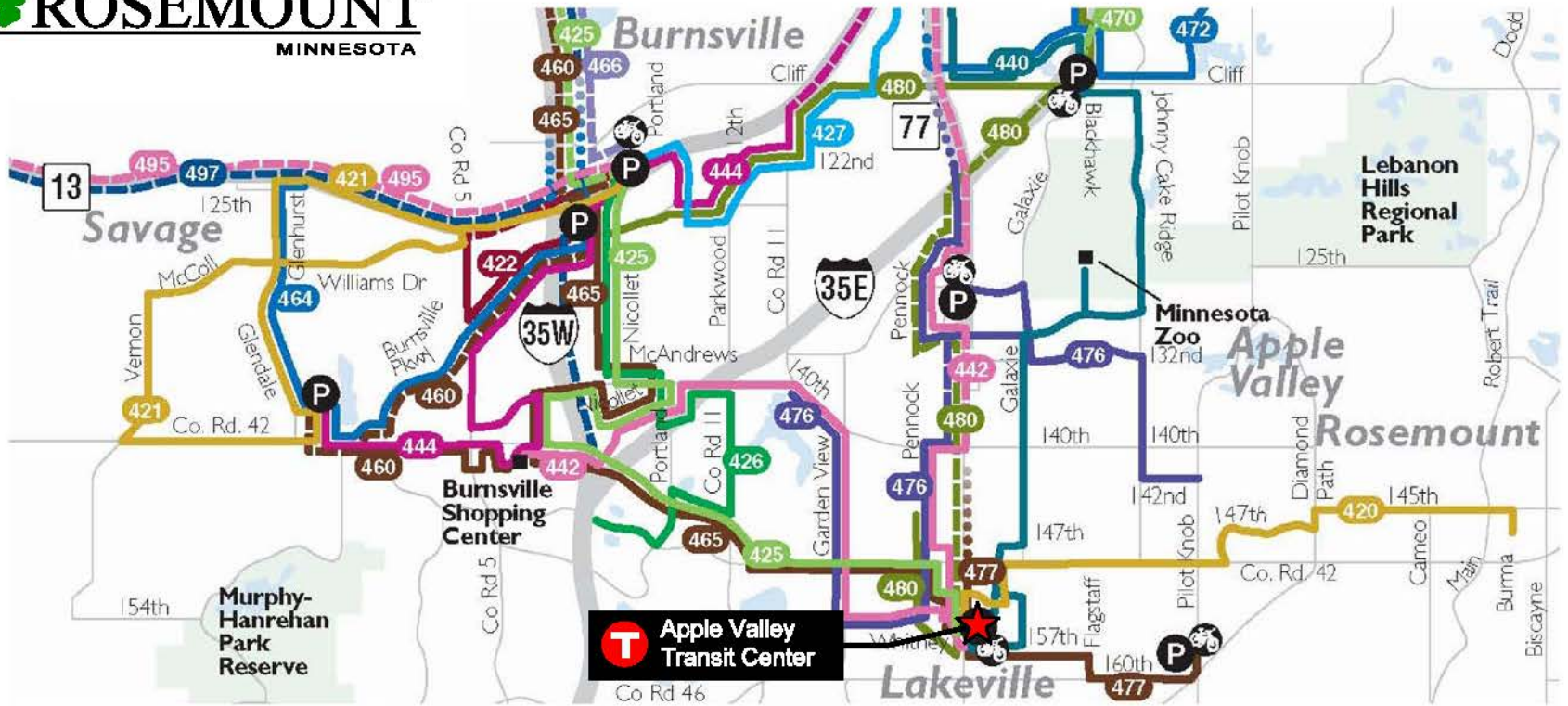

Bus Route Links at Apple Valley Transit Station

Bus Route	Area Served
422 Local Route	Apple Valley, Burnsville, Apple Valley Transit Station, Mall of America
425 Local Route	Apple Valley, Burnsville, Best Buy Headquarters, Burnsville Transit Station
440 Local Route	Apple Valley, Apple Valley Transit Station, Blackhawk Park & Ride, Mall of America, Minnesota Zoo
465 Minneapolis Express	Apple Valley, Burnsville, Downtown Minneapolis, Burnsville Transit Station, I-35W & 66th St., University of Minnesota
477 Minneapolis Express	Apple Valley, Downtown Minneapolis, Apple Valley Transit Station, 167th St. Station (CR 46/31)
480 St. Paul	Downtown St. Paul, Apple Valley Transit Station, Blackhawk Park

City of Rosemount, Minnesota
Transit Plan

Source: Metropolitan Council / Metro Transit

Existing Local Transit Service and Connections

Figure 4

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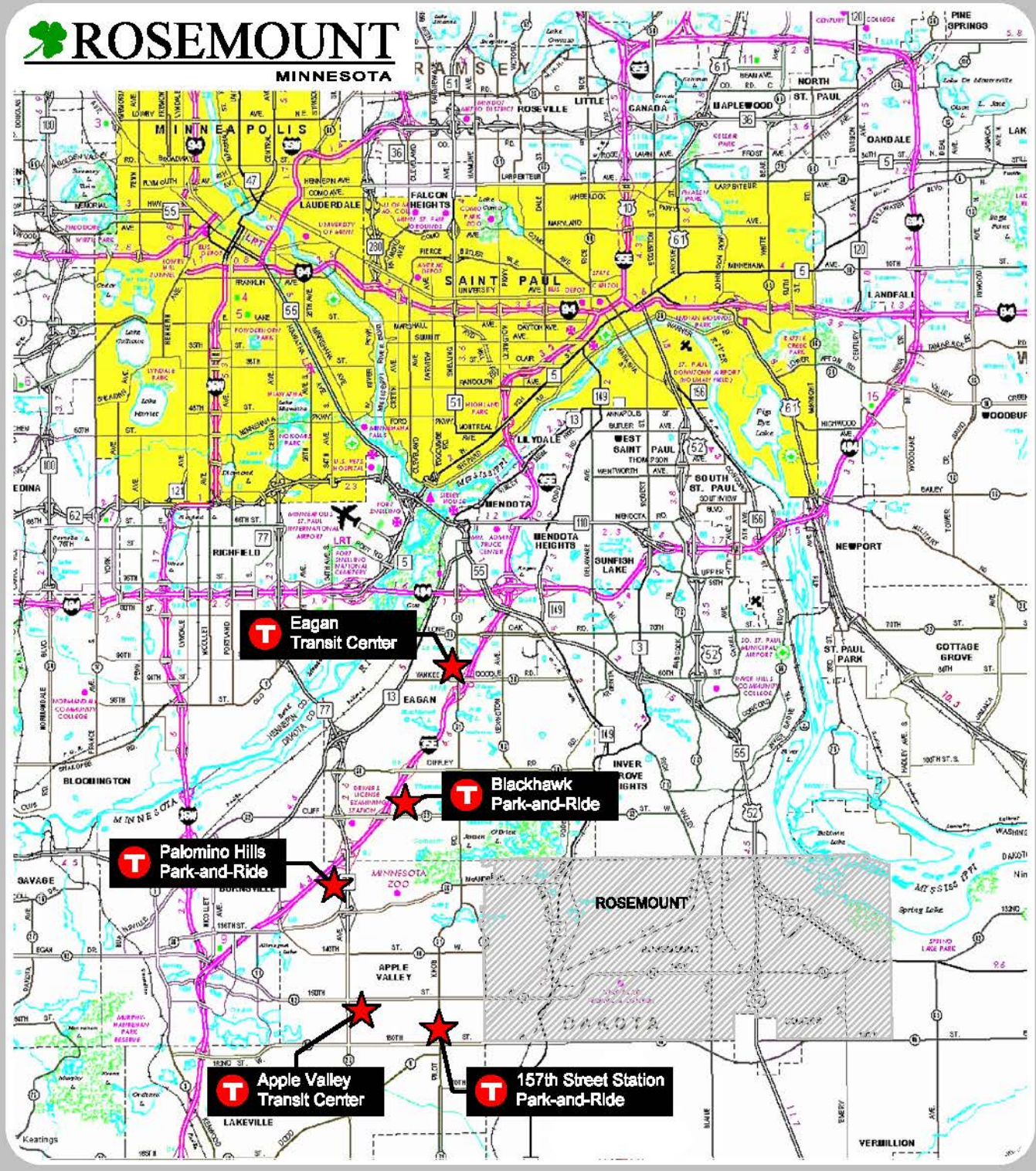

City of Rosemount, Minnesota
Transit Plan

LEGEND ★ Existing Transit Facility

Existing Transit Facilities Available to Rosemount Residents

Figure 5

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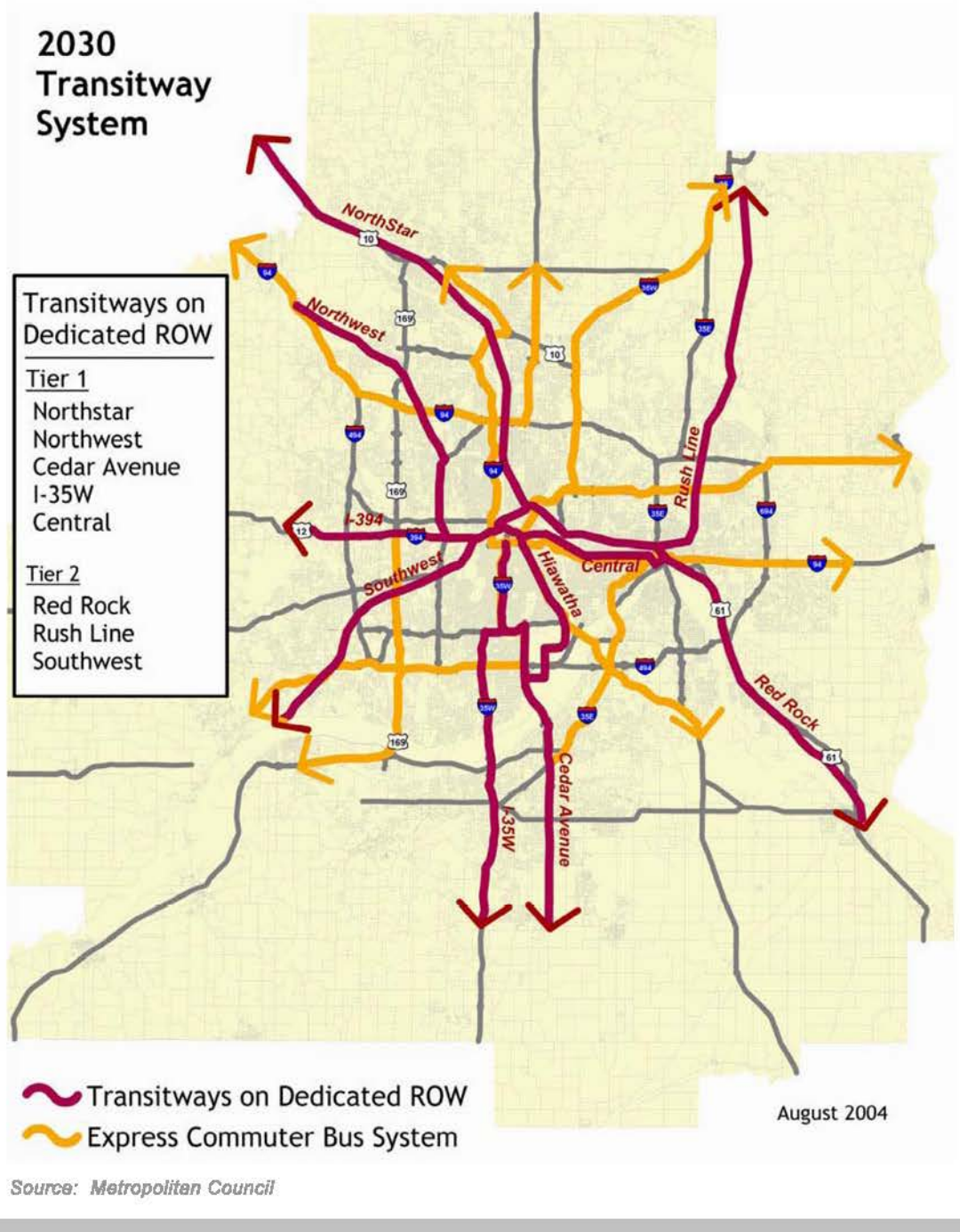

City of Rosemount, Minnesota
Transit Plan

Metropolitan Council
2030 Transitway System

Figure 6

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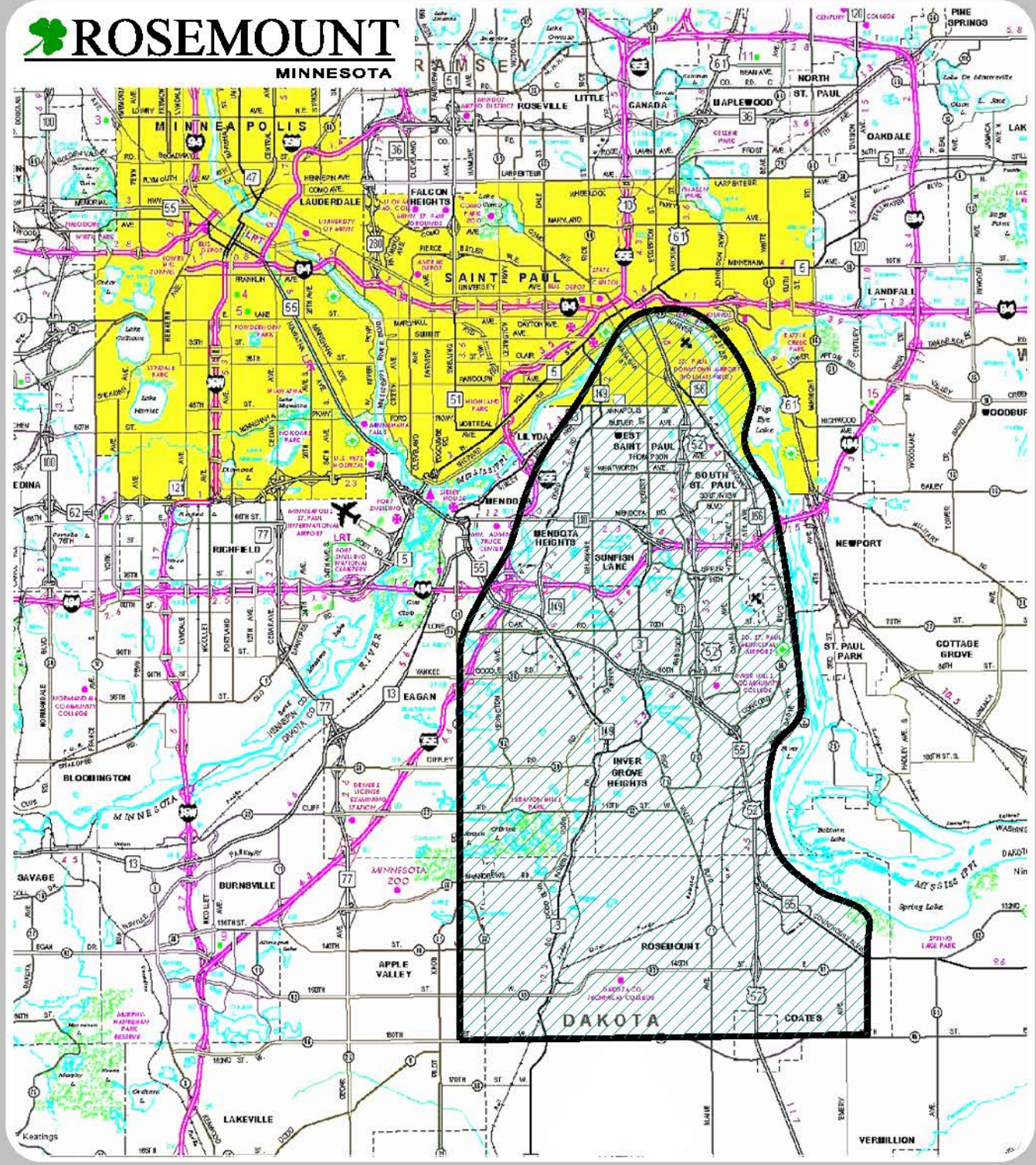

City of Rosemount, Minnesota
Transit Plan

LEGEND — Study Area

Robert Street
Transit Corridor Study Area

Figure 7

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ROSEMOUNT
MINNESOTA

City of Rosemount, Minnesota
Transit Plan

Robert St . Corridor Transit Study
Long Term Vision

Figure 8

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ROSEMOUNT
MINNESOTA

NORTH

INVER GROVE HEIGHTS
2000 POP. 29,751

Gray Cloud Island

WASHINGTON
DAKOTA

COUNTY 38
MINNESOTA 3
COUNTY 33
COUNTY 73
COUNTY 71
52
MINNESOTA 55
COUNTY 42
COUNTY 46
COUNTY 46

LE VALLEY
00 POP. 45,527

EMPIRE TOWNSHIP
2000 POP. 1,638

EMPIRE TOWNSHIP
2000 POP. 1,638

COATES
2000 POP. 163

VERMILLION TOWNSHIP
2000 POP. 1,243

City of Rosemount, Minnesota
Transit Plan

Legend

- AG Agriculture
- DT Downtown
- NC Neighborhood Commercial
- RC Regional Commercial
- CC Community Commercial
- AGR Agricultural Research
- RR Rural Residential
- LDR Low Density Residential
- TR Transitional Residential
- MDR Medium Density Residential
- HDR High Density Residential
- PI Public/Institutional
- PO Existing Parks/Open Space
- BP Business Park
- LI Light Industrial
- GI General Industrial
- WM Waste Management
- 2020 Musa Line
- 2030 Musa Line

Note: Source: 2030 Comprehensive Plan Update City of Rosemount plus 42/52 Land Use Plan.

Land Use Plan

Figure 9

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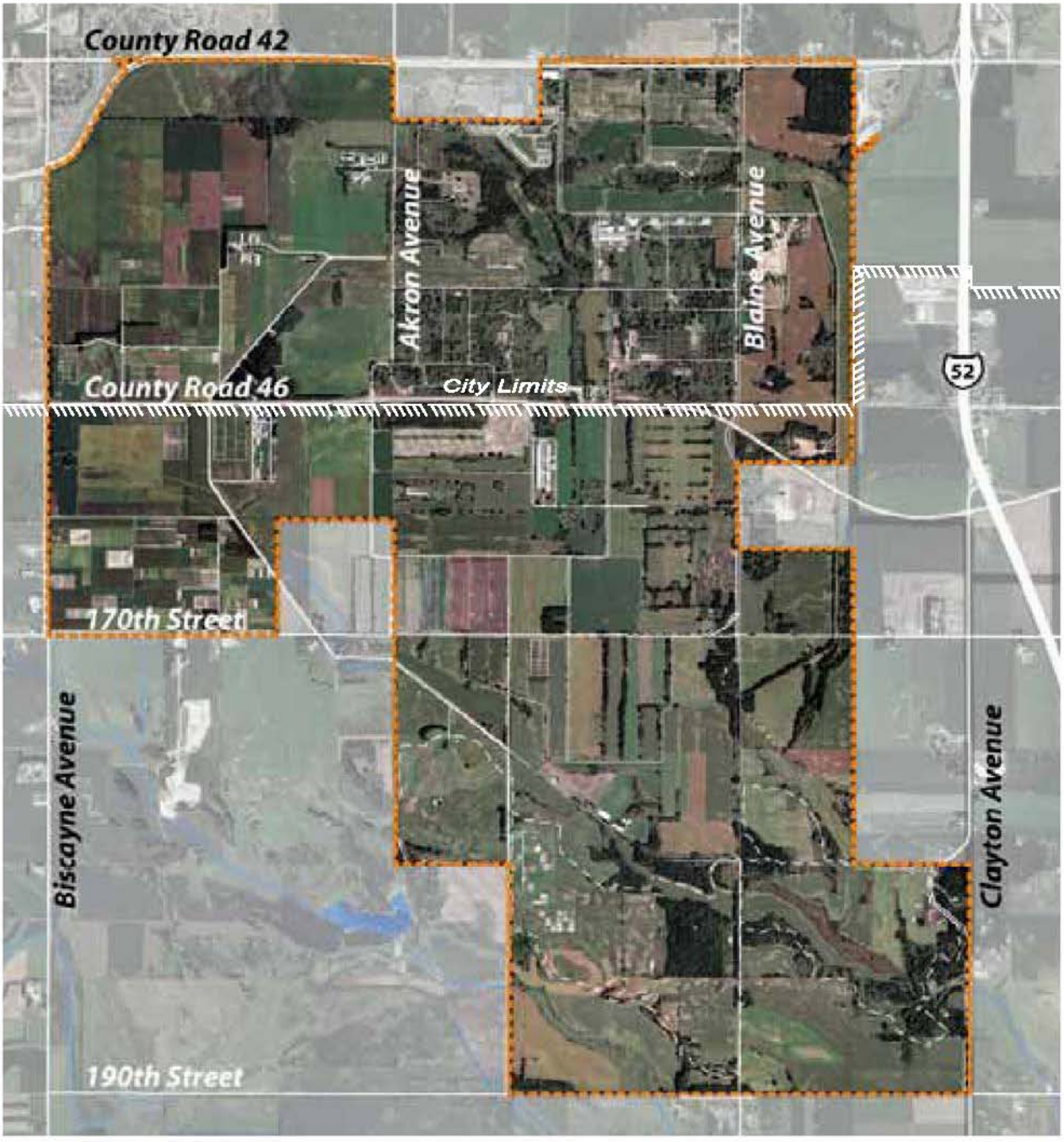

City of Rosemount, Minnesota
Transit Plan

UMore Park Area

Figure 10

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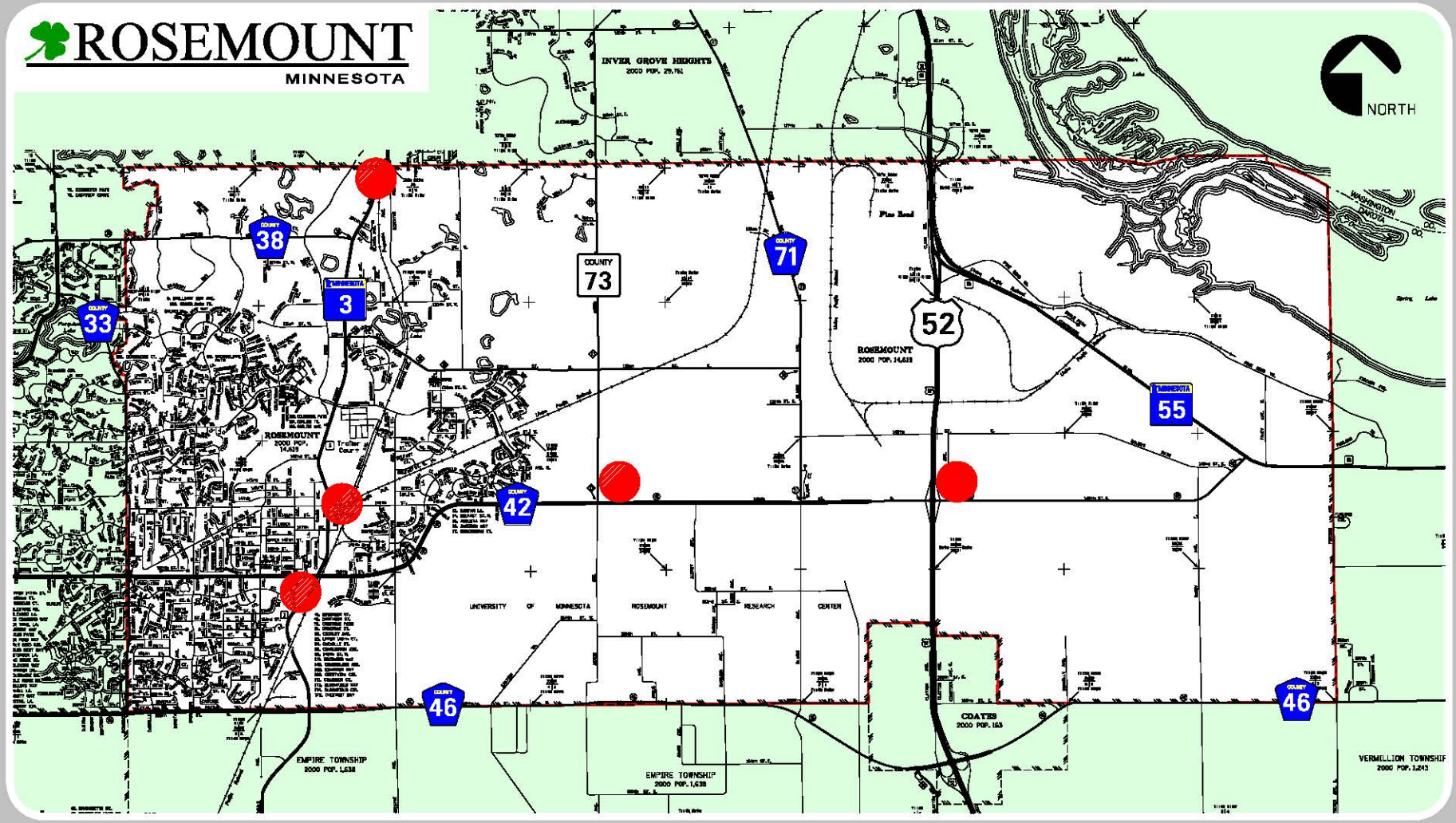

City of Rosemount, Minnesota
Transit Plan

LEGEND — Potential Park & Ride Locations

Potential Park & Ride Locations

Figure 11

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APPENDIX A

Existing Transit Facilities

Existing Transit Facilities

Apple Valley Transit Center

The Apple Valley Transit Center has two key components. First it has a Park-and-Ride lot with 470 vehicle spaces. These spaces are all used on a regular basis, and there is significant demand for more spaces. MVTA has recently secured parking in an adjacent parking lot for 100 parking places, with more available in the future or the Watson site. Second, it is a stopping point for eight transit lines with extensive combined service areas. These routes, and the areas/destinations they serve, are identified on ***Table A.1***, below.

Table A.1 - Apple Valley Transit Center Routes

Route	Service Description	Service Area/Stops
420	Local/flex route	Apple Valley Transit Station, Rosemount
422	Local/suburb to suburb	Apple Valley – local, Apple Valley Transit Station, Burnsville, Mall of America
425	Local/suburb to suburb	Apple Valley – local, Burnsville, Best Buy Headquarters, Burnsville Transit Station
440	Local/suburb to suburb	Apple Valley – local , Apple Valley Transit Station, Blackhawk Park-and-Ride, Mall of America, Minnesota Zoo
442	Local/suburb to suburb	Apple Valley, Apple Valley Transit, Burnsville, Mall of America
465	Minneapolis Express	Apple Valley, Burnsville, Downtown Minneapolis, Burnsville Transit Station, I-35W and 66th Street, University of Minnesota
477	Minneapolis Express	Apple Valley, Downtown Minneapolis, 157th St. Station (CR 46/CR31)
480	St. Paul Express	Downtown St. Paul, Apple Valley Transit Station, Blackhawk Park-and-Ride

Eagan Blackhawk Park-and-Ride

The Eagan Blackhawk Park-and-Ride facility is located at Cliff Road and I-35E. This facility has 367 parking spaces, which were approximately 80 percent utilized in 2007. The following Routes stop at this facility:

- 420 – Local/flex route: Apple Valley, Rosemount
- 440 – Local/suburb to suburb service: Apple Valley, Eagan, Bloomington
- 472 – Express service: Downtown Minneapolis, South Minneapolis (I-35W/Lake Street)
- 480 – Express service: Downtown St. Paul, Apple Valley, Burnsville, Eagan

Apple Valley Palomino Park-and-Ride

The Apple Valley Palomino station is located at Palomino Drive and Pennock Avenue, south and west of the I-35E/TH 77 (Cedar Avenue) interchange. This facility has 312 parking spaces, which were approximately 95 percent utilized in 2007. The following routes stop at this facility:

- 442 – Local/suburb to suburb service: Apple Valley, Burnsville, Bloomington, Mall of America Transit Center
- 476 – Express Service: Downtown Minneapolis, South Minneapolis (I-35W/Lake Street), Apple Valley (local stops, Palomino Park-and-Ride, Apple Valley Transit Center)
- 477 – Express Service: Downtown Minneapolis, South Minneapolis (I-35W/Lake Street), Apple Valley (Palomino Park-and-Ride, Apple Valley Transit Center,)
- 480 – Express Service: Downtown St. Paul, Apple Valley, Burnsville, Eagan

Eagan Transit Station

The Eagan Transfer Station is located at CSAH 31 (Pilot Knob Road) and Yankee Doodle Road at the I-35E interchange. In 2007 this facility has 679 parking spaces, which were approximately 60 percent utilized in 2007. The following routes stop at this facility:

- 445 – Local/suburb to suburb service: Eagan, Bloomington, Mall of America Station
- 446 – Local/suburb to suburb service: Eagan, Mendota Heights, Minneapolis (46th Street LRT Station)
- 470 – Commuter Service: Downtown Minneapolis, South Minneapolis (I-35W/Lake Street), Eagan (Blackhawk Park-and-Ride, and Eagan Transit Center)
- 480/484 – Express Service: Downtown St. Paul, Apple Valley, Burnsville, Eagan

157th Street Station Park-and-Ride

The 157th Street Station Park-and-Ride facility is located on Pilot Knob Road between CSAH 46 (160th Street) and 157th Street. This facility has 258 parking spaces, which were approximately 10% utilized in 2007. The following routes stop at this route:

- 420 – Local/flex route: Apple Valley, Rosemount
- 477 – Minneapolis Express: Apple Valley, Apple Valley Transit Center, Downtown Minneapolis

APPENDIX B

UPA Funding Information

Urban Partnership Agreement (UPA)

2008 STATE APPROPRIATION REQUEST: $21,075,000

AGENCY PROJECT PRIORITY: 3 of 8

PROJECT LOCATION: Metropolitan Area

Project At A Glance

The Metropolitan Council and Minnesota Department of Transportation request $54.853 million to provide local match for funding from USDOT for congestion pricing implementation, park and ride construction and intelligent transportation systems (ITS) technology projects under the Urban Partnership Agreement program.

Project Description

The Minnesota Department of Transportation (Mn/DOT) and the Metropolitan Council have been jointly awarded $133.3 million in federal funds by the US Department of Transportation through the Urban Partnership Agreement (UPA) program. The project provides a comprehensive approach to congestion reduction that includes congestion pricing, transit enhancements, telecommuting/telework, and the use of advanced technologies.

In conjunction with the UPA application, Mn/DOT and Met Council have submitted federal grant applications under the Value Pricing Pilot Program (VPPP), the Intelligent Transportation System Operational Testing to Mitigate Congestion (ITS-OTMC) and Section 5309 Bus and Bus Related Capital Facilities grant programs to fund the UPA improvements.

The UPA funding must be matched with a minimum 20 percent local funding. This capital request is for the local funding required to match the federal UPA dollars, match federal (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) SAFETEA-LU dollars for two Cedar Avenue Bus Rapid Transit (BRT) project components in the UPA, and fund three UPA components that did not receive federal funding.

This total UPA state funding request is being submitted by both Mn/DOT and the Met Council. Of the $54.853 million in state funds, $33.778 million will be appropriated to Mn/DOT and $21.075 million to the Metropolitan Council.

Note: The accompanying Project Detail page for Met Council shows all costs and funding except for Mn/DOT's state request. The Project Detail page that accompanies Mn/DOT's Project Narrative shows only the Mn/DOT state request to avoid double-counting.

The complete components of the UPA project for both agencies are as follows:

Mn/DOT - Congestion Pricing: Convert I-35W High-Occupancy Vehicle (HOV) lane to a MnPASS High-Occupancy Toll (HOT) lane from Burnsville to approximately I-494 including a lane add between 106th Street and Highway (Hwy) 13, construct a HOT Lanes between I-494 and 46th Street with reconstruction of the Crosstown Project, construct a Priced Dynamic Shoulder Lane from 46th Street to downtown Minneapolis and implement arterial traffic management.

Total cost: $71.778 million
Federal funds: $47.4 million
Requested State funds: $24.378 million (Trunk Highway Bonds)

Mn/DOT – Telecommuting/Outreach: Implement the UPA telecommuting requirement by recruiting local employers as partners to increase the number of telecommuters. Also, develop and implement an Outreach Program involving state and local elected officials and community representatives to facilitate communication and project implementation.

Total cost:	$9 million
Federal funds:	$0
Requested State funds:	$9 million (General Fund)

Mn/DOT – Hwy 77 and Hwy 62 Transit Advantage: Design and construct a bus-only transit advantage from northbound Hwy 77 to westbound Hwy 62.

Total cost:	$2 million
Federal funds:	$1.6 million
Requested State funds:	$0.4 million (Trunk Highway Bonds)

Met Council – Fleet: Purchase 26 buses for enhanced transit service in the 35W South corridor (15 buses) and the 35W North corridor (11 buses). These buses will serve the new and expanded park-and-rides being constructed as part of the UPA.

Total cost:	$13 million
Federal funds:	$10.4 million
Requested State funds:	$2.6 million (General Fund)

Met Council – 35W Transit Stations/Park-and-Rides: Acquire land, design and construct three new or expanded park-and-rides in 35W corridor.

Total cost:	$32.7 million
Federal funds:	$26.16 million
Requested State funds:	$6.54 million ($6.14 million GO Bonds; $0.4 million Trunk Highway Bonds)

Met Council – Cedar Avenue BRT Transit Stations/Park-and-Rides: Accelerate land acquisition, design and construction of transit station/park-and-ride facilities at 185th Street, 147th Street, 140th Street, Palomino Drive and Cedar Grove.

Total cost:	$17.41 million
Federal funds:	$13.25 million ($8.88 million UPA; $3.62 million SAFETEA-LU; $0.75 million 5309 Appropriation)
Requested State funds:	$2.22 million (GO Bonds)
Other funds:	$1.94 million ($0.67 million 2005 bonds; $1.27 million DCRRA)

Met Council – Downtown Bus Lanes: Expand single bus lanes to two lanes on Marquette and 2nd Avenues.

Total cost:	$41.56 million
Federal funds:	$33.248 million
Requested State funds:	$8.312 million (GO Bonds)

Met Council – Transit Technology: Design and implement transit technology improvements including bus arrival, congestion conditions and parking availability information systems and a transit operator lane guidance system.

Total cost:	$7.015 million
Federal funds:	$5.612 million
Requested State funds:	$1.403 million (General Fund)

Summary:

Mn/DOT components

Total Cost:	$82.778 million
Federal funds:	$49 million
Requested State Funds:	$33.778 million $24.778 million Trunk Highway Bonds; $9 million General Fund)

Met Council components

Total Cost:	$111.685 million
Federal funds:	$88.67 million ($84.3 million UPA; $3.62 million SAFETEA-LU; $0.75 million 5309 Appropriation)
Requested State Funds:	$21.075 million ($0.4 Trunk Highway Bonds; $16.672 million GO; $4.003 General Fund)
Other funds:	$1.94 million ($0.67 million 2005 bonds; $1.27 million DCRRA)

Impact on Agency Operating Budgets (Facilities Notes)

Toll revenues generated by the congestion pricing will be used to fund Mn/DOT start-up and ongoing HOT-Lane operations as well as expanded transit service.

The unfunded portion of the expanded transit service is anticipated to come from regional transit operating funds and fares.

Previous Appropriations for this Project

None for UPA

Previous corridor appropriations:
Cedar Ave: $10 million GO bonds in 2005; $5 million in 2006

35W BRT: $3.3 million GO bonds in 2005; $14.8 million in trunk highway bonds (BAPTA) for transit element of crosstown project.

Other Considerations

Implementation of the UPA will accelerate the 35W and Cedar Avenue BRT components of the Met Council's regional 2030 Transportation Policy Plan.

Mn/DOT start up costs, estimated at $1 million, HOT-lane operating costs, and a portion of annual transit operating costs, estimated at $3 million, will be funded by toll revenues.

Project Contact Person

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Governor's Recommendations

The governor recommends for Met Council an appropriation of $4,003,000 from the general fund, $16,672,000 in general obligation bonding, and $400,000 in trunk highway bonding for this project.

TOTAL PROJECT COSTS All Years and Funding Sources	Prior Years	FY 2008-09	FY 2010-11	FY 2012-13	TOTAL
1. Property Acquisition	0	11,505	0	0	11,505
2. Predesign Fees	0	405	0	0	405
3. Design Fees	0	15,046	1,975	0	17,021
4. Project Management	0	10,936	6,103	0	17,039
5. Construction Costs	0	105,942	40,687	0	146,629
6. One Percent for Art	0	304	360	0	664
7. Relocation Expenses	0	400	0	0	400
8. Occupancy	0	800	0	0	800
9. Inflation	0	0	0	0	0
TOTAL	0	145,338	49,125	0	194,463

CAPITAL FUNDING SOURCES	Prior Years	FY 2008-09	FY 2010-11	FY 2012-13	TOTAL
State Funds :					
G.O Bonds/State Bldgs	670	16,672	0	0	17,342
G.O. Bonds/Transp	0	0	0	0	0
General Fund Projects	0	4,003	0	0	4,003
Trunk Hwy Fund Bonding	0	400	0	0	400
State Funds Subtotal	670	21,075	0	0	21,745
Agency Operating Budget Funds	0	0	0	0	0
Federal Funds	4,370	84,175	49,125	0	137,670
Local Government Funds	0	1,270	0	0	1,270
Private Funds	0	0	0	0	0
Other	0	0	0	0	0
TOTAL	5,040	106,520	49,125	0	160,685

CHANGES IN STATE OPERATING COSTS	Changes in State Operating Costs (Without Inflation)			
	FY 2008-09	FY 2010-11	FY 2012-13	TOTAL
Compensation -- Program and Building Operation	0	0	0	0
Other Program Related Expenses	0	0	0	0
Building Operating Expenses	0	0	0	0
Building Repair and Replacement Expenses	0	0	0	0
State-Owned Lease Expenses	0	0	0	0
Nonstate-Owned Lease Expenses	0	0	0	0
Expenditure Subtotal	0	0	0	0
Revenue Offsets	0	0	0	0
TOTAL	0	0	0	0
Change in F.T.E. Personnel	0.0	0.0	0.0	0.0

SOURCE OF FUNDS FOR DEBT SERVICE PAYMENTS (for bond-financed projects)	Amount	Percent of Total
General Fund	16,672	100.0%
User Financing	0	0.0%

STATUTORY AND OTHER REQUIREMENTS Project applicants should be aware that the following requirements will apply to their projects after adoption of the bonding bill.	
No	MS 16B.335 (1a): Construction/Major Remodeling Review (by Legislature)
No	MS 16B.335 (3): Predesign Review Required (by Administration Dept)
No	MS 16B.335 and MS 16B.325 (4): Energy Conservation Requirements
No	MS 16B.335 (5): Information Technology Review (by Office of Technology)
Yes	MS 16A.695: Public Ownership Required
No	MS 16A.695 (2): Use Agreement Required
No	MS 16A.695 (4): Program Funding Review Required (by granting agency)
Yes	Matching Funds Required (as per agency request)
Yes	MS 16A.642: Project Cancellation in 2013

APPENDIX C

CTIB Joint Powers Agreement

JOINT POWERS AGREEMENT
ESTABLISHING THE
COUNTIES TRANSIT IMPROVEMENT BOARD

THIS AGREEMENT is entered into by and between the undersigned metropolitan counties, all being political subdivisions of the State of Minnesota, by and through their respective governing bodies pursuant to the authority contained in the Minn. Stat. §§ 471.59 and 297A.992.

RECITALS

WHEREAS, the Minnesota Legislature has, by Laws of Minnesota 2008 Chapter 152, Article 4, Section 2, codified as Minn. Stat. § 297A.992, authorized metropolitan counties of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington to impose a one-quarter percent sales and use tax, and an excise tax of $20 per motor vehicle purchased or acquired from any person engaged in the business of selling motor vehicles at retail ("Sales Tax"), following the formation of a joint powers board by agreement among the counties; and

WHEREAS, the metropolitan counties are committed to the development of a system of transitways to better serve the residents and businesses of the Twin Cities Metropolitan Area and to efficiently move people and goods throughout the region; and

WHEREAS, the proceeds of the Sales Tax will be used to enhance and improve the transitway system and not supplant state and regional obligations, as required by Minn. Stat. § 297A.992; and

WHEREAS, the Counties intend that, in accordance with Minn. Stat. § 297A.992, subd. 6, the Sales Tax proceeds will be made available for the development and operation of transitways, including rail and bus rapid transit projects, serving the residents and businesses of the Metropolitan Transportation Area, as defined below; and

WHEREAS, the Counties intend that the Board, as defined below, shall endeavor to award grants to promote geographic equity over time with respect to investments in transitways to implement the Counties' regional vision; and

WHEREAS, the metropolitan counties wish to collaborate on the planning, implementation and funding of such transitway improvements through the joint powers board created herein.

NOW, THEREFORE, in consideration of the mutual promises and benefits that each party shall derive herefrom, the Parties agree as follows:

ARTICLE I. PURPOSE

The purpose of this Agreement is to form a joint powers board to enable the Parties to impose (1) a transportation sales and use tax, and (2) a motor vehicle excise tax, with the taxes to fund transportation improvements, including debt service on obligations issued to finance such improvements. In addition, the purpose of the Agreement is to establish a joint powers board to receive and distribute funding for

transportation improvements in the metropolitan transportation area in accordance with Minn. Stat. § 297A.992.

ARTICLE II. ELIGIBLE COUNTIES AND TERM OF AGREEMENT

1. Eligible Counties.

The metropolitan counties that are eligible to participate in this Agreement include the following:

County of Anoka
County of Dakota
County of Ramsey
County of Washington
County of Carver
County of Hennepin
County of Scott

2. Effective Date.

This Agreement shall be effective and the joint powers board established herein may commence exercising the powers and authorities in this Agreement on the day that the Agreement has been approved by resolution and duly executed by at least two of the metropolitan counties listed above and shall continue until terminated as provided herein. The eligible counties that have entered into this Agreement shall individually and collectively be referred to as the "Counties" or the "Parties".

3. Action Required to Become a Party.

An eligible county may become a Party to this Agreement by: (1) adopting a resolution declaring its intent to become a part of the metropolitan transportation area, as defined in Minn. Stat. § 297A.992, subd. 1(1), (the "Metropolitan Transportation Area"); (2) entering into this Agreement, as it may be amended from time to time; and (3) imposing the taxes authorized by Minn. Stat. § 297A.992, subd. 2, in accordance with the terms of this Agreement.

4. Parties Joining After July 1, 2008.

Any eligible county that becomes a Party to this Agreement after July 1, 2008 shall pay (1) all costs attributable to the County for imposing the Sales Tax in that County, and (2) the County's proportionate share (based upon most current Sales Tax revenue projections by the Minnesota Department of Revenue on July 1, 2008) of the amount paid to the Metropolitan Council pursuant to Minn. Stat. § 297A.992, subd. 5(h). Payments will be made in accordance with Section VII.2.G. of this Agreement.

ARTICLE III. JOINT POWERS BOARD

1. Establishment and Composition.

A. The Parties hereby establish a joint powers board to be known as the Counties Transit Improvement Board ("Board") to jointly exercise such powers and authorities as are necessary to achieve its purposes and fulfill its duties as provided for

in Article IV, subject to the terms and conditions of this Agreement. The Board shall be a separate public entity separate from the Parties and shall not be deemed to be an agent or partner of the Parties to this Agreement, the Metropolitan Council, or any grantee, nor shall the Parties be liable for the actions of the Board, the Metropolitan Council or any grantee.

B. The Board shall consist of two county commissioner(s) appointed by the County Board of each of the Parties and shall also include the Chair of the Metropolitan Council. The County Board of each Party shall appoint, by resolution, its two representative county commissioners and one or more alternate county commissioners to the Board. In the absence of an appointed county commissioner at a meeting, an alternate county commissioner may exercise the voting rights of the County. In the absence of the Chair of the Metropolitan Council at a meeting, the Vice-Chair of the Metropolitan Council may exercise the voting rights of the Chair.

2. Voting.

A. Board voting will be weighted based upon Sales Tax revenue and population information generated in accordance with Section III.2.E. There shall be five (5) votes allocated to the Chair of the Metropolitan Council and ninety-five (95) votes allocated among the Counties as follows, subject to reallocation of the votes over time in accordance with Section III.2.E.

B. Each County will receive votes equal to the average of the County's proportionate share of the total population and Sales Tax of the Parties multiplied times ninety-five, and rounded to the nearest whole number, but in no event shall the total votes be in excess of, or less than, one hundred (100).

C. Each County Commissioner appointed to the Board may cast one-half of the County's allocated votes. In the event that only one County Commissioner representative is present at a meeting, that Commissioner may cast all of the County's allocated votes.

D. All actions of the Board require a super-majority vote of the Board, unless otherwise provided in this Agreement. A super-majority of votes shall be defined as: (1) 63 of the 100 of the allocated votes in favor of the action, and (2) at least a simple majority of the County Commissioner representatives on the Board (based on ½ vote per County Commissioner representative) voting in favor of the action. In the event that only one County Commissioner representative is present at a meeting, that Commissioner may cast both of the County's one-half (½) votes.

E. Allocation of the ninety-five (95) County votes for the period beginning from the effective date of this Agreement to January 1, 2012 ("Initial Period") shall be based upon most current Sales Tax revenue projections by the Minnesota Department of Revenue and the most current population estimate by the Metropolitan Council available as of the first meeting of the Board. The Board shall reallocate the County votes in the same manner as stated above, upon the addition as a Party to this Agreement of an eligible county, after the effective date, but during the Initial Period. Beginning on January 1, 2012, the Board shall reallocate the County votes every four years based upon average Sales Tax revenue and average population estimates generated in the previous four years for each of the Parties. The Board shall recalculate

the allocation of County votes in the same manner upon entry of an eligible county after the Initial Period, except that the portion of Sales Tax attributable to the newly joining county for purposes of reallocating votes shall be based upon Sales Tax revenue projections for such county.

ARTICLE IV. POWERS OF THE BOARD

1. General Powers.

The Board is hereby authorized to exercise such powers granted under the provisions of Minn. Stat. §§ 297A.992 and 471.59 and such other statutory authority held in common by the Parties, that are necessary and proper to fulfill its purposes and perform its duties. Such powers shall include those specific powers enumerated in Section 2 of this Article.

2. Specific Powers.

A. The Board may enter into any contract necessary or proper for the exercise of its powers or the fulfillment of its duties and enforce such contracts to the extent available in equity or at law. The Board may approve any contract relating to its administration up to the amount approved in the annual administrative budget, and may authorize the Chair of the Board, or such other officer as designated in the by-laws to act in the absence of the Chair, to execute those contracts.

B. The Board may award and enter into contracts necessary or proper for the exercise of its powers or the fulfillment of its duties and enforce such contracts to the extent available in equity or at law.

C. No payment on any invoice for services performed by a consultant or any other person or organization providing services in connection with this Agreement shall be authorized unless approved by the Chair (as hereinafter defined) or such officer designated by the Board to approve such payments.

D. The Board may employ agents and employees, and fix their compensation and all other terms and conditions of employment.

E. The Board shall have the power to adopt such by-laws that it may deem necessary or desirable for the conduct of its business. Such by-laws shall be consistent with this Agreement and any applicable laws or regulations. The by-laws may provide for the appointment by the Board of ex officio, non-voting members to the Board, including county commissioners from metropolitan counties that are not Parties to this Agreement.

F. A quorum of the Board shall be a simple majority of the votes of the Board, provided that at least 60% of the Counties are represented at the meeting.

G. The Board may apply for and accept gifts, grants or loans of money, other property or assistance from the United States Government, the State of Minnesota, or any person, association, or agency for any of its purposes; enter into any agreement in connection therewith; and hold, use, and dispose of such money, other property or assistance in accordance with the terms of the gift, grant or loan relating thereto.

H. The Board may acquire, lease, hold, use, and dispose of property, both real and personal, including transfer of property from a County or another political subdivision, to accomplish the purposes of this Agreement and upon termination of this Agreement, shall make distribution of such property as is provided for in this Agreement.

I. The Board may sue and be sued in its own name, purchase insurance as is deemed advisable, and may otherwise take action to enforce its rights in equity or in law.

J. The Board may incur debts, liabilities, or obligations in accordance with the provisions of this Agreement.

ARTICLE V. OFFICERS AND STRUCTURE OF JOINT POWERS BOARD

1. Terms.

A. The County Board of each County shall appoint two representatives and one or more alternates, by resolution, to serve on the Board for an initial term commencing with the execution of the Agreement until January 15, 2010. Representatives and alternates must be members of the appointing County Board.

B. Thereafter, each representative and alternate shall be appointed for one-year terms, beginning January 15, by resolution of the County Board. In the event that any representative or alternate shall not have been appointed by January 15 in any year, the incumbent representative shall serve until a successor has been appointed. Removal of any representative or alternate during the term for which the representative has been appointed may be done at any time but shall be done only by resolution of the appointing County Board.

2. Chair and Vice Chair.

The Board shall elect a chair (the "Chair") and a vice chair (the "Vice Chair") from its membership at its first regular meeting. The Chair and Vice Chair shall be elected by the Board from its membership for a one-year term. The Chair and the Vice Chair may not be from the same County. The Chair shall preside at all meetings of the Board and shall perform other duties and functions as may be determined by the Board. The Vice Chair shall preside over and act for the Board during the absence of the Chair. If both the Chair and Vice Chair are absent, the Board may elect a temporary chair to conduct its business, provided a quorum is present. The Board may elect other officers in accordance with its by-laws.

3. GEARS Committee.

A. Pursuant to the requirements of Minn. Stat. § 297A.992, subd. 5, the Board shall establish a Grant Evaluation and Ranking System ("GEARS") committee which must consist of:

1) one County Commissioner from each County that is in the Metropolitan Transportation Area, appointed by its County Board;

2) one elected city representative from each County that is in the Metropolitan Transportation Area;

3) one additional elected city representative from each County for every additional 400,000 in population, or fraction of 400,000, in the County that is above 400,000 in population; and

4) the chair of the Metropolitan Council Transportation Committee.

B. Each city representative must be elected at a meeting of cities in the Metropolitan Transportation Area, which must be convened for that purpose by the Association of Metropolitan Municipalities.

C. The GEARS committee shall evaluate grant applications following objective criteria established by the joint powers board, and must provide to the joint powers board a selection list of transportation projects that includes a priority ranking.

D. The membership of the GEARS committee shall conform to Minn. Stat. § 297A.992, subd. 5, as it may be amended from time to time.

4. Other Committees.

A. The Board shall establish such other committees as may be required by law.

B. The Board may establish a technical advisory group pursuant to the provisions of Minn. Stat. § 297A.992, subd. 4(c).

C. The Board may establish standing committees of the Board. The Chair may establish ad hoc committees of the Board.

5. Vacancies.

If an appointment of any representative or alternate is vacated before the end of the term, the vacancy shall be filled by appointment by the appropriate County Board. Vacancies shall be filled within thirty (30) days of their occurrence. A vacancy shall be deemed to have occurred when any of the conditions specified in Minn. Stat. § 351.02 exist, or if a representative fails to qualify or act as an elected official.

6. Meetings.

The Board shall meet at regular intervals at such times and places as the Board shall establish in its by-laws. Special meetings may be held on reasonable notice by the Chair or any two Parties upon terms and conditions as the Board may determine and that conform to the Minnesota Open Meeting Law, Minn. Stat. Chapter 13D.

ARTICLE VI. ANNUAL ADMINISTRATIVE BUDGET AND FUNDING

1. Administrative Budget.

A. The Board shall adopt an annual administrative budget, together with a statement of the sources of funding and an estimate of the proportion of such amounts, if any, required of each Party.

B. The Board shall approve a preliminary administrative budget for the succeeding fiscal year by no later than July 1 of each year. The Board may utilize the proceeds of the taxes imposed pursuant to Minn. Stat. § 297A.992 for administrative costs only to the extent authorized by Minn. Stat. § 297A.992, subd. 4 (b). Any additional administrative expenses must be paid by the Counties. In the event that the administrative budget exceeds the allowable use of Sales Tax proceeds, the preliminary administrative budget shall include a cost sharing formula allocating the additional amounts to the Counties ("County's Administrative Share"). Counties shall pay the County's Administrative Share in accordance with Sec. 2.B.

C. The Board shall adopt a final administrative budget and costs sharing formula by no later than August 30 of each year.

D. The final administrative budget and cost sharing formula shall be forwarded to each Party's governing body for approval if the administrative budget exceeds the allowable use of Sales Tax proceeds.

E. The fiscal year shall be the same as a calendar year.

F. No County shall have a financial obligation to fund the County's Administrative Share unless such County's governing body has approved the annual final administrative budget and cost sharing formula.

2. Administrative Funding.

A. Initial Administrative Funding.

It is understood by the Parties that the administrative activities and duties of the Board are to be funded primarily by Sales Tax proceeds collected pursuant to Minn. Stat. § 297A.992. Nevertheless, each Party agrees to contribute $50,000 as an initial contribution for the start-up administrative expenses of the Board. The Board will establish an initial budget and agree to the allocation of any additional necessary initial administrative contributions, subject to the approval of each County board. Each County shall pay its appropriate initial contribution to the County acting as fiscal agent of the Board or to the Trustee, as defined in Article VII. 1, as directed by the Board, within 30 days of execution of this Agreement. Initial contributions shall be reimbursed to the Counties upon receipt of Sales Tax proceeds.

B. Time of Payment for County's Administrative Share.

A County's Administrative Share shall be paid to the Board by June 1 of each year.

C. Budgeting and Accounting Services.

The Board may contract with one of the Counties to provide any and all budgeting and accounting services necessary or convenient for the Board's administrative budget. Such services may include, but not be limited to: management of all funds, including County contributions and grant monies; payment for contracted services; and relevant bookkeeping and recordkeeping.

D. Accountability for Funds.

All funds shall be accounted for according to generally accepted accounting principles. A report on all receipts and disbursements shall be forwarded to the Board on an annual basis. The Counties have, at any time, the authority to request and receive reports pertaining to any and all budgeting and accounting services. All interest earned from established Board funds shall be credited back to that same fund.

ARTICLE VII. GRANT MANAGEMENT

1. Receipt of Funds and Financial Management

The Board shall contract with a trustee for the purpose of receipt and disbursement of Sales Tax proceeds and other funds ("Trustee"). The Board may further utilize the Trustee for financial management. Each County shall impose one hundred percent (100%) of the Sales Tax required under Minn. Stat. § 297A.992 and shall direct the Minnesota Department of Revenue to remit the Sales Tax proceeds, less administrative expenses allowable to the Department of Revenue by statute, to the Trustee or as otherwise directed by the Board, with the Sales Tax first pledged to pay debt service on outstanding bonds, if any, authorized and issued pursuant to Article VIII.

2. Criteria for Award of Grants

The Board shall establish criteria for the award of grants that shall include, but not be limited to:

A. Grant awards shall be consistent with the most recent version of the Metropolitan Council's Transportation Policy Plan.

B. Grant awards shall maximize the availability and use of federal funds.

C. No grant award made to the Metropolitan Council may supplant operating or capital funding provided to the Metropolitan Council by the state.

D. No grant award made to the Metropolitan Council may supplant the 50% state share of the non-federal operating subsidy for light rail and commuter rail operations.

E. No grant award shall be made for operating costs of a transitway (except for the Hiawatha Light Rail Project, the Northstar Commuter Rail Project, Cedar Avenue Bus Rapid Transit Project, and the 35W Bus Rapid Transit Project from downtown

Minneapolis south) unless the Board has previously awarded a grant for the capital costs of the transitway project.

F. No grant award shall be made for capital costs of a transitway project unless there is a 10% local match for the transitway project. A local match is defined as dollars that are not provided by the state, the Metropolitan Council, or the federal government.

G. Any grant awards made to an eligible county that joins the Board after July 1, 2008 shall be made only for purposes of paying that eligible county's obligation set forth in Article II.4, until such time as said obligation has been satisfied.

H. Notwithstanding the restrictions of paragraph E above, each County shall be awarded annual grants of at least 1% of the total Sales Tax proceeds for each of the fiscal years 2009, 2010, and 2011. Notwithstanding the foregoing sentence, for minimum guarantee counties, as the term is defined in Minn. Stat. § 297A.922, subd. 1 (4), for fiscal years 2009, 2010, and 2011, the grant awards shall be the greater of 1% of the total Sales Tax proceeds or the minimum guarantee amount provided for in Minn. Stat. § 297A.992, subd. 6.

3. Timeline and Procedure for Award of Grants.

The Board shall establish timelines and procedures for the award of grants in accordance with Minn. Stat. § 297A.992. Award of grants shall be by action of the Board.

ARTICLE VIII. DEBT OBLIGATIONS

1. Debt Obligations.

The Board may incur debt obligations necessary to accomplish its purposes that are consistent with law and the financial policies established by the Board in accordance with this Article VIII.

The Board may authorize a County or regional railroad authority (a "Rail Authority") wholly within the Metropolitan Transportation Area to issue and sell obligations and pledge to such County or Rail Authority the Sales Tax remitted to the Trustee on behalf of the Board hereunder.

Debt obligations authorized or issued pursuant to this Article VIII may be:

a. limited obligations payable solely from or secured by Sales Tax revenues and other separately pledged revenues and issued by the Board, a County or a Rail Authority; provided that any entity separately pledging non-Sales Tax revenue has acted by resolution of its governing body to so pledge; or

b. general obligations secured by the full faith, credit and taxing power of a County and issued by a County; provided that a County has acted by resolution of its governing body to so pledge its full faith, credit and taxing power.

2. Vote Required.

The Board may incur or authorize debt obligations with both a maturity in excess of five years and an amount in excess of the total Sales Tax proceeds projected for the next twelve-month period, only by a vote of (1) 75 of the 100 allocated votes in favor of the action, and (2) at least a simple majority of the County Commissioner representatives voting in favor of the action. All other debt obligations shall be incurred or authorized by action of the Board in accordance with Section III.2.D.

For purposes of determining whether a majority of County Commissioner representatives have voted in favor of an action under this Article, each County Commissioner representative shall have one-half (½) vote. In the event that only one County Commissioner representative is present at a meeting, that Commissioner may cast both of the County's one-half (½) votes.

3. Apportionment of Responsibility.

Prior to the issuance of any debt obligation, the Board shall identify each County's portion of the debt obligation for purpose of apportionment in the event a Party withdraws pursuant to Article IX.

4. Cooperation.

The Board and the Counties agree to provide such resolutions, representations, certifications and other agreements as may be reasonably required by bond counsel to provide for the issuance and sale of such debt obligations; provided that no such action shall require a County to pledge its full faith, credit and taxing power to secure debt obligations issued or authorized hereunder; nor shall such action require a public entity to separately pledge non-Sales Tax revenue to secure debt obligations issued or authorized hereunder.

ARTICLE IX. WITHDRAWAL AND TERMINATION

1. Withdrawal of a County Before Final Termination.

A. Withdrawal of a County. Any County may withdraw from this Agreement upon the following conditions: a) giving three years' notice prior to June 30 of the intended year of withdrawal by written notice to the Board, and b) showing that all amounts due and owing have been paid or will be paid prior to termination of the Sales Tax pursuant to Section IX.1.C. Such amounts shall include the withdrawing County's portion of all outstanding debt obligations issued pursuant to Article VIII and such other obligations as are determined by unanimous vote of the County Commissioner representatives on the Board. Notice shall be effective upon delivery to the Chair of the Board of a certified copy of a resolution of its governing body indicating its intent to withdraw from this Agreement. Upon receipt of the resolution, the Chair of the Board shall forward a copy of the resolution to each of the Counties. In the event of withdrawal by any County, this Agreement shall remain in full force and effect as to all remaining Counties.

B. Effect of Notice of Withdrawal. Upon the effective date of a County's notice of withdrawal, the withdrawing County's representatives may not vote on the issuance or authorization of debt obligations pursuant to Article VIII of this Agreement, nor shall the Board apportion to the withdrawing County any debt obligation incurred or authorized after the effective date of a County's notice of withdrawal. The County's representatives may vote on all other matters until the effective date of withdrawal. In the event that a County rescinds its notice of withdrawal prior to the effective date of withdrawal, the Board shall reapportion any debt obligation incurred or authorized after the effective date of a County's notice of withdrawal to include that County.

C. Effect of Withdrawal. Withdrawal by any County shall not terminate this Agreement except as provided in Section 2.A. herein. Withdrawal shall not act to discharge the withdrawing County from liability incurred or chargeable to the withdrawing County before the effective date of withdrawal. Such liability shall continue until appropriately discharged by law or agreement. No County shall be entitled to a refund of any part of the County's Administrative Share that has been paid to the Board, or receive forgiveness of any part of the County's Administrative Share still owing to the Board, or receive any Sales Tax revenues that have been pledged.

D. Termination of Taxes. The taxes imposed under Minn. Stat. § 297A.99, subdivision 1, by a County that withdraws from this Agreement, shall terminate only when the Party has satisfied its portion of all outstanding debt obligations, as defined in Article VIII of this Agreement, or other obligations as determined by unanimous vote of the County Commissioner representatives on the Board.

A withdrawing County shall not be deemed to have satisfied its portion of all outstanding debt obligations unless:

(1) an independent accountant or independent financial advisor, acceptable to the Board, has provided a written opinion or report stating that the withdrawing Party has satisfied its share of outstanding bonds or debt obligations;

(2) bond counsel, acceptable to the Board, has provided a written opinion stating that the withdrawal of the Party does not affect the security for or tax-exempt status of the outstanding bonds or debt obligations; and

(3) the Board accepts these opinions and reports.

2. Termination.

A. Events Resulting in Termination. This Agreement shall terminate upon the occurrence of any one of the following events:

1) When necessitated by operation of law or as a result of a decision by a court of competent jurisdiction.

2) When all the Parties agree, by resolution adopted by the respective governing bodies, to terminate this Agreement, and all obligations of the Board shall have been paid or otherwise defeased in full.

B. Effect of Termination. Termination shall not discharge any liability incurred by the Board or by the Parties during the term of this Agreement.

C. Termination of Taxes. If the Agreement is terminated, the Sales Tax imposed under Minn. Stat. § 297A.99, subdivision 1, at the time of termination of the Agreement will terminate in accordance with Minn. Stat. § 297A.99, subd. 12, only when all outstanding bonds or obligations are satisfied. The auditors of the Counties in which the taxes are imposed shall see to the administration of this paragraph.

D. Disposition of Property and Funds. Property or surplus money acquired by the Board shall be sold and proceeds distributed to the Counties in proportion to contributions of the Counties or as agreed to by the Board, provided that the Counties shall not be entitled to receive any Sales Tax revenues that have been pledged. No distribution pursuant to this section shall inure to the benefit of any private person. The Board shall approve a final report of its activities and affairs and, on the expiration of thirty (30) days therefrom, shall cease to exist.

ARTICLE X. NOTICES

For purposes of delivery of any notices to the Parties hereunder, the notice shall be effective if delivered in writing to:

Anoka County:
County Administrator
Anoka County Government Center
2100 Third Avenue
Anoka, MN 55303

Carver County:
County Administrator
Carver County Government Center
600 East 4th Street
Chaska, MN 55318

Dakota County:
County Administrator
Dakota County Government Center
1590 Highway 55
Hastings, MN 55033

Hennepin County:
County Administrator
A-2300 Hennepin County Government Center
300 South Sixth Street
Minneapolis, MN 55487

Ramsey County:
County Manager
Ramsey County Court House
15 W. Kellogg Blvd., Room 250
Saint Paul, MN 55102

Scott County: County Administrator
Scott County Government Center
200 Fourth Ave West
Shakopee, MN 55379

Washington County: County Administrator
Washington County Government Center
14949 62nd Street North
Stillwater, Minnesota 55082-0006

ARTICLE XI. LIABILITY

1. Responsibility for Own Acts and Omissions.

Each Party agrees that it will be responsible for its own acts and omissions, the acts and omissions of its commissioners, officers and employees and any liability resulting therefrom to the extent authorized by law. No Party shall be responsible for the acts of the other Parties and the results thereof. Each Party acknowledges and agrees that it is insured or self-insured consistent with the limits established in Minnesota State Statute. Each Party agrees to promptly notify all Parties if it becomes aware of any potential Board related claim(s) or facts giving rise to such claims.

2. No Waiver.

Notwithstanding the foregoing, the terms of this Agreement are not to be construed as, nor operate as, waivers of a Party's statutory or common law immunities or limitations on liability, including, but not limited to, Minn. Stat. Chap. 466. Further, the Party's obligations set forth in this Article and otherwise in this Agreement, are expressly limited by the provisions of Minn. Stat. Chap. 466, Minn. Stat. § 471.59, and any other applicable law or regulation providing limitations, defenses or immunities to the Parties and to the Board.

ARTICLE XII. MISCELLANEOUS

1. Amendments.

This Agreement may be amended only by unanimous agreement of the Parties as evidenced by resolutions adopted by their respective governing bodies.

2. Records, Accounts and Reports.

A. The Board shall establish and maintain such funds and accounts as may be required by good accounting practices. The books and records of the Board shall be subject to the provisions of Minn. Stat. Chapter 13, the Minnesota Government Data Practices Act, and Minn. Stat. § 16C.05, subd. 5. The Board, within one hundred and twenty (120) days after the close of each fiscal year, which shall be January 1 to December 31, shall give a complete written report of all financial activities for such fiscal year to the parties.

B. As required by Minn. Stat. § 297A.992, subd. 11, the Board shall report annually by February 1 to the Minnesota House of Representatives and Senate committees having jurisdiction over transportation policy and finance concerning the revenues received and grants awarded.

3. Counterparts.

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument.

4. Severability.

The provisions of this Agreement are severable. If any paragraph, section, subdivision, sentence, clause, or phrase of the Agreement is for any reason held to be contrary to law, or contrary to any rule or regulation having the force and effect of law, such decision shall not affect the remaining portions of this Agreement.

5. Entire Agreement.

This Agreement constitutes the entire agreement between the Parties and supersedes all prior written or oral agreements relating to the formation of the Board.

6. Alternative Dispute Resolution.

In the event of a dispute arising under this Agreement, the Parties and the Board agree to attempt to resolve their dispute by following the process described below:

A. A Party shall provide written notice to the Board describing perceived conflict, positions and underlying reasons.

B. The Board or Party shall provide written response to notice within 7 days of receipt of notice.

C. The Parties shall meet within 14 days of receipt of response with a neutral facilitator. The neutral facilitator will be a representative from the Minnesota Office of Dispute Resolution. Costs of such facilitator shall be shared equally by all parties to the dispute.

D. At the first meeting, the neutral facilitator will assist the parties in identifying the appropriate parties and participants in the dispute resolution process, their concerns, a meeting agenda and design for any subsequent meetings. The Parties shall agree on a process for resolving the problem that would involve additional negotiations, mediation or arbitration.

E. In developing the process, the Parties will be guided by the following principles:

1) The Parties will attempt in good faith to reach a negotiated settlement.

2) The Parties agree that there must be fair representation of the parties directly involved in the dispute.

3) The Parties will use legal proceedings as a last resort.

4) In the event the Parties are unable to resolve the dispute, each Party retains all rights, remedies or defenses it had prior to entering the process, except that each Party shall be responsible for its own attorney's fees and costs.

F. The Parties will report to the Board within 60 days of their first meeting on the resolution of the dispute or a recommendation to commence legal proceedings.

The remainder of this page is intentionally left blank.

IN WITNESS WHEREOF, the parties to this Joint Powers Agreement Establishing the Counties Transit Improvement Board have hereunto set their hands on the date written below:

COMPREHENSIVE SANITARY SEWER SYSTEM PLAN

Prepared for:

City of Rosemount
2875 – 145th Street West
Rosemount, MN 55068

December 28, 2007

Prepared by:

WSB & Associates, Inc.
701 Xenia Avenue South, Suite 300
Minneapolis, MN 55416
763-541-4800 (Tel)
763-541-1700 (Fax)

December 28, 2007

Honorable Mayor and City Council
City of Rosemount
2875 – 145th Street West
Rosemount, MN 55068

Re: Comprehensive Sanitary Sewer System Plan
City of Rosemount, MN
WSB Project No. 1582-05

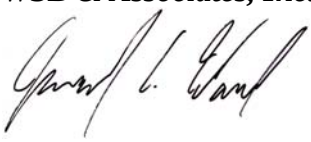
Dear Mayor and City Council Members:

Transmitted herewith is the Comprehensive Sanitary Sewer System Plan for the above-referenced project. The report is a planning tool to help the City meet its short-term and long-term sanitary sewer needs.

We would be happy to discuss this report with you at your convenience. Please give us a call at 763-541-4800 if you have any questions.

Sincerely,

WSB & Associates, Inc.



Joseph C. Ward, PE
Project Engineer

Enclosure

lh/srb

CERTIFICATION

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.

Joseph C. Ward, PE

Date: December 28, 2007 Lic. No. 45855

Quality Control Review by:

Kevin F. Newman, PE

Date: December 28, 2007 Lic. No. 25198

TABLE OF CONTENTS

Tables

Figures

1.0 EXECUTIVE SUMMARY

The Comprehensive Sanitary Sewer Plan is intended to serve as a guide to completing the future sanitary sewer trunk system, and to help the City of Rosemount meet its short-term and long-term sanitary sewer needs. The report, analysis, and figures were based on the City's existing sanitary sewer system and future development plans as of December 28, 2007. Future development plans or the existing sewer system may have changed since the "snapshot" in time the report was based on.

To estimate existing system wastewater flows and project future system wastewater flows the ultimate land use plan was used as opposed to the 2030 land use plan. There are differences between the land use plans, however, it was important to size infrastructure for service beyond the 2030 land use plan. The ultimate land use plan included in Figure 3-1 was used for ultimate system infrastructure sizing.

The existing area with sanitary sewer service has been divided into sixteen (16) sewer sheds, of which the majorities are fully developed in accordance with the ultimate land use plan. Wastewater is collected by the City's sewer system, and then conveyed to Metropolitan Council Environmental Services (MCES) interceptors that flow to MCES wastewater treatment plants. The majority of the City's existing sewage flows to the Rosemount wastewater treatment plant, however, MCES will close this facility and wastewater will flow to the Empire wastewater treatment plant in the near future. The existing sanitary sewer system is shown in Figure 5-1.

The future service area was divided into twelve (12) sewer sheds. Existing and future sewer sheds are shown in Figure 6-1. Each sewer shed contributes wastewater flow to the sanitary sewer collection system. The volume of wastewater that each sewer shed contributes depends on the future land use.

The topography of the undeveloped areas was studied to determine the extents of gravity sewer areas for future trunk facilities. The intention with laying out the future system was to minimize the number of trunk lift stations, while keeping the maximum depth of gravity sewers to less than 40 feet. The City's topography generally slopes from west to east, making it possible to avoid constructing many lift stations. The layout of the future trunk sewer system is shown in Figure 6-2. The layout is general in nature and exact routing will be determined at the time of final design. It is important that the general concept and sizing be adhered to for assurance of an economical and adequate ultimate system.

Construction cost estimates were developed for the completion of the trunk sewer system. Typically, developers are required to construct sewers and lift stations necessary to serve their development at their own cost. Some gravity trunk sewers included in the ultimate system for this plan were as small as 8 inches in diameter, which is the minimum sewer size construction standards allow. It was assumed that developers would fund and construct all 8-inch sewers, so the estimated quantity of trunk sewers 8 inches in diameter has been included, but not the cost.

Table 1-1 below shows the estimated system expansion costs. Future improvement costs were based on 2007 construction prices, including a 10% construction contingency, and including 30% overhead (i.e., legal, engineering, and administrative). Street and easement costs and other miscellaneous costs that may be related to final construction are not included. Detailed cost estimates for each district are available in Appendix 2. Furthermore, construction schedules for trunk facilities in each sewer shed are included Appendix 3. Current development fees were reviewed and appear to be adequate to fund the future system expansion costs, but should be reviewed on a regular basis.

Table 1-1
Capital Improvement Plan by Sewer Shed

District	2010	2020	2030	Ultimate	Total
Northeast	$0	$1,103,470	$0	$666,660	$1,770,130
Southeast	$0	$4,288,476	$9,007,658	$0	$13,296,134
Southeast Central	$0	$281,140	$0	$0	$281,140
South Central	$0	$0	$0	$2,150,025	$2,150,025
Central	$0	$1,597,184	$370,813	$0	$1,967,997
North Central	$1,810,488	$2,232,381	$0	$0	$4,042,869
Southwest Central	$0	$0	$0	$3,459,562	$3,459,562
Southwest	$0	$0	$0	$877,123	$877,123
Lan-O-Ken	$0	$807,520	$0	$0	$807,520
Northwest	$0	$0	$0	$294,290	$294,290
South Bacardi	$0	$362,790	$0	$0	$362,790
Total	***$1,810,488***	***$10,672,961***	***$9,378,471***	***$7,447,660***	***$29,309,580***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

2.0 PURPOSE AND SCOPE

The City of Rosemount is located in north central Dakota County in the southeast suburbs of the Twin Cities Metropolitan area. Rosemount has experienced considerable growth in recent years and anticipates similar growth to continue. It continually experiences development pressures due to its location relative to transportation arterials (US 52) and its proximity to St. Paul.

The purpose of this study is to update the existing Comprehensive Sanitary Sewer System Plan in accordance with Minnesota Statute 473.513. It provides the City with a plan to serve future development and an estimate of future sanitary sewer system costs. The plan provides flow projections through the year 2030, and ultimate system development in accordance with the City's Comprehensive Plan.

This plan examined sanitary sewer service to future development. Population and water use estimates from the City's Comprehensive Water System Plan, initially from the Comprehensive Plan, were used to maintain consistent planning for water and sewer service. Also, the plan estimated opinions of probable cost for future improvements to develop a Capital Improvement Plan (CIP).

Sanitary sewer plans have been developed for various locations throughout Rosemount. However, these studies have not been linked together to examine the future system as a whole. This study will tie together previous studies in a sanitary sewer model (SewerCAD V. 5.6) in an effort to determine service requirements for all remaining developable acres.

The existing sanitary sewer system is sufficient to serve the existing developed area and was not included in the SewerCAD model. However, the existing sewers were included in the analysis to confirm the capacity was adequate to serve existing development and future development if necessary.

3.0 LAND USE

3.1 Land Use Categorization

Figure 3-1 is the current ultimate land use plan for the City of Rosemount. The ultimate land use plan, as opposed to the 2030 land use plan, was used in order to size infrastructure appropriately beyond the 2030 time frame. This plan was developed by the City and separates the planning area into fifteen (15) different land use categories. Land use is a critical factor in locating and sizing future sanitary sewers because different land uses generate different wastewater flow rates. Further detail regarding wastewater flows generated by existing and future land uses is discussed in Sections 5 and 6.

3.2 Developable Areas

The area within Rosemount's planning area is approximately 34 square miles or 21,800 acres, excluding the river/wetland area for the Mississippi River in the northeast area of the City. There is approximately 2,400 acres of undevelopable area (agriculture). Within the City, approximately 5,100 acres are developed with sewer service, and 2,800 acres are developed without sewer service. Therefore, the total remaining developable area within the City's planning area is approximately 11,500 acres.

The total acreage for each land use area was calculated. Existing developed, serviced and unserviced areas, and undevelopable areas were subtracted to obtain developable acreage. This is identified as "Gross" Developable Acreage because it includes roads and common or public areas potentially included in developments. Roads, common areas, and parks typically consume 25% to 30% of the gross area within a development. The Gross Developable Acreage by land use categories is summarized in Table 3-1 and identified in Figure 3-2. Figure 3-2 indicates whether an area is developed with sewer service, developed without sewer service, or available for future development.

Table 3-1
Gross Developable Acreage

Land Use	Acres
Urban Residential[1]	4,955
Medium Density Residential[2]	664
High Density Residential[3]	148
Transition Residential	36
Rural Residential	414
Public/Institutional[4]	0
Business Park[5]	1,857
Commercial[6]	532
General Industrial	1,025
Industrial/Mixed Use	699
Air Cargo[7]	630
Corporate Campus	512
Total	**11,472**

[1] Includes 2,480 acres in the Univ. of Minn. Property
[2] Includes 199 acres in the Univ. of Minn. Property
[3] Includes 40 acres in the Univ. of Minn. Property
[4] Assumes existing Wastewater Facility is not developable
[5] Includes 296 acres in the Univ. of Minn. Property
[6] Includes 49 acres in the Univ. of Minn. Property
[7] If the Air Cargo Project is not completed, this land area will become Urban Residential as shown in Figures 3-1 and 3-2

4.0 GROWTH PROJECTIONS

4.1 Projected Residential Growth

Rosemount's 2005 population estimate was 19,418. In the last five years, Rosemount's population has grown 30%, with the bulk of growth occurring in areas receiving sewer service. According to the 2000 and 1990 censuses, populations were 14,619 and 8,622, respectively. Estimates of the population of the City of Rosemount, as published by the State Demographer's Office for the years 1991 through 1999, are presented in Table 4-1, along with the census data and the City's projected population. Figure 4-1 is a graphical representation of the population trends.

Population projections based on the City's land use plan are included in Table 4-1. All population density, residential land use assumptions, and non-residential land use assumptions are discussed in the City's 2030 Comprehensive Plan.

Currently, there is a large amount of property owned by the University of Minnesota in the previously described UMore Park. The property is considered ultimate growth, because there are no current development plans. Most of this property is considered residential in the land use plan.

Much of the property identified for the Air Cargo facility would become residential if the Air Cargo facility is not developed. Population projections do not account for that increase. In the event the Air Cargo project is not constructed, the sanitary sewer flow generated from the residential and business park, the backup land use, would not vary greatly from the proposed Air Cargo facility due to the associated types of businesses.

Table 4-1
Population Estimates and Projections

Year	Total Population	Land Use Population[1]	Serviced Population[2]	Land Use Households	Serviced Households	Land Use Employment	Serviced Employment
1990	8,622						
1991	9,129						
1992	9,750						
1993	10,478						
1994	11,086						
1995	11,721						
1996	12,272						
1997	12,772						
1998	13,146						
1999	13,544		11,726				
2000	14,619		12,801				
2001	15,270		13,452				
2002	16,110		14,292				
2003	16,794		14,976				
2004	17,740		15,922				

Table 4-1
Population Estimates and Projections

Year	Total Population	Land Use Population[1]	Serviced Population[2]	Land Use Households	Serviced Households	Land Use Employment	Serviced Employment
2005	19,418		17,600				
2006	20,207		18,389				
2007	20,917		19,099				
2008		21,862	20,044				
2009		22,806	20,988				
2010		23,750	21,932	8,050	7,434	8,400	7,865
2011		24,694	22,903				
2012		25,635	23,871				
2013		26,573	24,836				
2014		27,508	25,798				
2015		28,440	26,757				
2016		29,369	27,713				
2017		30,295	28,666				
2018		31,218	29,616				
2019		32,138	30,563				
2020		33,050	31,502	11,800	11,247	10,100	9,600
2021		33,961	32,440				
2022		34,868	33,374				
2023		35,772	34,305				
2024		36,672	35,232				
2025		37,569	36,156				
2026		38,462	37,076				
2027		39,352	37,993				
2028		40,238	38,906				
2029		41,121	39,816				
2030		42,000	40,725	15,500	15,029	12,220	12,170
Ultimate[3]		85,639	84,358				

[1]Based on land use growth assumptions

[2]Years 1999-2006 based on city figures of 1,818 unserved residents and years 2007-2030 assume uniform total population growth

[3]Ultimate population includes University of Minnesota Property as shown in Figure 1 and construction of the Air Cargo Facility as shown in Figure 1

DNR State Public Water Supply Inventories were obtained for the years 2000 through 2005 to determine the number of water connections in the City's system. Typically, the number of water and sewer connections is equal, so sewer and water connections were assumed equal. Based on the number of residential connections (4,127-2000 and 5,801-2005) and the estimated serviced population (2000-12,801 and 2005-17,600), there are approximately three residents for every connection. Should this trend continue, there would be approximately 14,600 residential connections by the year 2030 based on the population projections. Further detailed growth projections are included in Sections 5 and 6.

4.2 Projected Non-Residential Growth

In the past, Rosemount has attracted industrial and public/institutional growth. A major industrial park consisting of Flint Hills Resources (an oil refinery serving much of the upper Midwest) and several smaller industrial users is located along US Highway 52 and north of County Road 42. Dakota Technical College is located one mile east of downtown, and the University of Minnesota owns approximately 3,000 acres south of County Road 42 and east of Biscayne Avenue.

The non-residential growth trend will most likely continue in the future with the potential development of an Air Cargo handling facility. This development would not consist of one major sewer flow contributor, but of many individual office/warehousing businesses (business park) coordinating efforts to transport material to the Minneapolis/St. Paul International Airport.

Flint Hills Resources, Dakota Technical College, and Rosemount Public Schools currently comprise the major non-residential water users for the system, and assumed sewage flow contributors. There are growth opportunities for these customers and these opportunities have been accounted for by the City in the proposed land use plan. Also, these major customers have been included in determining the appropriate wastewater flow per acreage per land use type.

Non-residential connection categories listed in the DNR State Public Water Supply Inventories (2000-2005) included commercial, industrial, and other. Therefore, water customer categories do not correlate directly to land use type. For that reason, non-residential connections have been grouped together to determine future growth. Table 4-2 shows the continued growth in commercial and industrial connections over the past five years.

Table 4-2
Historical Non-Residential Connections

Year	Commercial Connections	Industrial Connections	Other Connections	Total Non-Residential Connections
2000	123	8	25	156
2001	130	9	25	164
2002	135	13	25	173
2003	138	15	26	179
2004	140	15	26	181
2005	146	15	27	188
2006	149	15	27	191

As shown in the above Table 4-2, non-residential water connections have grown consistently. Based on the number of non-residential connections (156-2000 and 188-2005) and the estimated serviced population (2000-12,801 and 2005-17,600), there are 80 to 90 residents for every non-residential connection. Should this trend continue, there would be approximately 500 non-residential connections by the year 2030. Further detailed growth projections are included in Sections 5 and 6.

4.3 Projected Land Use Phasing and Summary

Potential service areas are shown in Figure 4-2 and summarized in Table 4-3. The potential service area is shown for the years 2007, 2010, 2020, 2030, and ultimate development. The 2007 service area shown in Figure 4-2 is approximately 5,100 acres. Growth is projected to occur primarily by surrounding the existing western service area then expanding eastward, with the exception of UMore Park.

Table 4-3
Potential Ultimate Service Area

	2007 (ac)	2010 (ac)	2020 (ac)	2030 (ac)	Ultimate (ac)
Total Service Area	5,100	6,000	10,100	14,700	18,200

[1] Ultimate residential includes 2,719 acres of potential residential development on the property owned by the Univ. of Minn.

[2] Ultimate non-residential includes 296 acres of potential business park and 49 acres of commercial development on the property owned by the Univ. of Minn.

5.0 EXISTING SANITARY SEWER SYSTEM

5.1 Current Service Areas

Sanitary sewer systems consist of two elements: collection and treatment. The existing City sanitary sewer system is a collection system only, MCES is responsible for treatment. Also, MCES is responsible for major trunk facilities conveying wastewater across City boundaries to treatment facilities.

The MCES Rosemount Interceptor flows from west to east across Rosemount to the existing Rosemount wastewater treatment plant. However, future flows will not be treated at the Rosemount wastewater treatment plant, but conveyed by the Empire Interceptor southwest to the Empire wastewater treatment plant for treatment.

The existing service area is defined as the area from which wastewater flows are collected, and is approximately 5,100 acres. It can be broken down into sewer sheds based on its connection points to MCES interceptors, City trunk sewers, and lift station service areas. Figure 5-1 shows the existing service area, sewer sheds, MCES interceptor sewers, and the City sewer system, including lift stations.

The Dakota County Maintenance Facility and Communications Center in Empire Township, located south of CSAH 46 and east of TH 3, is served by the City. Wastewater from the facility flows through MCES flow meter M641 and the City bills Dakota County directly for the wastewater flow. A copy of the agreement between the City and Dakota County for sewer service has been included in Appendix 4.

As discussed in Section 3, there is still much developable land available within the City; therefore, sewer service has not been extended to all properties. The remaining unserved properties are generally located in the undeveloped eastern area and northwestern rural residential area, but there are some Individual Sewage Treatment Systems (ISTSs) scattered throughout the existing served area. Figure 5-2 shows the existing ISTSs within the City limits.

As of December 31, 2008 the City of Rosemount has 510 on-site disposal systems which include 47 commercial/industrial systems. City Code requires all systems to be serviced every three years. The City maintains a database of properties to ensure proper tracking and notifications. Notification is sent to property owners when systems are due for maintenance. If owners do not comply with the on-site treatment regulations then there is opportunity to send an additional notice. Up to three notices will be sent prior to legal action. Upon completion of service to their system, a maintenance permit is issued for a three year period.

The City notifies approximately 170 residents annually that their system needs to be serviced. Almost all residents comply as a result of the notifications, but an average of about four to five citations are issued annually to ensure full compliance with the regulations.

5.2 Existing Wastewater Flows

5.2.1 Existing Sewer Shed Flows

The City's existing sanitary sewer system shown in Figure 5-1 identifies two MCES flow meters, trunk sewers, MCES interceptors, lift stations, and resulting existing sewer sheds. The flow meters and lift station service areas were reviewed to estimate the existing sanitary sewer flow within each sewer shed. The estimated unit wastewater flow, discussed in the following section, was multiplied by the number of existing platted units. Table 5-1 shows the estimated average flow rates for the City's existing sewer sheds compared to the 2006 average flow rates measured by the MCES flow meters in Million Gallons per Day (MGD). A possible explanation for the difference between estimated and metered data is that some units may be platted but not constructed or occupied, resulting in a higher quantity of existing units generating wastewater flow. In addition, Flint Hills Resources has been connected to the existing system in the Northeast District, but did not contribute any flow in 2006. Therefore, the Northeast District was not included in Table 5-1.

Since existing flows for each sewer shed did correlate to the total existing flows measured at the MCES flow meters M641 and M645, estimated unit wastewater flows were assumed to be a level of accuracy sufficient for determining existing infrastructure capacity.

Table 5-1
Existing Wastewater Flows Generated per Sewer Shed

Sewer Shed	Estimated Average Flow (MGD)	2006 Metered Average Flow (MGD)
LS 3	0.265	
Danville	0.096	
M641	***0.361***	***0.320***
150th	0.171	
Canada	0.113	
LS 1	0.136	
LS 4	0.115	
LS 5	0.107	
LS 6	0.005	
LS 7	0.018	
LS 8	0.053	
LS 9	0.034	
Auburn	0.011	
Biz Pkwy	0.077	
Biscayne	0.124	
Connemara	0.219	
Lan-O-Ken	0.054	
M645	***1.237***	***1.036***

5.2.2 Estimated Unit Wastewater Flows

The Comprehensive Water System Plan provided a detailed analysis of the estimated unit water demand for each land use type. The analysis found the existing land uses exhibited the following water demands:

- Residential – 95 gallons/capita/day (gpcd)
- Public/Institutional – 250 gallons/acre/day (gpad)
- Commercial – 800 gallons/acre/day
- Industrial – 800 gallons/acre/day
- Flint Hills/Waste Management – 55 gallons/acre/day

To verify existing sanitary sewer flows as a percentage of water demand, annual average flows were compared to winter water usage in Table 5-2 below. Winter average water usage (October through March) correlated 100% to average sanitary sewer flows. Therefore, the difference in annual water demand and sanitary sewer flows is caused by lawn watering. The ratio of annual water usage to annual wastewater flow is shown in Table 5-2 as well.

Table 5-2
Water Demand to Wastewater Flow Ratio

	2002	2003	2004	Average
Winter Water Use (Metered, MGD)	1.031	1.086	1.129	1.082
MCES Sanitary Annual Avg. Flow (MGD)	1.062	1.091	1.157	1.103
WW/Water Ratio Winter Avg.	103.00%	100.48%	102.44%	101.97%
Annual Daily Water Use (Metered, MGD)	1.463	1.872	1.818	1.718
MCES Sanitary Annual Avg. Flow (MGD)	1.062	1.091	1.157	1.103
WW/Water Ratio Annual Avg.	72.58%	58.29%	63.62%	64.23%

Since the majority of Rosemount is residential, it is critical to accurately represent residential density in sewer planning and design. Existing development densities for the serviced area were determined in the Comprehensive Water System Plan (Water Plan), and were based on typical development densities for each land use found throughout the City at the time. At the time the water plan was completed, there were 2,400 developed residential acres, 6,013 residential connections, and a serviced population of 18,038, yielding 2.5 units/acre and 3.0 people/connection. The Water Plan projected the following densities (per gross acre) per residential land use type.

- Urban Residential – 3 units/acre (future), currently 2.6 units/acre
- Transition Residential – 2 units/acre
- High Density Residential – 12 units/acre (future), currently 10 units/acre
- Medium Density Residential – 7 units/acre

Each land use type was assumed to have 3.0 people/unit and 65% of water use flows to sanitary sewers as evidenced by Table 5-2 above. Therefore, the resulting wastewater flow for each existing residential unit was assumed to be 185.25 gallons per day (gpd) per unit (95 gpcd X 3 people/unit X 65%).

Non-residential density, units per acre, was determined in the recently completed rate study. Also, the rate study examined specific developments to find typical units per acre for Business Park and Commercial. Industrial and Public/ Institutional density was based on the existing connections and existing area. Future Industrial/Mixed Use and Air Cargo was assumed to be the same density as Business Park. Listed below are the various existing and future non-residential densities.

- Commercial – 1.2 acres/connection
- Business Park – 10.5 acres/connection
- Industrial/Mixed Use – 10.5 acres/connection
- Air Cargo – 10.5 acres/connection
- Industrial[1] – 60 acres/connection
- Public/Institutional – 16.5 acres/connection

[1]Existing Industrial acres are 125 acres/connection, but results are skewed due to Flint Hills. Remaining industrial parcels are approximately 60 acres, therefore it was assumed one connection per parcel.

Similar to the estimate for residential flow rate per unit, non-residential flow rates per unit were estimated. Each land use type multiplied the existing flow rate per acre by the number of units per acre to determine the flow rate per unit. For example, each commercial connection was assumed to generate 960 gpd per unit (800 gal/acre/day X 1.2 acre/connection). Non-residential wastewater flows were not reduced to account for lawn watering.

5.3 Infiltration/Inflow

5.3.1 General

Infiltration is water that enters the sanitary sewer system by entering through defects in the sewer pipes, joints, manholes, and service laterals, or by deliberate connection of building foundation drains. Water that enters the sewer system from cross connections with storm sewer, sump pumps, roof drains, or manhole covers is considered inflow.

Water from inflow and infiltration can consume available capacity in the wastewater collection system and increase the hydraulic load on the treatment facility. In extreme cases, the added hydraulic load can cause bypasses or overflows of raw wastewater. This extra hydraulic load also necessitates larger capacity collection and treatment components, which results in increased capital, operation and maintenance, and replacement costs. As sewer systems age and deteriorate, I/I can become an increasing problem. Therefore, it is imperative that I/I be reduced whenever it is cost effective to do so.

The MCES has established I/I goals for each community discharging wastewater into the Metropolitan Disposal System (MDS). In February 2006, MCES adopted an I/I Surcharge Program which requires communities within their service area to eliminate excessive I/I over a period of time. All communities exceeding their wastewater flow goal for the period of June 1, 2004, through June 30, 2006, were charged at the beginning of 2007, and from July 1, 2006, to June 30, 2007, will be charged at the beginning of 2008. The City of Rosemount was not identified by MCES as a community with excessive I/I and, therefore, is not on the MCES I/I Surcharge List.

5.3.2 I/I Analysis

The majority of the City's existing sanitary sewer system has been constructed within the last twenty years. City construction standards have been followed to minimize I/I flow contributions to the system.

Included in the City's System Statement for the 2030 Regional Development Framework adopted by the Metropolitan Council in 2004 was the City's I/I goal

for the years 2010, 2020, and 2030 based on MCES assumed flow increases. MCES assumed peak flow factors used as the limit for peak I/I flow rates are variable depending on the average flow. The sliding scale used by MCES has been included in Appendix 1. The City's current peaking factors are well below the MCES guidelines as shown in Table 5-3 below.

Table 5-3
Existing Peak Flow Factors

Year	Average Flow (MGD)	Peak Flow (MGD)	City Peaking Factor	MCES Maximum Peak Factor
M641				
2002	0.317	0.576	1.81	3.6
2003	0.331	0.797	2.41	3.6
2004	0.342	0.793	2.32	3.6
2005	0.322	0.789	2.45	3.6
2006	0.320	0.647	2.02	3.6
M645				
2002	0.745	1.456	1.96	3.3
2003	0.761	1.625	2.14	3.3
2004	0.815	1.522	1.87	3.2
2005	0.902	1.524	1.69	3.2
2006	1.036	1.420	1.37	3.1
Total				
2002	1.062	1.888	1.78	3.1
2003	1.091	2.075	1.90	3.1
2004	1.157	1.941	1.68	3.1
2005	1.224	1.928	1.57	3.0
2006	1.356	1.894	1.40	3.0

5.3.3 Municipal I/I Reduction

The City's strategy for preventing excess I/I is based on requiring new development to conform to City standards and ongoing maintenance. The City performs maintenance on the sanitary sewer system on a consistent basis, and the City reconstructs several streets within the City annually. As a part of street reconstruction projects, sanitary sewers are replaced or lined if they are in poor condition.

The City construction standards include prohibiting the connection of sump pumps, rain leaders, and passive drain tiles to the sanitary sewer system. All developments are designed and constructed as public improvement projects, therefore projects conform to the City construction standards. In addition, development construction is observed to verify construction is in accordance with

plans and City standards. All newly constructed sanitary sewers are televised and pressure tested to confirm they have been constructed in accordance with City standards.

5.4 Evaluation of Existing Facilities

5.4.1 Wastewater Treatment

As discussed previously, the City of Rosemount is responsible for wastewater collection only. Treatment is provided by MCES at the Rosemount wastewater treatment plant, but flows will be conveyed to the Empire wastewater treatment plant for disposal in the near future. The Empire wastewater treatment plant is located south of Rosemount in Empire Township. There are approximately 384 remaining properties within the City with ISTSs. These properties are shown in Figure 5-2.

Property owners with ISTSs are required to connect to the City collection system within ten (10) years of City service becoming available or when the City has determined the ISTS has failed, whichever is earlier.

5.4.2 Lift Stations

The City currently has nine lift stations in service and their locations are noted on Figure 5-1. The total capacity, existing flow, and ultimate future flow for each lift station is listed below in Table 5-4. Based on the service areas for Lift Stations No. 1 and No. 8, estimated existing peak flows exceed the lift station capacity. However, City staff has indicated that there have not been any incidents involving flows exceeding lift station capacity.

Table 5-4
Existing Lift Station Capacities and Flows

Lift Station	Estimated Existing Avg. Flow (GPD)	Estimated Ultimate Avg. Flow (GPD)	Estimated Ultimate Peak Flow (GPD)	Lift Station Capacity (GPD)
LS 1	136,076	136,076	530,697	432,000
LS 3	264,957	347,457	1,250,845	1,267,200
LS 4	114,670	114,670	458,679	864,000
LS 5	106,618	106,618	426,471	612,000
LS 6	4,631	4,631	18,525	50,400
LS 7	17,784	17,784	71,136	90,720
LS 8	40,570	40,570	162,279	64,800
LS 9	34,457	50,523	202,092	216,000
LS 10	14,079	14,079	56,316	172,800

5.4.3 Trunk Mains

The existing City of Rosemount sanitary sewer system is comprised of gravity sewers ranging in size from 6 inches in diameter to 30 inches in diameter. The City sanitary sewer mains flow to the MCES interceptor sewers. The MCES interceptor sewers provide service to the City of Rosemount only. Figure 5-1 shows the existing City sanitary sewers and MCES interceptor.

Existing peak flows from each sewer shed were estimated based on the developed area within each sewer shed and estimated unit wastewater flow. Table 5-1 shows the existing average flows generated in each of the sewer sheds; however, Table 5-5, below, shows the peak flows from each sewer shed used to evaluate the adequacy of the existing trunk sewer system. Table 5-5 indicates that existing City trunk mains have adequate capacity to serve ultimate flows.

Table 5-5
Existing System Trunk Main Capacity

Trunk Main	Existing Trunk Main Size (IN)	Existing Trunk Main Capacity (MGD)	Estimated Ultimate Average Flow (GPD)	Estimated Ultimate Peak Flow (MGD)	Contributing Sewer Sheds
M641	15	1.617	0.443	1.551	Danville/LS 3
150th	27	5.181	1.199	3.718	LS 4/LS 5/LS 6/150th Canada/LS1/Biscayne Business Parkway
Lan-O-Ken	18	2.351	0.638	2.169	Northwest/Lan-O-Ken
Connemara	30	6.384	1.165	3.612	Connemara/LS 9 Lan-O-Ken/Northwest South Bacardi

All peak flows shown in the above Table 5-5 are based on MCES supplied peaking factors. This variable ratio, called the peak flow factor, has been found to decrease as the average flow increases. They are generally considered conservative, and are widely used for planning in municipalities throughout the Twin Cities metropolitan area. Appendix 1 lists the peaking factors for this study.

5.4.4 Summary of Existing System Evaluation

Existing system infrastructure including gravity mains, lift stations, and force mains has adequate capacity to serve existing system flows. Lift Stations No.1 and No. 8 may exceed ultimate peak flows and should be monitored by City staff.

6.0 FUTURE SANITARY SEWER SYSTEM

6.1 Future Service Areas

The future sanitary sewer system is based upon dividing up the ultimate potential service area into major service areas or sewer sheds and then dividing those major sewer sheds into sub-sewer sheds. The existing City sewer shed locations were dictated by the location of existing infrastructure; however, selection of future sewer sheds was generally governed by existing topography and or other existing features such as roadways. In addition, determining future sewer sheds was generally not affected by existing sewer shed locations, because existing sewer sheds typically flow into MCES interceptors without crossing undeveloped areas.

The ultimate future potential service area was broken up into twelve (12) major sanitary sewer districts: Northwest, Lan-O-Ken, South Bacardi, North Central, Central, Northeast Southeast, Southeast Central, South Central, Southwest Central, and Southwest. Figure 6-1 shows the future sewer sheds, and the existing sewer sheds. The Northwest, Lan-O-Ken, South Bacardi, and North Central sewer sheds were determined based on previous studies including the North Central Sanitary Sewer Study and the CSAH 42/Akron AUAR.

The following is a brief summary of the steps taken to develop the future trunk sanitary sewer system based upon the ultimate service area:

1. The ultimate potential service area was determined by eliminating large areas not likely to be served in the future, which generally included the area surrounding Flint Hills Resources.

2. The service area was divided into sub-sewer sheds based on gravity sewer constraints and roadway boundaries. Sanitary sewers were designed with minimal crossing of higher capacity roads such as CSAH 42 and TH 52.

3. Sanitary sewer flows were generated for each sub-sewer shed based on the gross developable acreage and the anticipated land use. The wastewater flow generation rates for the various land use categories discussed in this section were used to project future wastewater flows.

4. The sanitary sewer system was developed using the existing MCES interceptors as trunk sewers except in the east. Future trunk sewers in the east area were laid out based on ground contours which govern how far the gravity trunk sewers can feasibly be extended. All trunk sewers were designed to be no deeper than 40 feet, and no shallower than 8 feet from the existing ground surface.

5. Gravity sewer mains, lift stations, and force mains needed to accommodate the ultimate service area were then sized for peak sanitary sewer flows from those sub-districts which are tributary to each particular trunk gravity sewer main or lift station.

The remaining developable area, summarized in Table 3-1 and shown in Figure 3-2, has been further broken down by sewer shed and is shown in Table 6-1 on the following page. The Table shows amount of developable area in each sewer shed by land use category. Some of the existing sewer sheds have been included because the sewer shed has not been fully developed.

6.2 Future Wastewater Flows

6.2.1 Estimated Unit Wastewater Flows

Future sanitary sewer flows, in conjunction with available slope, govern the capacity of sanitary sewers. To determine future sanitary flows, existing water demand and MCES recommendations were considered. MCES typically estimates 274 gpd/connection or 75 gpcd for residential average day wastewater flow generation rates and 800 gpad for non-residential. However, these estimates are used in planning for regional MCES interceptors. On a local design level, it is recommended to size sanitary sewers for non-residential wastewater flow generation rates greater than 800 gpad. The following non-residential average day wastewater flow generation rates per acre were assumed:

- Business Park – 1,000 gpad
- Commercial – 1,000 gpad
- Corporate Campus – 1,000 gpad
- General Industrial – 1,500 gpad
- Industrial/Mixed Use – 1,500 gpad
- Air Cargo – 1,000 gpad

Future residential development was reviewed with the City Planning Department over the course of developing the Comprehensive Water System Plan. MCES recommendations of 75 gpcd were used in conjunction with planning department development projections and densities. The following residential average day wastewater flow generation rates were assumed:

- Urban Residential – 3 units/acre, 3.0 person/unit, 75 gpcd = 675 gpad
- Transition Residential – 2 units/acre, 3.0 person/unit, 75 gpcd = 450 gpad
- High Density Residential – 12 units/acre, 3.0 person/unit, 75 gpcd = 2,700 gpad
- Medium Density Residential – 7 units/acre, 3.0 person/unit, 75 gpcd = 1,575 gpad
- Rural Residential – 0.2 units/acre, 3.0 person/unit, 75 gpcd = 45 gpad

Table 6-1
Summary of Gross Developable Acres by Sewer Shed

Sewer Shed	Urban Res.[1]	Medium Density Res.[2]	High Density Res.[3]	Transition Res.	Rural Res.	Public Inst.[4]	Business Park[5]	Commercial[6]	Corporate Campus	General Industrial	Industrial Mixed Use	Air Cargo[7]	Total
LS 3										55			***55***
LS 9				36									***36***
Business Parkway	21						295	30					***346***
Biscayne	10												***10***
Connemara	75												***75***
Lan-O-Ken	17		33										***50***
South Bacardi	92												***92***
North Central	854	175	50		414			65					***1,558***
Southwest	563												***563***
Southwest Central	1,242	113	40					49					***1,444***
South Central	614	86					212						***912***
Central	231	39					557	100		354	240		***1,521***
West Central		71						35					***106***
Southeast Central							95	113			29		***237***
Northeast										616			***616***
Southeast	1,236	180	25				698	140	512		430	630	***3,851***
Total	***4,955***	***664***	***148***	***36***	***414***		***1,857***	***532***	***512***	***1,025***	***699***	***630***	***11,472***

[1]Includes 2,480 acres in the Univ. of Minn. Property
[2]Includes 199 acres in the Univ. of Minn. Property
[3]Includes 40 acres in the Univ. of Minn. Property
[4]Assumes existing Wastewater Facility is not developable
[5]Includes 296 acres in the Univ. of Minn. Property
[6]Includes 49 acres in the Univ. of Minn. Property
[7]If Air Cargo Project is not completed land area will become Urban Residential

6.2.2 Future Sewer Shed Flows

The estimated unit wastewater flows previously described were tied to the remaining developable acres and potential ultimate service area in each sewer shed as shown in Figures 3-2 and 4-2 to determine the future average wastewater flows as shown below in Table 6-2.

Table 6-2
Future Wastewater Flows by Sewer Shed

Sewer Shed	2010 Avg. Flow (MGD)	2015 Avg. Flow (MGD)	2020 Avg. Flow (MGD)	2025 Avg. Flow (MGD)	2030 Avg. Flow (MGD)	Ultimate Avg. Flow (MGD)
LS 3	0.265	0.306	0.347	0.347	0.347	0.347
Danville	0.096	0.096	0.096	0.096	0.096	0.096
150th	0.171	0.171	0.171	0.171	0.171	0.171
Canada	0.113	0.113	0.113	0.113	0.113	0.113
LS 1	0.136	0.136	0.136	0.136	0.136	0.136
LS 4	0.115	0.118	0.121	0.121	0.121	0.121
LS 5	0.107	0.107	0.107	0.107	0.107	0.107
LS 6	0.005	0.005	0.005	0.005	0.005	0.005
LS 7	0.018	0.018	0.018	0.018	0.018	0.018
LS 8	0.053	0.053	0.053	0.053	0.053	0.053
LS 9	0.051	0.051	0.051	0.051	0.051	0.051
Auburn	0.011	0.011	0.011	0.011	0.011	0.011
Biz Pkwy	0.301	0.356	0.411	0.411	0.411	0.411
Biscayne	0.136	0.136	0.136	0.136	0.136	0.136
Connemara	0.270	0.270	0.270	0.270	0.270	0.270
Lan-O-Ken	0.154	0.246	0.338	0.338	0.338	0.338
Northwest	0.000	0.000	0.000	0.000	0.000	0.300
South Bacardi	0.000	0.089	0.179	0.179	0.179	0.206
North Central	0.450	0.776	1.103	1.103	1.103	1.140
Southwest	0.000	0.000	0.000	0.000	0.000	0.378
Southwest Central	0.000	0.000	0.000	0.000	0.000	1.162
South Central	0.000	0.000	0.000	0.000	0.000	0.732
Central	0.000	0.620	1.286	1.433	1.581	1.755
Southeast Central	0.000	0.078	0.157	0.199	0.242	0.242
Northeast	0.188	0.357	0.526	0.655	0.784	1.135
Southeast	0.000	0.392	0.784	2.206	3.628	3.703
West Central	0.000	0.073	0.146	0.146	0.146	0.146
Total Future Flow	**2.640**	**4.578**	**6.565**	**8.305**	**10.047**	**13.283**

As discussed previously, MCES regional interceptor capacities are planned for based on an average wastewater flow generation rate of 800 gpad. Therefore, regional wastewater flow projections are different than the local wastewater flow projections included in Table 6-2. Future regional average wastewater flow is shown in Table 6-3 by sewer shed and connection point to MCES facilities.

Table 6-4, immediately following Table 6-3, shows projected future regional wastewater flow in 10-year increments.

Table 6-3
Ultimate Regional Wastewater Flow by MCES Connection Point

MCES Facility	Sewer Shed	Ex. Avg. Flow (MGD)	Developable Acres	[2]Future Development Avg. Flow (MGD)	Ultimate Avg. Flow (MGD)	Cumulative Ultimate Avg. Flow at MCES Connection (MGD)
M641	LS 3	0.265	55	0.044	0.309	0.405
	Danville	0.096	0	0.000	0.096	
L74 to Blaine Ave. (CR 73)	Central	0.000	1521	1.217	1.217	5.168
	Northeast	0.188	616	0.493	0.681	
	Southeast	0.000	3851	3.081	3.081	
	Southeast Central	0.000	237	0.190	0.190	
Blaine Ave. (CR 73) to Akron Ave. (CR 71)	South Central	0.000	912	0.730	0.730	5.982
	West Central	0.000	106	0.085	0.085	
Akron Ave. (CR 71) to Biscayne Ave.	[1]Northwest	0.000	0	0.000	0.300	9.657
	[1]Lan-O-Ken	0.054	50	0.040	0.277	
	LS 9	0.034	36	0.029	0.063	
	Connemara	0.219	75	0.060	0.279	
	Southwest Central	0.000	1444	1.155	1.155	
	[1]North Central	0.000	1558	1.246	1.316	
	[1]South Bacardi	0.000	92	0.074	0.203	
	Auburn	0.011	0	0.000	0.011	
	LS 8	0.053	0	0.000	0.053	
	LS 7	0.018	0	0.000	0.018	
Biscayne Ave. to City Boundary (M645)	150th	0.171	0	0.000	0.171	11.247
	Canada	0.113	0	0.000	0.113	
	LS 1	0.136	0	0.000	0.136	
	[1]LS 4	0.115	0	0.000	0.121	
	LS 5	0.107	0	0.000	0.107	
	LS 6	0.005	0	0.000	0.005	
	Southwest	0.000	563	0.450	0.450	
	Business Pkwy	0.077	346	0.277	0.354	
	Biscayne	0.124	10	0.008	0.132	

[1]Sewer districts contain existing development that is proposed to be connected to Municipal system under ultimate scenario, therefore ultimate flow not solely dependent upon developable acres

[2]Future development average flow is based on a wastewater generation rate of 800 gallons per acre per day

Table 6-4
Future Regional Wastewater Flow by MCES Connection Point and 10-Year Increment

MCES Facility	Cumulative Existing Avg. Flow (MGD)	Cumulative 2010 Avg. Flow (MGD)	Cumulative 2020 Avg. Flow (MGD)	Cumulative 2030 Avg. Flow (MGD)	Cumulative Ultimate Avg. Flow (MGD)	Sewer Shed	Existing Avg. Flow (MGD)	2010 Avg. Flow (MGD)	2020 Avg. Flow (MGD)	2030 Avg. Flow (MGD)	Ultimate Avg. Flow (MGD)
M641	0.361	0.361	0.405	0.405	0.405	LS 3	0.265	0.265	0.309	0.309	0.309
						Danville	0.096	0.096	0.096	0.096	0.096
L74 to Blaine Ave. (CR 73)	0.188	0.188	1.854	4.839	5.168	Central	0.000	0.000	0.884	1.075	1.217
						Northeast	0.188	0.188	0.318	0.494	0.681
						Southeast	0.000	0.000	0.538	3.081	3.081
						Southeast Central	0.000	0.000	0.114	0.190	0.190
Blaine Ave. (CR 73) to Akron Ave. (CR 71)	0.188	0.188	1.939	4.924	5.982	South Central	0.000	0.000	0.000	0.000	0.730
						West Central	0.000	0.000	0.085	0.085	0.085
Akron Ave. (CR 71) to Biscayne Ave.	0.577	1.014	3.527	6.843	9.657	[1]Northwest	0.000	0.000	0.000	0.000	0.300
						[1]Lan-O-Ken	0.054	0.094	0.175	0.175	0.277
						LS 9	0.034	0.063	0.063	0.063	0.063
						Connemara	0.219	0.279	0.279	0.279	0.279
						Southwest Central	0.000	0.000	0.000	0.000	1.155
						[1]North Central	0.000	0.308	0.915	1.246	1.316
						[1]South Bacardi	0.000	0.000	0.074	0.074	0.203
						Auburn	0.011	0.011	0.011	0.011	0.011
						LS 8	0.053	0.053	0.053	0.053	0.053
						LS 7	0.018	0.018	0.018	0.018	0.018
Biscayne Ave. to City Boundary (M645)	1.425	2.059	4.666	7.982	11.247	150th	0.171	0.171	0.171	0.171	0.171
						Canada	0.113	0.113	0.113	0.113	0.113
						LS 1	0.136	0.136	0.136	0.136	0.136
						[1]LS 4	0.115	0.115	0.121	0.121	0.121
						LS 5	0.107	0.107	0.107	0.107	0.107
						LS 6	0.005	0.005	0.005	0.005	0.005
						Southwest	0.000	0.000	0.000	0.000	0.450
						Business Pkwy	0.077	0.266	0.354	0.354	0.354
						Biscayne	0.124	0.132	0.132	0.132	0.132

[1]Sewer districts contain existing development that is proposed to be connected to Municipal system under ultimate scenario, therefore ultimate flow not solely dependent upon developable acres

[2]Future development average flow is based on a wastewater generation rate of 800 gallons per acre per day

Currently, there is approximately 3,000 acres in the south central area of the City used by the University of Minnesota – Rosemount Research Center (UMore Park). UMore Park is bounded by CSAH 42 on the north, 160th Street/City limits on the south, Biscayne Avenue on the west, and extends approximately ¼ mile east beyond Blaine Avenue. This 3,000 acres excludes 165 acres for Dakota County Technical College located in the north central portion of the 3,000 acres. Since the University's plans for UMore Park are unknown, the time frame for development, if ever, is unknown. Therefore, development in this area has only been included in the ultimate service area. The affected sewer sheds include the Southwest, Southwest Central, and South Central.

Another unknown serviced area is the proposed Air Cargo facility located in the Southeast sewer shed. There has been no specific location proposed, but it would encompass 630 acres somewhere between US 52, CSAH 42, 160th Street/City limits, and Emery Avenue. The time frame for this development is unknown, but it has been included in the 2020 and 2030 design periods. The proposed Air Cargo location will be developed as urban residential if the Air Cargo facility is not developed.

6.3 Future Trunk Sanitary Sewer System

The future trunk sanitary sewer system layout is shown in Figure 6-2. It shows the proposed trunk sewers, lift stations, force mains, and sewer sheds. Using the projected wastewater flows for each of the sewer sheds and sub-sewer sheds, design flows were determined for each segment of trunk sewer to determine sizing requirements. It should be noted that wastewater design flow projections used for sizing local sewers (Table 6-2) are different than regional wastewater flow projections (Table 6-3) used by MCES for interceptor design. Also, MCES has retained ownership of the Rosemount Wastewater Treatment Plant site for flexibility in managing regional future wastewater flows, which may include expansion of the Rosemount Wastewater Treatment Plant.

The sanitary sewer trunk system was divided into pipe lengths with collection points. Each sub-sewer shed was designated one collection point, and the collection point was assumed to be the location where the sub-district's flow entered the pipe network. The collection points were assumed conservatively and were typically the lowest elevation in the sub-sewer shed at the greatest distance from the connection point to the trunk sewer.

A SewerCAD model was developed for the future trunk system based on the collection points. Laterals were extended from the collection points to the trunk mains and were sized based on the peak wastewater flow generated at the collection point. Trunk mains were appropriately sized where collection laterals connected to each trunk main.

The sanitary sewer collection system must be capable of handling not only average flows, but also the anticipated peak flows. These peak flows can be expressed as a variable ratio applied to average daily flow rates. This variable ratio, called the peak flow factor, has been found to decrease as average flow increases. The peak flow factors applied in this study are listed in Appendix 1. These values were obtained from MCES. They are

generally considered conservative, and are widely used for planning in municipalities throughout the twin cities metropolitan area.

6.3.1 Existing City Sewer Sheds

The City's existing service area is located in the southwest area of the City. It was broken down into sewer sheds based on existing lift stations and connection points to trunk sewers. The sewer sheds named for connection points to trunk sewers were named for streets where the majority of flows would be collected. Some sewer sheds are fully developed in accordance with the 2030 land use plan including Danville, 150th, Canada, LS 1, LS 4, LS 5, LS 6, LS 7, Auburn, and Biscayne. These sewer sheds will not generate additional future flow unless major redevelopment occurs. The balance of the existing sewer sheds, LS 3, LS 8, LS 9, Business Parkway, Connemara, and Lan-O-Ken, have developable area remaining.

Wastewater from existing development is collected by sewer mains ranging in size from 8 to 30 inches in diameter. All flows are conveyed to the Rosemount Interceptor, with the exception of flows from the Danville and LS 3 sewer sheds. Wastewater from those sewer sheds flows through MCES flow meter M641 in the southeast corner of the City to Apple Valley and ultimately the Empire wastewater treatment plant.

The fully developed existing sewer sheds will not require future improvements, since additional future flows will not be generated. Of the existing sewer sheds with developable area remaining, only the Lan-O-Ken will require trunk main extensions. Connemara, LS 8, LS 3, LS 9, and Business Parkway will require additional collection laterals only.

The Lan-O-Ken trunk sewer extension was included in the North Central Sanitary Sewer Study that closely reviewed the Northwest, Lan-O-Ken, South Bacardi, and North Central sewer sheds. An 18-inch trunk main would be extended further west and north from the current endpoint and a 950 gpm lift station would be required to pump flows from the northern tier of the district and the Northwest sewer shed south to trunk main.

6.3.2 Northwest Sewer Shed

The Northwest Sewer Shed includes the existing developed rural residential area north of the existing City service area and west of Robert Trail. There is no existing sanitary sewer collection system in this developed area and wastewater treatment is accomplished by ISTSs.

Additional trunk sanitary sewer improvements will be necessary, although it is not likely this area will be served in the future. Sanitary sewer service to this area was originally planned for in the North Central Sanitary Sewer Study. A 12-inch trunk main would convey wastewater to the 950 gpm lift station in the Lan-O-Ken

sewer shed. Sewage would be pumped from the lift station to the Lan-O-Ken trunk main.

6.3.3 South Bacardi Sewer Shed

The South Bacardi Sewer Shed is bounded by Robert Trail on the west, the Lan-O-Ken and North Central sewer sheds to the north, the North Central sewer shed to the east and 135th Street to the South. The South Bacardi sewer shed is mostly developed rural and transition residential, with the exception of some remaining developable urban residential in the west. There is no existing sanitary sewer collection system in this developed area and wastewater treatment is accomplished by ISTSs.

Additional trunk sanitary sewer improvements will be necessary to serve this area. Sanitary sewer service to this area was originally planned for in the North Central Sanitary Sewer Study. A 12- to 15-inch trunk main would be extended north along Bacardi Avenue from the Connemara sewer shed to collect flows from the South Bacardi sewer shed.

6.3.4 North Central Sewer Shed

The North Central sewer shed is mostly developed rural and transition residential in the northern area. There is no existing sanitary sewer collection system in this developed area and wastewater treatment is accomplished by ISTSs. The future land uses for the southern and western portions are diverse including rural, urban, medium, and high density residential. Non-residential land uses include commercial and public/institutional.

Sanitary sewer service to this area was originally planned for in the North Central Sanitary Sewer Study, but recently updated by the Akron/CSAH 42 AUAR and Akron Avenue Trunk Utility and Railroad Improvements. These projected improvements were accounted for in this plan.

The West Akron Trunk Sewer is currently under design and will create a structure that diverts flow from the Rosemount Interceptor south to the Empire Interceptor. After the diversion is constructed, sewage from the western portion of Rosemount will not flow to the Rosemount wastewater treatment plant, where it would have to be pumped through the Empire Interceptor, but will flow by gravity from the Rosemount Interceptor south along Akron Avenue to the Empire Interceptor.

Other than the West Akron Trunk Sewer currently in design, some additional trunk sewer improvements would be necessary to serve the North Central sewer shed. Due to the hilly topography of the northern portion of the sewer shed, an 850 gpm lift station would be required to collect and pump wastewater south to an 18- to 21-inch trunk main that would convey flows to the West Akron trunk main. If the rural residential area in the west were to be served, three small lift stations with capacities of 5 gallons per minute (gpm), 15 gpm, and 25 gpm would be

required to pump wastewater to the 850 gpm lift station in the northern tier of the sewer shed.

6.3.5 Central Sewer Shed

The Central Sewer Shed (C) includes the area east of the North Central sewer shed, west of TH 52, south of Flint Hills, and northeast of the South Central sewer shed. It is currently undeveloped. Future land uses within the district include industrial/mixed use, general industrial, business park, urban residential, commercial, and medium density residential.

The Rosemount Interceptor flows from west to east through the sewer shed and ranges in size from 36 to 48-inches in diameter. The Empire Interceptor will convey flows from the Rosemount wastewater treatment plant west along CSAH 42.

Additional trunk sanitary sewer improvements will be necessary to serve future development. Due to the proximity to the Rosemount Interceptor and the interceptor's depth, no lift stations are necessary. The majority of sewers would be collection laterals radiating from the Rosemount Interceptor with the exception of an 18-inch trunk main north of and parallel to the Rosemount interceptor, and an 18-inch trunk sewer flowing south to north in the eastern portion of the district.

6.3.5 West Central Sewer Shed

The West Central sewer shed includes approximately 100 acres along CSAH 42 between CR 71 and CR 73. Future land use in the district is planned to be medium density residential and commercial. It is currently undeveloped with the exception of 40 acres of public/institutional.

Sewage from the existing development is collected by a 15-inch main that ultimately flows to the Rosemount Interceptor. No future trunk sewer improvements are necessary for wastewater collection. Lateral sewers (8-inch mains) for future development would convey wastewater to the Empire Interceptor which flows from west to east along the southern boundary of the sewer shed.

6.3.6 Northeast Sewer Shed

The Northeast sewer shed is bounded by the Rosemount wastewater treatment plant to the south, CR 71 to the west, and Pine Bend Trail on the east and north. It is mostly undeveloped with the exception of some general industrial in northern portion and Flint Hills Resources. The existing properties have septic systems, but may be served by the City's municipal sewer system in the future. The future land use is exclusively general industrial.

The Rosemount Interceptor flows from west to east through the district and terminates at the Rosemount wastewater treatment plant along the southern

boundary of the sewer shed. Wastewater is then pumped from the existing Rosemount wastewater treatment plant to the Empire Interceptor. A trunk main ranging in size from 8 to 15-inches was constructed in 2007 running north along TH 52 from the existing Rosemount Interceptor to Flint Hills Resources.

Trunk sewer improvements will be necessary to serve future general industrial development north of the Rosemount wastewater treatment plant. An 880 gpm lift station with an 8-inch force main would be required to pump wastewater from the future general industrial area north of Pine Bend Trail and east of TH 52. Trunk mains ranging in size from 8 to 21-inch would be required to collect flows from remaining future development south of Pine Bend Trail and east of TH 52. The recently constructed Flint Hills Resources trunk sewer will be used to collect flows from some of the future development south of Pine Bend Trail.

6.3.7 Southeast Central Sewer Shed

The Southeast Central sewer shed includes the area south of the Rosemount wastewater treatment plant, east of TH 52, and north and west of the southeast sewer shed. It is currently undeveloped with the exception of a few commercial properties. Future land uses within the district include industrial/mixed use, business park, and commercial.

Wastewater from the existing development is collected by a 10-inch main that flows north along Conley Avenue from CSAH 42 to the Rosemount Interceptor. The Rosemount Interceptor flows west to east along the northern border of the sewer shed, and the Empire Interceptor force main flows from east to west just south of the Rosemount Interceptor.

Additional trunk sanitary sewer improvements will be necessary to serve future development. The 10-inch trunk main along Conley Avenue would have to be extended south to collect flows from the future business park and commercial developments.

6.3.8 Southwest Central Sewer Shed

The Southwest Central sewer shed is within UMore Park and is bounded by CSAH 42 on the north, 160th Street on the south, Southwest sewer shed on the west, and the South Central sewer shed on the east. It is currently undeveloped with the exception Dakota County Technical College. The majority of future land use within the sewer shed would be urban residential, however, the northern area includes medium density residential, high density residential, and commercial. The timing of future development is unknown since it is currently owned by the University of Minnesota. Therefore, it has been included in the ultimate development time frame.

The Empire Interceptor flows to the east along the northern boundary of the district. Existing flows generated by Dakota County Technical College are

conveyed to the Rosemount Interceptor via a 15-inch main that flows west along CSAH 42, then north along Akron Avenue.

Additional trunk sanitary sewer improvements will be necessary to serve future development as shown in Figure 6-2. The sewer shed will likely require a lift station to pump wastewater from the southern two-thirds of the sewer shed to the northern third. Wastewater from the southern area would be collected by 8 to 18-inch trunk mains and then pumped to the northern area by a 2,000 gpm lift station. A 24-inch trunk main would then convey wastewater north to the existing Empire Interceptor and collect wastewater from the northern area of the district.

6.3.9 South Central Sewer Shed

The South Central sewer shed is similar to the Southwest Central in that it is generally within UMore Park and is bounded by CSAH 42 on the north, 160th Street on the south, Southwest Central sewer shed on the west, and the Central Sewer Shed on the east. The future land uses within the district include urban residential, business park, and medium density residential. Similar to the Southwest Central sewer shed, the timing of future development is unknown and has been included in the ultimate development time frame.

There is no existing sanitary sewer collection system in this area. The Empire Interceptor flows from west to east along the northern border of the sewer shed.

Additional trunk sanitary sewer improvements will be necessary to serve future development. The topography provided relief to plan a 15 to 21-inch trunk main flowing from near the southern boundary of the district, north to a 1,700 gpm lift station which would then pump wastewater north to the Empire Interceptor. A 300 gpm lift station would be required to pump wastewater from an area in the southeast corner of the sewer shed to the future trunk main.

6.3.10 Southwest Sewer Shed

The Southwest sewer shed is within UMore Park like the South Central and Southwest Central sewer sheds. It includes the area east of Biscayne Avenue, west of the Southwest Central sewer shed, south of CSAH 42, and North of 160th Street. It is currently undeveloped and future land use would be exclusively Urban Residential.

The Rosemount Interceptor flows west to east, then north through the district. The Empire Interceptor flows to the east along the northern boundary then south along the eastern boundary of the district.

Additional trunk sanitary sewer improvements will be necessary to serve future development. Due to the proximity of both the Rosemount and Empire Interceptors, the majority of sewers would be collection laterals. A 10-inch diameter main would be required to collect flows from the largest sub-sewer shed

and convey flows to a 470 gpm lift station that would pump to the Empire Interceptor.

6.3.11 Southeast Sewer Shed

The Southeast sewer shed is generally located in the southeast corner of the City limits. It is bounded by the City limits on the east and south, Pine Bend Trail on the north, and the Northeast and Southeast Central sewer sheds to the west. It is currently undeveloped, however, there are some existing rural residential areas served by ISTSs. Future development is planned to be largely urban residential, air cargo, industrial/mixed use, corporate campus, and business park, but there are smaller areas of commercial, medium density residential, and high density residential.

There is no existing sanitary sewer collection system or MCES interceptor sewer within this district.

Additional trunk sanitary sewer improvements will be necessary to serve future development. Since there is no existing MCES interceptor east of the Rosemount wastewater treatment plant (MCES L74 Lift Station), a major City interceptor was required. The topography provided relief for a southeast interceptor flowing from the eastern border, initially 24-inches in diameter increasing to 36-inches in diameter, then west and north to a 6,300 gpm lift station located near MCES L74 Lift Station (L74). The lift station would be required to lift flows a short distance since the existing invert at L74 is near elevation 829 and the proposed trunk sewer invert would be approximately 800. The southeast interceptor would have to cross CSAH 42 and 140th Street.

The proposed trunk sewer would flow from the southeast to the northwest across land that is largely owned by Great River Energy. Great River's development plans are unknown; however, the future trunk sewer can be routed around the land if it is not developed. The future trunk sewer is not necessary until development occurs in the southeast sewer shed, therefore, final routing should be reviewed once development begins in the southeast sewer shed. In addition, as development begins to occur, the trunk lift station may not initially be constructed with 6,300 gpm capacity. The lift station could be constructed in phases with room for capacity expansions as development increases in the southeast sewer shed. Lift station capacity phasing would be dependent upon the rate of development at that time.

Other trunk sewer improvements would be required to convey future flows to the major City interceptor. These improvements are shown in Figure 6-2 and include sanitary sewers ranging in size from 8 to 18-inches in diameter, and three lift stations. The lift stations include a 1,400 gpm station in the northeast that would generally serve the corporate campus area, a 770 gpm station in the southeast to serve urban residential along the southern City border, and a 130 gpm station in the southwest to serve urban residential along the southern City border.

7.0 CAPITAL IMPROVEMENTS PLAN (CIP)

7.1 Estimated Cost of Trunk System Improvements

The projected ultimate sanitary sewer trunk system was broken down into improvements based on sewer sheds and development projection time frames. The overall cost associated with trunk system components over the next 23 years is estimated to be approximately $21,862,000 in 2007 dollars and ultimately $7,448,000 more. Table 7-1 summarizes the trunk improvement costs necessary for each district. Detailed cost estimates for each district are available in Appendix 2. Furthermore, construction schedules for trunk facilities in each sewer shed are included Appendix 3.

Future improvement costs were based on 2007 construction prices, including a 10% construction contingency, and including 30% overhead (i.e., legal, engineering, and administrative). Street and easement costs and other miscellaneous costs that may be related to final construction are not included.

Table 7-1
Capital Improvement Plan by Sewer Shed

District	2010	2020	2030	Ultimate	Total
Northeast	$0	$1,103,470	$0	$666,660	$1,770,130
Southeast	$0	$4,288,476	$9,007,658	$0	$13,296,134
Southeast Central	$0	$281,140	$0	$0	$281,140
South Central	$0	$0	$0	$2,150,025	$2,150,025
Central	$0	$1,597,184	$370,813	$0	$1,967,997
North Central	$1,810,488	$2,232,381	$0	$0	$4,042,869
Southwest Central	$0	$0	$0	$3,459,562	$3,459,562
Southwest	$0	$0	$0	$877,123	$877,123
Lan-O-Ken	$0	$807,520	$0	$0	$807,520
Northwest	$0	$0	$0	$294,290	$294,290
South Bacardi	$0	$362,790	$0	$0	$362,790
Total	***$1,810,488***	***$10,672,961***	***$9,378,471***	***$7,447,660***	***$29,309,580***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

7.2 Future Trunk System Funding

7.2.1 General

Future trunk sewer improvements are funded through the City's Core Fund. As properties develop, initial costs are paid by the core fund. Then, the core fund is reimbursed by trunk area assessments and individual connection charges. The current available balance in the core fund is approximately $5,000,000.00.

Trunk Area Assessments are collected when a developer applies for a plat/subdivision agreement. Any fees not collected with the plat/subdivision agreement are collected as a connection charge prior to system connection. The assessment is calculated based on the entire parcel area to be developed. The current Trunk Area Assessment is $1,075 per acre.

The SAC fee, or connection charge, is collected when a new or existing property applies to connect to City sanitary sewer. The SAC charge is $1,200 per SAC unit, and is equivalent to 274 gallons per day (gpd). A single family residence is considered one SAC unit, but other types of buildings pay a prorated SAC fee relative to their estimated sanitary sewer flows.

7.2.1 Future Connection Fees and Trunk Area Growth

Future connection growth dictates the expected future income of the core fund based on Trunk Area Assessments and SAC collected from development. Table 7-2 below shows the projected development fees based on the growth assumptions assumed in Sections 3 and 4.

Future developable area, discussed in 3.2 and shown in Figure 3-2, was correlated to the projected land use phasing discussed in 4.3 and shown in Figure 4-2 to project the development timing of remaining developable area broken down by land use.

The number of SAC units expected to develop were based on the estimated unit wastewater flows discussed in 6.2.1. SAC units for residential land uses were based on the estimated units for each type. However, SAC units for non-residential land uses were prorated based on the assumed unit wastewater flow. For example, one acre of business park development was assumed to generate 1,000 gpd, which was divided by the SAC unit flow equivalent (274 gpd), to determine that each acre of business park development would generate 3.6 SAC units of wastewater flow.

7.2.3 Core Fund Rate Analysis

To accurately reflect future infrastructure expenses, the Capital Improvement Plan estimated costs for each design interval, but not increased for inflation. It was assumed that rates would be increased at a rate similar to inflation. Full

development was assumed to occur in 2037. Table 7-2 shows existing rates' impact on the balance of the core fund.

Existing rates appear to be adequate to fund future improvements, assuming they are increased at a rate similar to inflation, since the fund balance is estimated to increase from approximately $5,000,000 to $19,000,000 once the City is fully developed. Since the City funds the initial infrastructure cost and is then reimbursed by development fees, it is recommended to review rates on a regular basis. Some debt financing may be required to fund future improvements depending upon the cost of individual sewer improvement projects.

Table 7-2
Sewer Core Fund Balance Projection

	2007-2010	2010-2020	2020-2030	2030-Ultimate
Total Area Developed	732	3,233	3,796	3,298
Trunk Area Charge Rate per Acre	$1,075	$1,075	$1,075	$1,075
SAC Fee Rate per Unit	$1,200	$1,200	$1,200	$1,200
Beginning Year Balance	**$5,000,000**	**$6,452,492**	**$8,944,118**	**$14,316,387**
Development Costs (CIP)	$1,810,488	$10,672,961	$9,378,471	$7,447,660
Balance after Expenses	**$3,189,512**	**($4,220,469)**	**($434,353)**	**$6,868,727**
Trunk Area Charges	$786,900	$3,475,475	$4,080,700	$3,545,350
Total SAC Fees	$2,476,080	$9,689,112	$10,670,040	$8,526,240
Total Revenues	$3,262,980	$13,164,587	$14,750,740	$12,071,590
Balance after Revenues (Year End)	**$6,452,492**	**$8,944,118**	**$14,316,387**	**$18,940,317**
Balance change	$1,452,492	$2,491,626	$5,372,269	$4,623,930
% change	***29%***	***39%***	***60%***	***32%***

FIGURES

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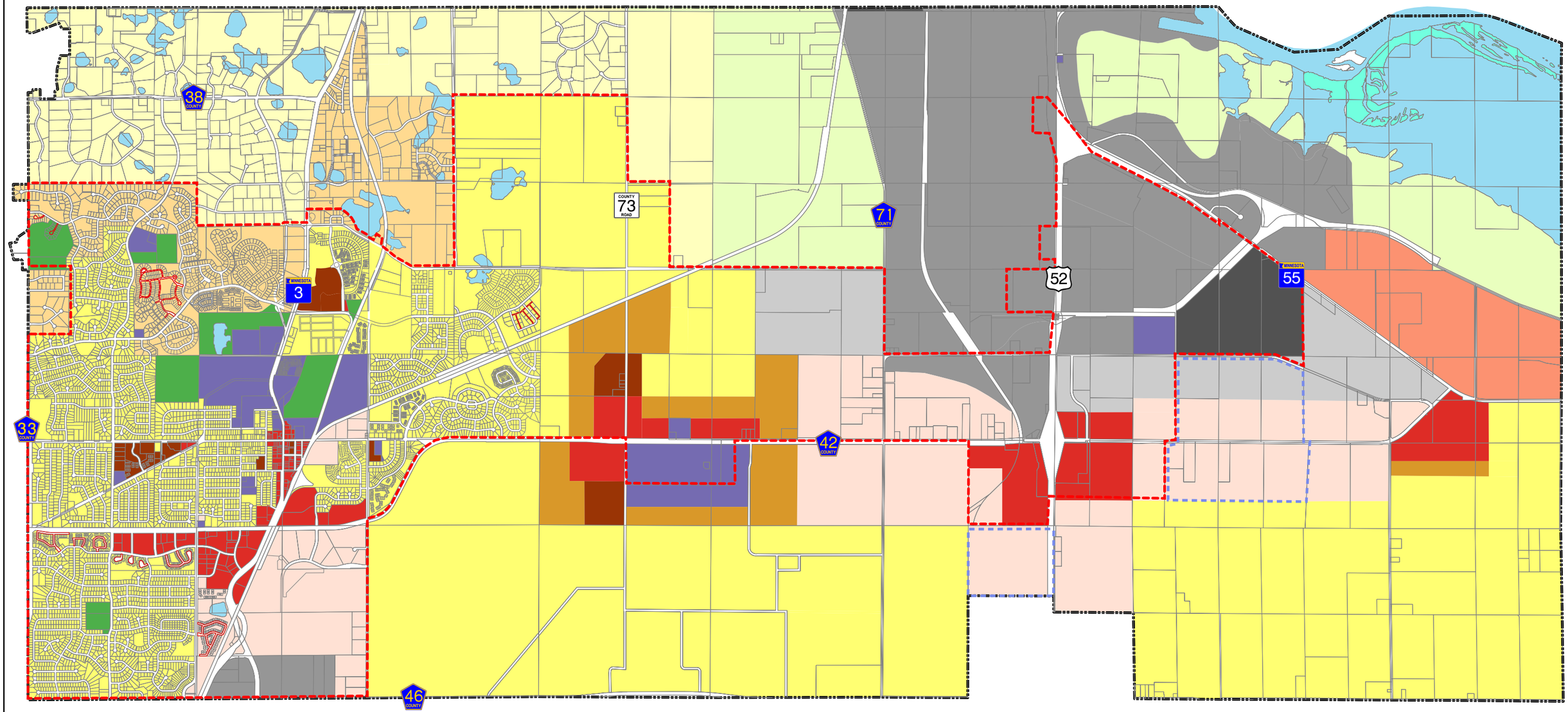

Comprehensive Sanitary Sewer System Plan

Legend

- 2010 MUSA Line
- 2020 MUSA Line
- Public ROW
- Private ROW
- Agricultural
- Rural Residential
- Urban Residential
- Transitional Residential
- Medium Density Residential
- High Density Residential
- Public/Infrastructure
- Parks/Open Space
- Business Park
- Corporate Campus
- Commercial
- Industrial/Mixed Use
- General Industrial
- Waste Management
- Flood Plain
- Water

N W E S

0 1,500 3,000 6,000 Feet

WSB & Associates, Inc.

ROSEMOUNT MINNESOTA

42/52 Land Use Plan

Figure 3-1

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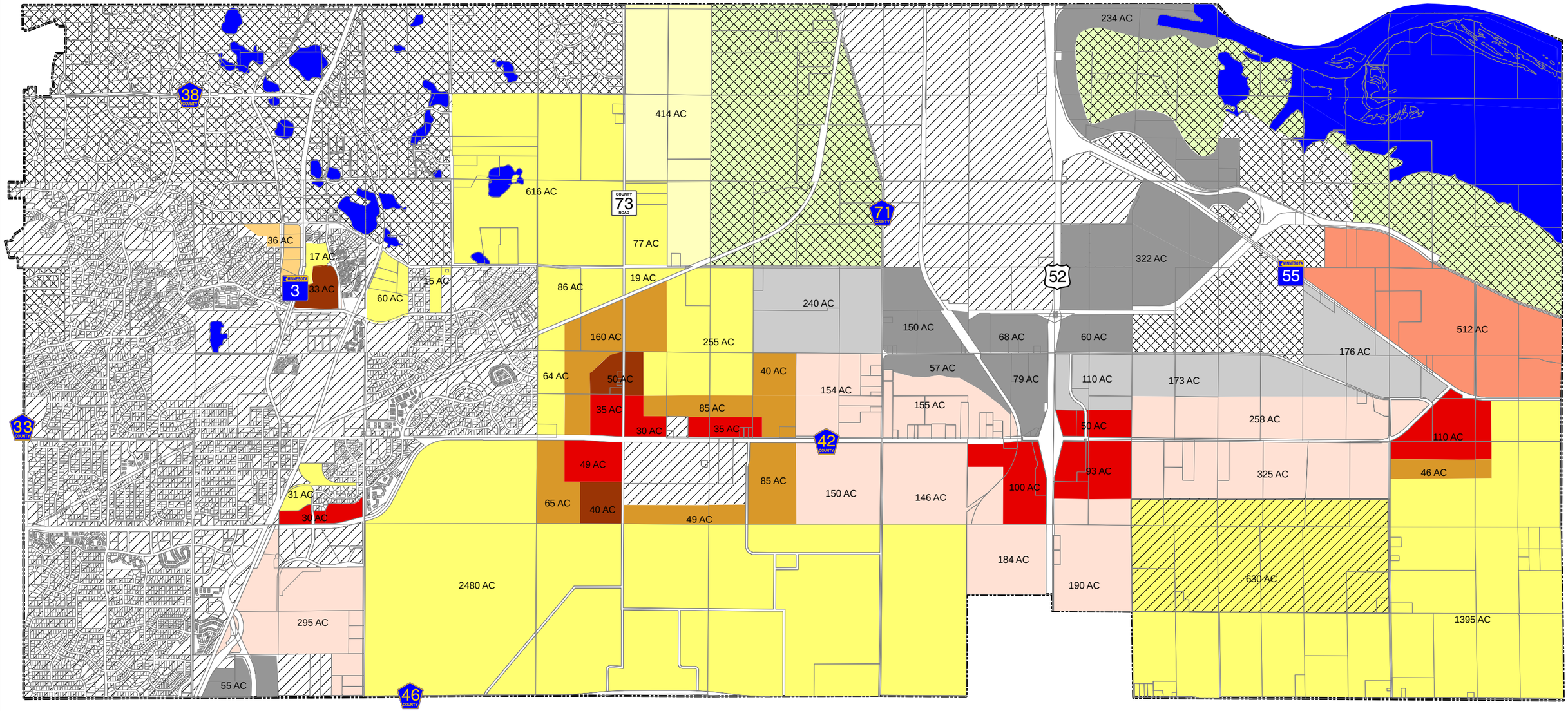


Comprehensive Sanitary Sewer System Plan

Legend

- Urban Residential
- Medium Residential
- High Density Residential
- Transitional Residential
- Rural Residential
- Business Park
- Corporate Campus
- Commercial
- General Industrial
- Industrial/Mixed Use
- Existing Development with Sewer Service
- Existing Development without Sewer Service
- Air Cargo
- Undevelopable Area
- Water

N W E S

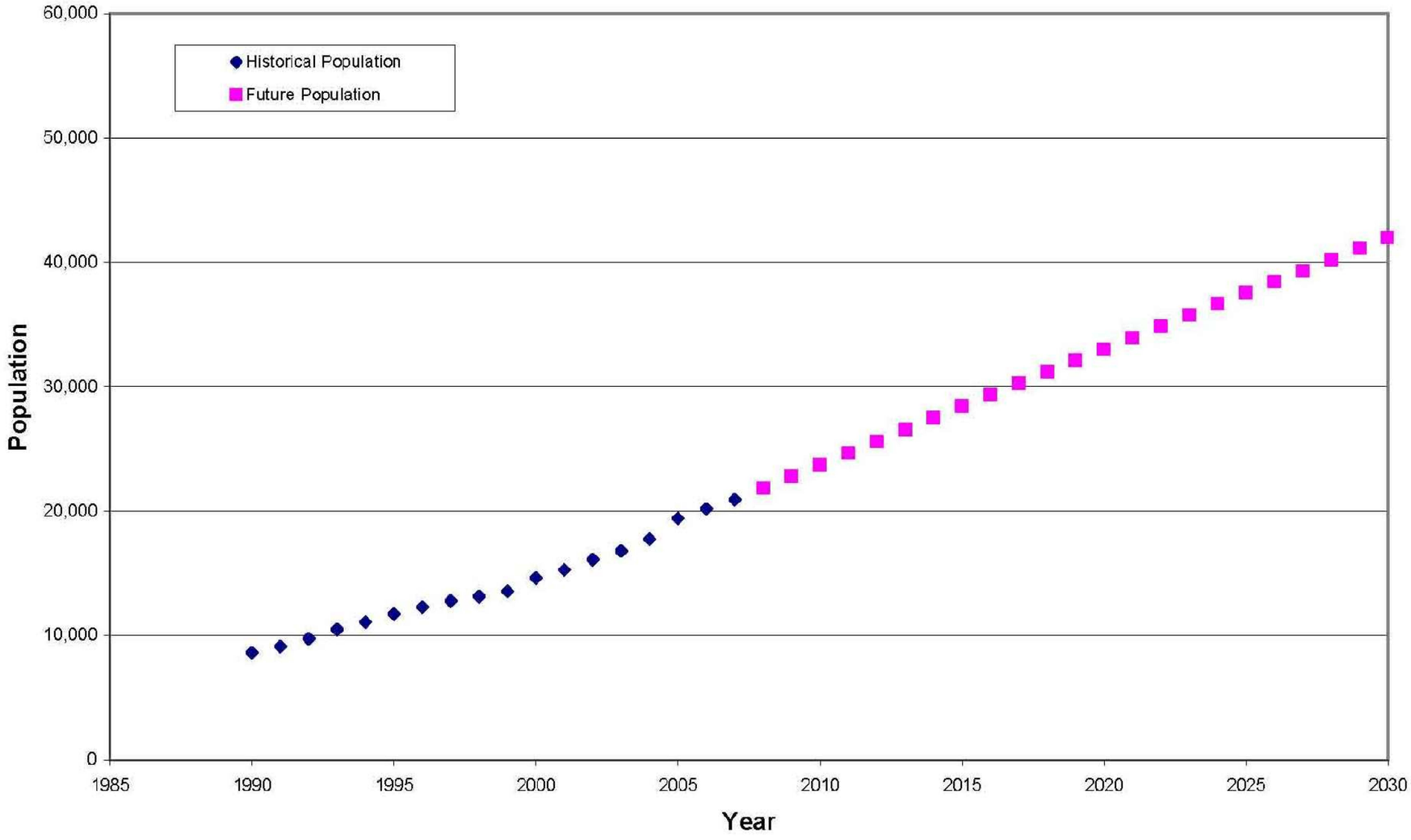
0 1,500 3,000 6,000 Feet

WSB & Associates, Inc.

ROSEMOUNT MINNESOTA

Gross Developable Acreages Figure 3-2

City of Rosemount Population Projections



ROSEMOUNT
MINNESOTA

Comprehensive Sanitary Sewer System Plan

Population Projections

Figure 4-1

WSB & Associates, Inc.

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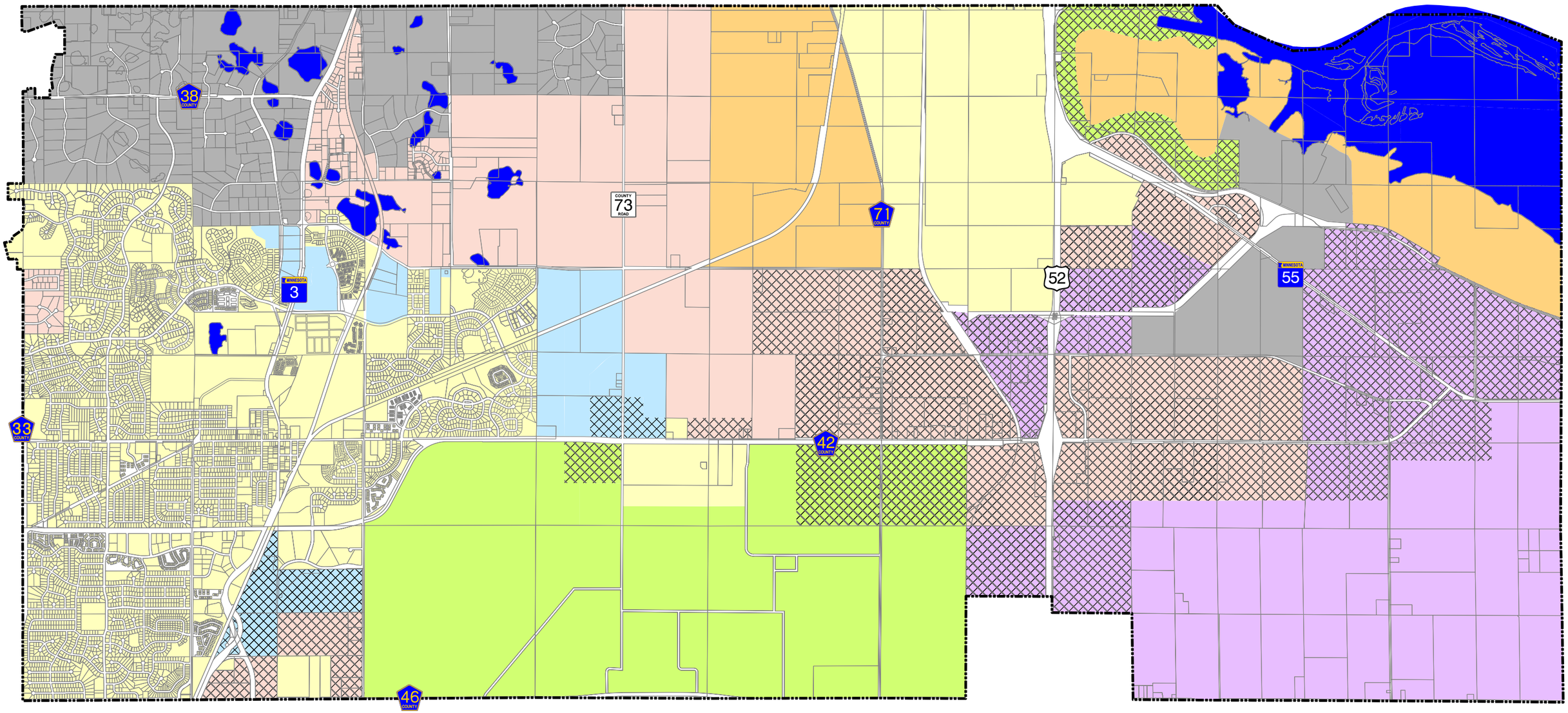

Comprehensive Sanitary Sewer System Plan

Legend

- Existing Development with Sewer Service
- Existing Development without Future Sewer Service
- Undevelopable Area
- 2010 Residential
- 2010 Non Residential
- 2020 Residential
- 2020 Non Residential
- 2030 Residential
- 2030 Non Residential
- Ultimate Residential
- Ultimate Non Residential
- Water

N W E S

0 1,500 3,000 6,000 Feet

WSB & Associates, Inc.

ROSEMOUNT MINNESOTA

Potential Ultimate Service Area
Figure 4-2

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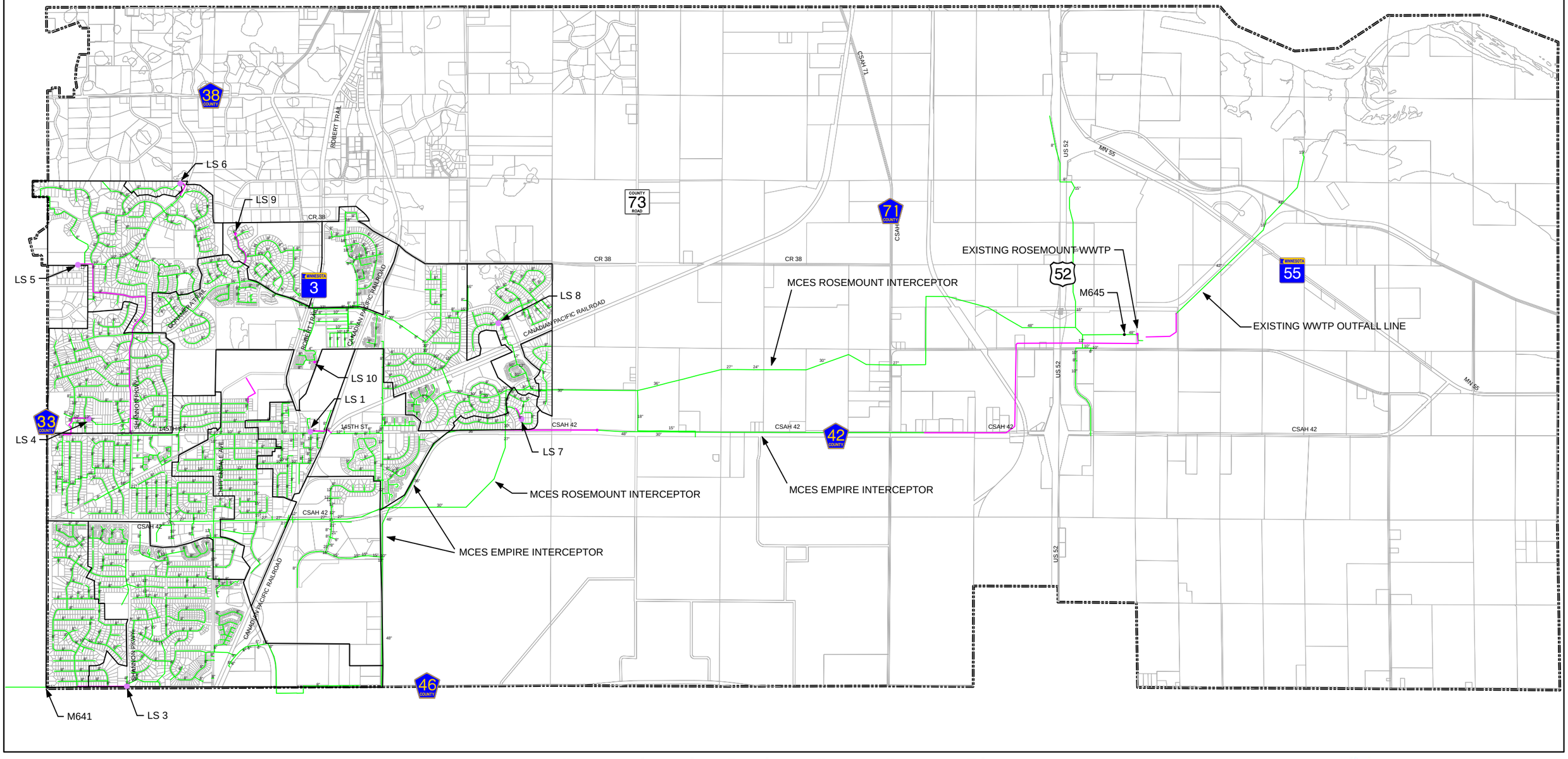

Comprehensive Sanitary Sewer System Plan

Legend

- Sanitary Sewer
- Force Main
- Lift Station

N W E S

0 1,500 3,000 6,000 Feet

WSB & Associates, Inc.

ROSEMOUNT MINNESOTA

Existing Sanitary Sewer System Figure 5-1

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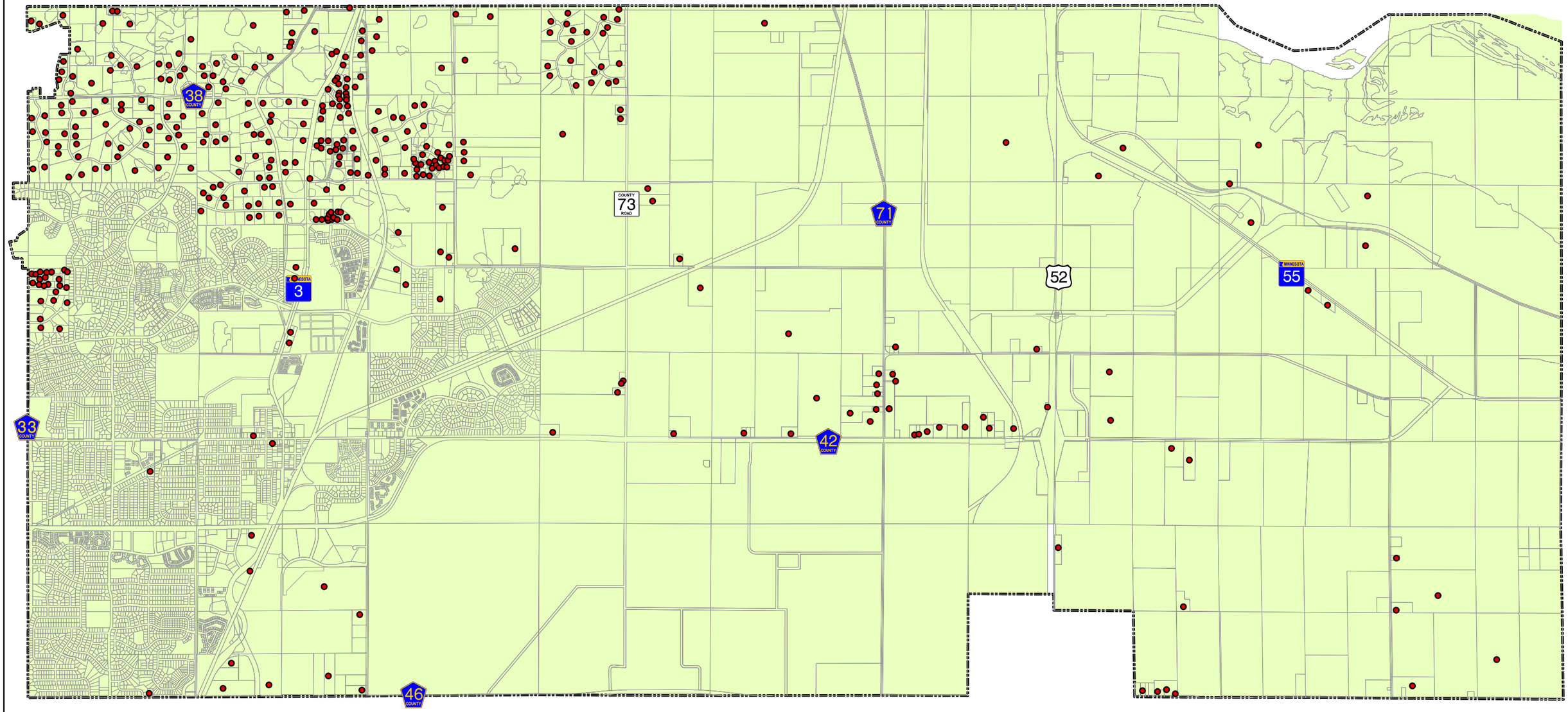

Comprehensive Sanitary Sewer System Plan

Legend

- ISTS

N
W E
S

0 1,500 3,000 6,000
Feet

WSB & Associates, Inc.

ROSEMOUNT
MINNESOTA

Existing ISTS

Figure 5-2

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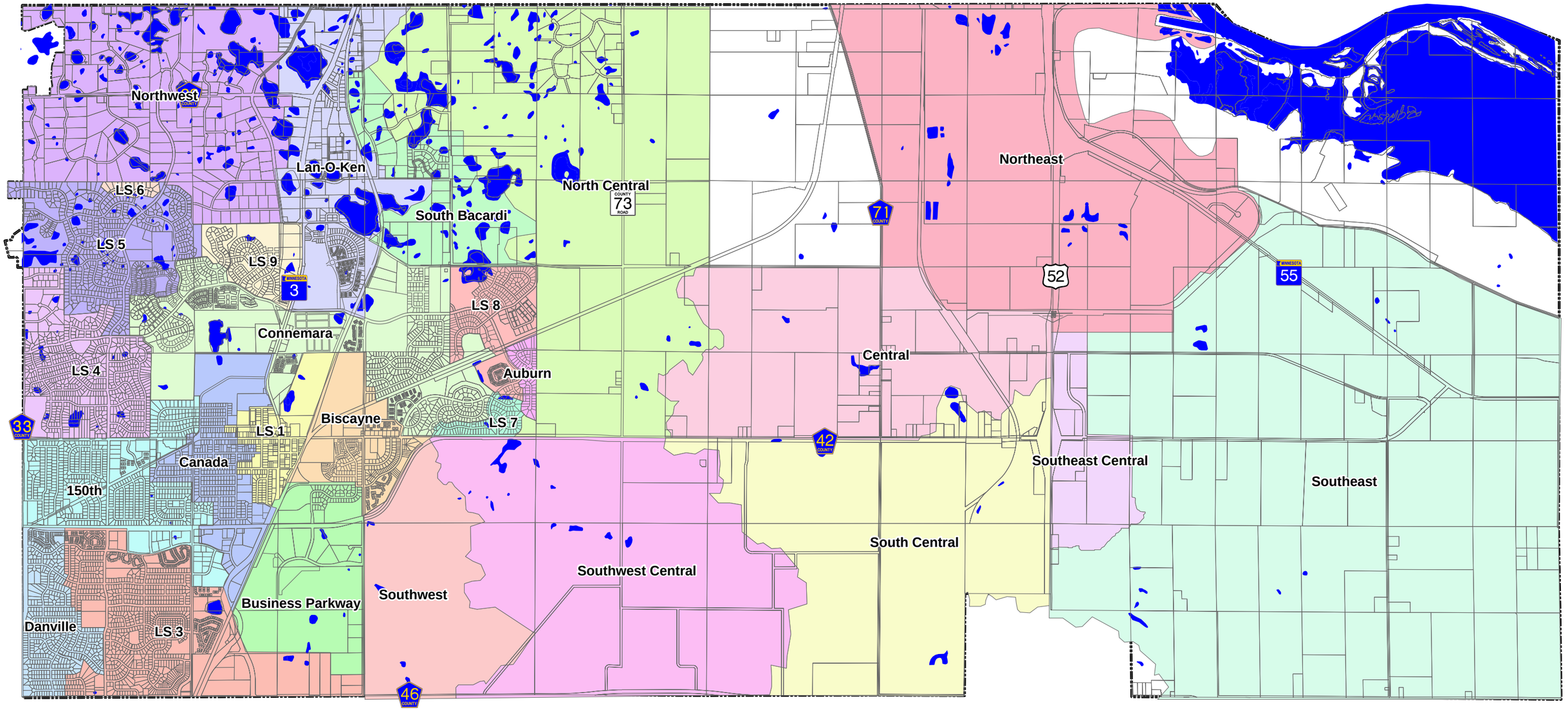

Comprehensive Sanitary Sewer System Plan

ROSEMOUNT MINNESOTA

Existing and Future Sewer Sheds Figure 6-1

N W E S

0 1,500 3,000 6,000 Feet

WSB & Associates, Inc.

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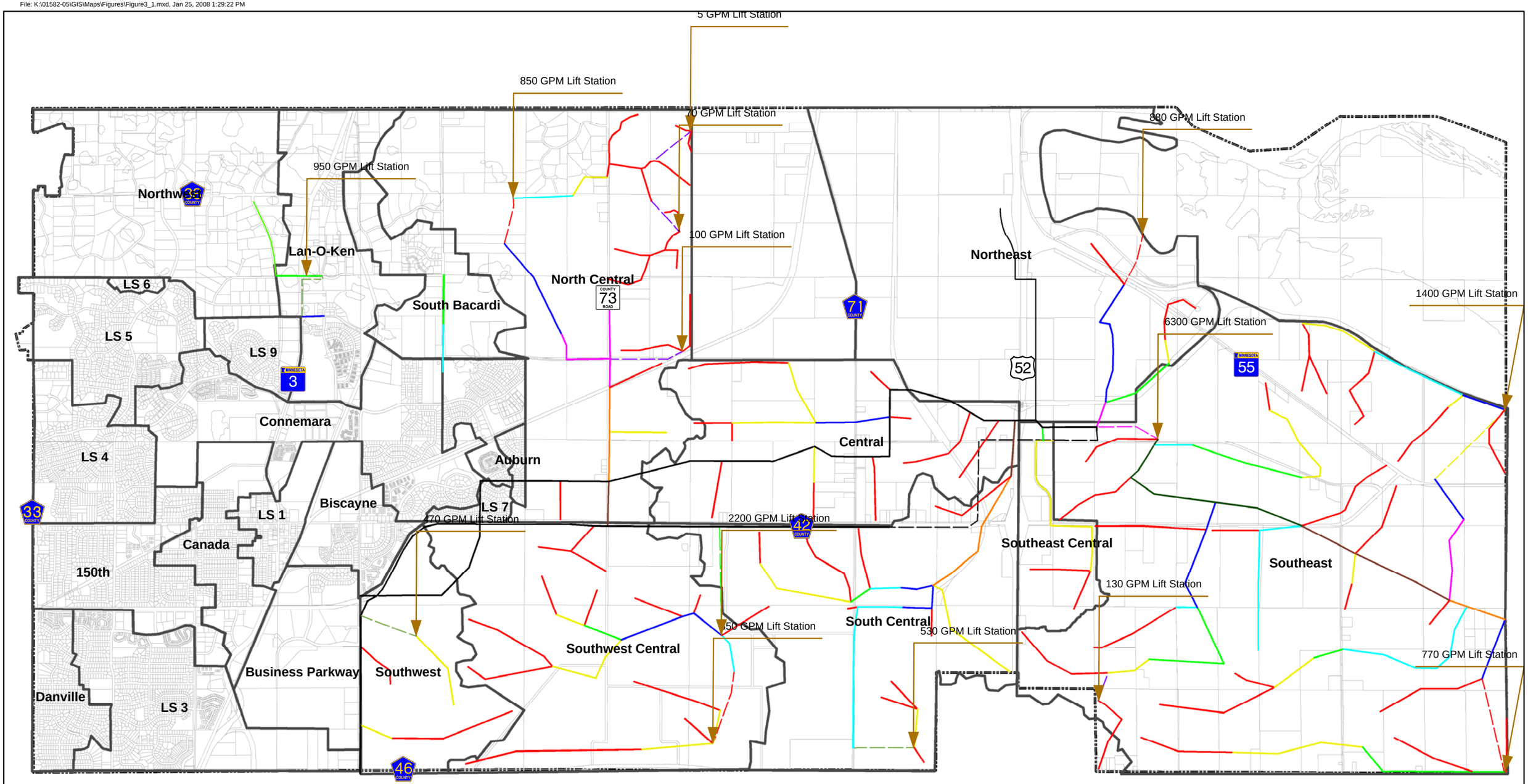

Comprehensive Sanitary Sewer System Plan

Legend

Existing	6" Force Main	10" Force Main	18"	30"
Force Main	8"	12"	21"	36"
4" Force Main	8" Force Main	12" Force Main	21" Force Main	
6"	10"	15"	24"	

N W E S

0 1,500 3,000 6,000 Feet

WSB & Associates, Inc.

ROSEMOUNT MINNESOTA

Trunk System Layout & Sizes

Figure 6-2

APPENDIX 1

MCES Peaking Factors

MCES Hourly Peaking Factor	
Appendix 1	
Average Flow Range (mgd)	MCES Peaking Factor
0 - 0.11	4.0
0.12 - 0.18	3.9
0.19 - 0.23	3.8
0.24 - 0.29	3.7
0.30 - 0.39	3.6
0.40 - 0.49	3.5
0.50 - 0.64	3.4
0.65 - 0.79	3.3
0.80 - 0.99	3.2
1.00 - 1.19	3.1
1.20 - 1.49	3.0
1.50 - 1.89	2.9
1.90 - 2.29	2.8
2.30 - 2.89	2.7
2.90 - 3.49	2.6
3.50 - 4.19	2.5
4.20 - 5.09	2.4
5.10 - 6.39	2.3
6.40 - 7.99	2.2
8.00 - 10.39	2.1
10.40 - 13.49	2.0
13.50 - 17.99	1.9
18.00 - 29.99	1.8
Over 30.00	1.7

APPENDIX 2

Sewer Shed Cost Estimates

Appendix 2 - Opinion of Probable Cost

Future Trunk System - Northeast Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	880 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$400,000.00	$400,000.00
2	8" PVC FORCE MAIN	LIN FT	1700.00	$36.00	$61,200.00
3	8" PVC SEWER	LIN FT	3600.00	$0.00	$0.00
4	10" PVC SEWER	LIN FT	750.00	$50.00	$37,500.00
5	12" PVC SEWER	LIN FT	2450.00	$60.00	$147,000.00
7	18" RCP SEWER	LIN FT	4350.00	$90.00	$391,500.00
8	21" RCP SEWER	LIN FT	850.00	$105.00	$89,250.00
9	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	8400.00	$1.00	$8,400.00
10	CONST 48" DIA SAN SEWER MANHOLE	EACH	28.00	$3,000.00	$84,000.00
11	CASTING ASSEMBLY	EACH	28.00	$500.00	$14,000.00
12	AIR RELEASE VALVE AND MH	EACH	2.00	$2,500.00	$5,000.00
				SUB TOTAL	*$1,237,850.00*
				Cont. 10%	$123,790.00
				SUB TOTAL	*$1,361,640.00*
				Engr/Legal 30%	$408,490.00
				TOTAL	***$1,770,130.00***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - Southeast Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	6,300 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$825,000.00	$825,000.00
2	1,400 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$450,000.00	$450,000.00
3	770 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$350,000.00	$350,000.00
4	130 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$250,000.00	$250,000.00
5	4" PVC FORCE MAIN	LIN FT	400.00	$28.00	$11,200.00
6	8" PVC FORCE MAIN	LIN FT	3200.00	$36.00	$115,200.00
7	10" PVC FORCE MAIN	LIN FT	3400.00	$40.00	$136,000.00
8	21" PVC FORCE MAIN	LIN FT	1900.00	$56.00	$106,400.00
9	8" PVC SEWER	LIN FT	55819.00	$0.00	$0.00
10	10" PVC SEWER	LIN FT	14680.00	$50.00	$734,000.00
11	12" PVC SEWER	LIN FT	14024.00	$60.00	$841,440.00
12	15" PVC SEWER	LIN FT	17498.00	$70.00	$1,224,860.00
13	18" RCP SEWER	LIN FT	8707.00	$90.00	$783,630.00
14	21" RCP SEWER	LIN FT	2743.00	$105.00	$288,015.00
15	24" RCP SEWER	LIN FT	1887.00	$115.00	$217,005.00
16	30" RCP SEWER	LIN FT	5309.00	$140.00	$743,260.00
17	36" RCP SEWER	LIN FT	7336.00	$175.00	$1,283,800.00
18	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	72184.00	$1.00	$72,184.00
19	CONST 48" DIA SAN SEWER MANHOLE	EACH	241.00	$3,000.00	$723,000.00
20	CASTING ASSEMBLY	EACH	241.00	$500.00	$120,500.00
21	AIR RELEASE VALVE AND MH	EACH	9.00	$2,500.00	$22,500.00
				SUB TOTAL	*$9,297,994.00*
				Cont. 10%	$929,800.00
				SUB TOTAL	*$10,227,794.00*
				Engr/Legal 30%	$3,068,340.00
				TOTAL	***$13,296,134.00***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - Southeast Central Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	8" PVC SEWER	LIN FT	3277.00	$0.00	$0.00
2	10" PVC SEWER	LIN FT	3100.00	$50.00	$155,000.00
3	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	3100.00	$1.00	$3,100.00
4	CONST 48" DIA SAN SEWER MANHOLE	EACH	11.00	$3,000.00	$33,000.00
5	CASTING ASSEMBLY	EACH	11.00	$500.00	$5,500.00
				SUB TOTAL	*$196,600.00*
				Cont. 10%	$19,660.00
				SUB TOTAL	*$216,260.00*
				Engr/Legal 30%	$64,880.00
				TOTAL	***$281,140.00***

1. Costs are for budgeting pruposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - South Central Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	530 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$325,000.00	$325,000.00
2	6" FORCE MAIN	LIN FT	1500.00	$32.00	$48,000.00
3	8" PVC SEWER	LIN FT	14852.00	$0.00	$0.00
4	10" PVC SEWER	LIN FT	8561.00	$50.00	$428,050.00
5	12" PVC SEWER	LIN FT	753.00	$60.00	$45,180.00
6	15" PVC SEWER	LIN FT	6988.00	$70.00	$489,160.00
7	18" RCP SEWER	LIN FT	2706.00	$90.00	$243,540.00
8	24" RCP SEWER	LIN FT	4477.00	$115.00	$514,855.00
9	30" RCP SEWER	LIN FT	1500.00	$140.00	$210,000.00
10	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	24985.00	$1.00	$24,985.00
11	CONST 48" DIA SAN SEWER MANHOLE	EACH	84.00	$3,000.00	$252,000.00
12	CASTING ASSEMBLY	EACH	84.00	$500.00	$42,000.00
13	AIR RELEASE VALVE AND MH	EACH	2.00	$2,500.00	$5,000.00
				SUB TOTAL	*$2,627,770.00*
				Cont. 10%	$262,780.00
				SUB TOTAL	*$2,890,550.00*
				Engr/Legal 30%	$867,170.00
				TOTAL	***$3,757,720.00***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - Central Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	8" PVC SEWER	LIN FT	16851.00	$45.00	$758,295.00
2	10" PVC SEWER	LIN FT	5973.00	$50.00	$298,650.00
3	18" RCP SEWER	LIN FT	2385.00	$90.00	$214,650.00
4	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	25209.00	$1.00	$25,209.00
5	CONST 48" DIA SAN SEWER MANHOLE	EACH	85.00	$3,000.00	$255,000.00
6	CASTING ASSEMBLY	EACH	85.00	$500.00	$42,500.00
				SUB TOTAL	*$1,594,304.00*
				Cont. 10%	$159,430.00
				SUB TOTAL	*$1,753,734.00*
				Engr/Legal 30%	$526,120.00
				TOTAL	***$2,279,854.00***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - North Central Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	850 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$400,000.00	$400,000.00
2	8" PVC FORCE MAIN	LIN FT	1600.00	$36.00	$57,600.00
3	8" PVC SEWER	LIN FT	21284.00	$0.00	$0.00
4	10" PVC SEWER	LIN FT	3259.00	$50.00	$162,950.00
5	15" PVC SEWER	LIN FT	1913.00	$70.00	$133,910.00
6	18" RCP SEWER	LIN FT	3469.00	$90.00	$312,210.00
7	21" RCP SEWER	LIN FT	6315.00	$105.00	$663,075.00
8	24" RCP SEWER	LIN FT	4898.00	$115.00	$563,270.00
9	30" RCP SEWER	LIN FT	1800.00	$140.00	$252,000.00
10	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	21654.00	$1.00	$21,654.00
11	CONST 48" DIA SAN SEWER MANHOLE	EACH	73.00	$3,000.00	$219,000.00
12	CASTING ASSEMBLY	EACH	73.00	$500.00	$36,500.00
13	AIR RELEASE VALVE AND MH	EACH	2.00	$2,500.00	$5,000.00
				SUB TOTAL	*$2,827,169.00*
				Cont. 10%	$282,720.00
				SUB TOTAL	*$3,109,889.00*
				Engr/Legal 30%	$933,000.00
				TOTAL	***$4,042,889.00***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - Southwest Central Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	850 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$400,000.00	$400,000.00
2	2,200 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$525,000.00	$525,000.00
3	8" PVC FORCE MAIN	LIN FT	1800.00	$36.00	$64,800.00
4	12" PVC FORCE MAIN	LIN FT	3200.00	$44.00	$140,800.00
5	8" PVC SEWER	LIN FT	24085.00	$0.00	$0.00
6	10" PVC SEWER	LIN FT	7262.00	$50.00	$363,100.00
7	12" PVC SEWER	LIN FT	1200.00	$60.00	$72,000.00
8	15" PVC SEWER	LIN FT	1303.00	$70.00	$91,210.00
9	18" RCP SEWER	LIN FT	3619.00	$90.00	$325,710.00
10	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	13384.00	$1.00	$13,384.00
11	CONST 48" DIA SAN SEWER MANHOLE	EACH	45.00	$3,000.00	$135,000.00
12	CASTING ASSEMBLY	EACH	45.00	$500.00	$22,500.00
13	AIR RELEASE VALVE AND MH	EACH	5.00	$2,500.00	$12,500.00
				SUB TOTAL	*$2,166,004.00*
				Cont. 10%	$216,600.00
				SUB TOTAL	*$2,382,604.00*
				Engr/Legal 30%	$714,780.00
				TOTAL	***$3,097,384.00***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.

2414

3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - Southwest Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	470 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$325,000.00	$325,000.00
2	6" PVC FORCE MAIN	LIN FT	1500.00	$32.00	$48,000.00
3	8" PVC SEWER	LIN FT	5685.00	$0.00	$0.00
4	10" PVC SEWER	LIN FT	3723.00	$50.00	$186,150.00
5	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	3723.00	$1.00	$3,723.00
6	CONST 48" DIA SAN SEWER MANHOLE	EACH	13.00	$3,000.00	$39,000.00
7	CASTING ASSEMBLY	EACH	13.00	$500.00	$6,500.00
8	AIR RELEASE VALVE AND MH	EACH	2.00	$2,500.00	$5,000.00
				SUB TOTAL	*$613,373.00*
				Cont. 10%	$61,340.00
				SUB TOTAL	*$674,713.00*
				Engr/Legal 30%	$202,410.00
				TOTAL	***$877,123.00***

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - Lan-O-Ken Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	950 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM	1.00	$400,000.00	$400,000.00
2	6" PVC FORCE MAIN	LIN FT	1400.00	$32.00	$44,800.00
3	12" PVC SEWER	LIN FT	1000.00	$60.00	$60,000.00
4	18" RCP SEWER	LIN FT	400.00	$90.00	$36,000.00
5	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	1400.00	$1.00	$1,400.00
6	CONST 48" DIA SAN SEWER MANHOLE	EACH	5.00	$3,000.00	$15,000.00
7	CASTING ASSEMBLY	EACH	5.00	$500.00	$2,500.00
8	AIR RELEASE VALVE AND MH	EACH	2.00	$2,500.00	$5,000.00
				SUB TOTAL	*$564,700.00*
				Cont. 10%	$56,470.00
				SUB TOTAL	*$621,170.00*
				Engr/Legal 30%	$186,350.00
				TOTAL	***$807,520.00***

1. Costs are for budgeting pruposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - Northwest Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	12" PVC SEWER	LIN FT	2800.00	$60.00	$168,000.00
2	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	2800.00	$1.00	$2,800.00
3	CONST 48" DIA SAN SEWER MANHOLE	EACH	10.00	$3,000.00	$30,000.00
4	CASTING ASSEMBLY	EACH	10.00	$500.00	$5,000.00
				SUB TOTAL	*$205,800.00*
				Cont. 10%	$20,580.00
				SUB TOTAL	*$226,380.00*
				Engr/Legal 30%	$67,910.00
				TOTAL	***$294,290.00***

1. Costs are for budgeting pruposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

Appendix 2 - Opinion of Probable Cost

Future Trunk System - South Bacardi Sewer Shed

Item No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
1	12" PVC SEWER	LIN FT	1200.00	$60.00	$72,000.00
2	15" PVC SEWER	LIN FT	2000.00	$70.00	$140,000.00
3	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	3200.00	$1.00	$3,200.00
4	CONST 48" DIA SAN SEWER MANHOLE	EACH	11.00	$3,000.00	$33,000.00
5	CASTING ASSEMBLY	EACH	11.00	$500.00	$5,500.00
				SUB TOTAL	*$253,700.00*
				Cont. 10%	$25,370.00
				SUB TOTAL	*$279,070.00*
				Engr/Legal 30%	$83,720.00
				TOTAL	***$362,790.00***

1. Costs are for budgeting pruposes only, and are subject to change as projects are studied, designed, and constructed.
2. Costs are estimated based on 2007 construction costs.
3. Land acquisition costs are not included.

APPENDIX 3

Sewer Shed Trunk Facility Construction Schedules

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - Northeast Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	880 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM				1
2	8" PVC FORCE MAIN	LIN FT				1,700
3	8" PVC SEWER	LIN FT		3,600		
4	10" PVC SEWER	LIN FT		750		
5	12" PVC SEWER	LIN FT		2,450		
7	18" RCP SEWER	LIN FT		4,350		
8	21" RCP SEWER	LIN FT		850		
9	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT		8,400		
10	CONST 48" DIA SAN SEWER MANHOLE	EACH		28		
11	CASTING ASSEMBLY	EACH		28		
12	AIR RELEASE VALVE AND MH	EACH				2

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - Southeast Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	6,300 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM		1		
2	1,400 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM			1	
3	770 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM			1	
4	130 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM			1	
5	4" PVC FORCE MAIN	LIN FT			400	
6	8" PVC FORCE MAIN	LIN FT			3,200	
7	10" PVC FORCE MAIN	LIN FT			3,400	
8	21" PVC FORCE MAIN	LIN FT		1,900		
9	8" PVC SEWER	LIN FT		8,500	47,319	
10	10" PVC SEWER	LIN FT		0	14,680	
11	12" PVC SEWER	LIN FT		1,800	12,224	
12	15" PVC SEWER	LIN FT		3,600	13,898	
13	18" RCP SEWER	LIN FT		2,500	6,207	
14	21" RCP SEWER	LIN FT			2,743	
15	24" RCP SEWER	LIN FT			1,887	
16	30" RCP SEWER	LIN FT			5,309	
17	36" RCP SEWER	LIN FT		7,336		
18	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT		15,236	56,948	
19	CONST 48" DIA SAN SEWER MANHOLE	EACH		51	190	
20	CASTING ASSEMBLY	EACH		51	190	
21	AIR RELEASE VALVE AND MH	EACH		2	7	

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - Southeast Central Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	8" PVC SEWER	LIN FT				3,277
2	10" PVC SEWER	LIN FT		3,100		
3	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT		3,100		
4	CONST 48" DIA SAN SEWER MANHOLE	EACH		11		
5	CASTING ASSEMBLY	EACH		11		

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - South Central Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	530 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM				1
2	6" FORCE MAIN	LIN FT				1,500
3	8" PVC SEWER	LIN FT		2,500		12,352
4	10" PVC SEWER	LIN FT		500	3,000	5,061
5	12" PVC SEWER	LIN FT				753
6	15" PVC SEWER	LIN FT				6,988
7	18" RCP SEWER	LIN FT				2,706
8	24" RCP SEWER	LIN FT		4,477		
9	30" RCP SEWER	LIN FT		1,500		
10	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT		6,477	3,000	15,508
11	CONST 48" DIA SAN SEWER MANHOLE	EACH		22	10	52
12	CASTING ASSEMBLY	EACH		22	10	52
13	AIR RELEASE VALVE AND MH	EACH		0	0	2

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - Central Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	8" PVC SEWER	LIN FT		15,051	1,800	
2	10" PVC SEWER	LIN FT		5,973		
3	18" RCP SEWER	LIN FT		2,385		
4	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT		25,209		
5	CONST 48" DIA SAN SEWER MANHOLE	EACH		85		
6	CASTING ASSEMBLY	EACH		85		

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - North Central Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	850 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM		1		
2	8" PVC FORCE MAIN	LIN FT		1,600		
3	8" PVC SEWER	LIN FT	1,500	1,500		18,284
4	10" PVC SEWER	LIN FT		3,259		
5	15" PVC SEWER	LIN FT		1,913		
6	18" RCP SEWER	LIN FT		3,469		
7	21" RCP SEWER	LIN FT	3,100	3,215		
8	24" RCP SEWER	LIN FT	4,898			
9	30" RCP SEWER	LIN FT	1,800			
10	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT	9,798	11,856		
11	CONST 48" DIA SAN SEWER MANHOLE	EACH	33	40		
12	CASTING ASSEMBLY	EACH	33	40		
13	AIR RELEASE VALVE AND MH	EACH		2		

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - Southwest Central Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	850 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM				1
2	2,200 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM				1
3	8" PVC FORCE MAIN	LIN FT				1,800
4	12" PVC FORCE MAIN	LIN FT				3,200
5	8" PVC SEWER	LIN FT				24,085
6	10" PVC SEWER	LIN FT				7,262
7	12" PVC SEWER	LIN FT				1,200
8	15" PVC SEWER	LIN FT				1,303
9	18" RCP SEWER	LIN FT				3,619
10	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT				13,384
11	CONST 48" DIA SAN SEWER MANHOLE	EACH				45
12	CASTING ASSEMBLY	EACH				45
13	AIR RELEASE VALVE AND MH	EACH				5

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - Southwest Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	470 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM				1
2	6" PVC FORCE MAIN	LIN FT				1,500
3	8" PVC SEWER	LIN FT				5,685
4	10" PVC SEWER	LIN FT				3,723
5	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT				3,723
6	CONST 48" DIA SAN SEWER MANHOLE	EACH				13
7	CASTING ASSEMBLY	EACH				13
8	AIR RELEASE VALVE AND MH	EACH				2

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - Lan-O-Ken Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	950 GPM LIFT STATION (Standard submersible type, no stand-by generator)	LUMP SUM		1		
2	6" PVC FORCE MAIN	LIN FT		1,400		
3	12" PVC SEWER	LIN FT		1,000		
4	18" RCP SEWER	LIN FT		400		
5	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT		1,400		
6	CONST 48" DIA SAN SEWER MANHOLE	EACH		5		
7	CASTING ASSEMBLY	EACH		5		
8	AIR RELEASE VALVE AND MH	EACH		2		

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - Northwest Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	12" PVC SEWER	LIN FT				2,800
2	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT				2,800
3	CONST 48" DIA SAN SEWER MANHOLE	EACH				10
4	CASTING ASSEMBLY	EACH				10

Appendix 3 - Trunk Facility Construction Schedule

Future Trunk System - South Bacardi Sewer Shed

Item No.	Description	Unit	2010 Quantity	2020 Quantity	2030 Quantity	Ultimate Quantity
1	12" PVC SEWER	LIN FT		1,200		
2	15" PVC SEWER	LIN FT		2,000		
3	SANITARY SEWER INSPECTION (TELEVISING)	LIN FT		3,200		
4	CONST 48" DIA SAN SEWER MANHOLE	EACH		11		
5	CASTING ASSEMBLY	EACH		11		

APPENDIX 4

Dakota County Maintenance Facility and Communications Center Cooperative Agreement

COOPERATIVE AGREEMENT

This Agreement is made this 1st day of May, 2001, by and between the City of Rosemount, Minnesota (hereinafter "City"), a Minnesota municipal corporation, and the County of Dakota (hereinafter "County"), a Minnesota municipal corporation.

WITNESSETH:

WHEREAS, the City operates sanitary sewer and water utilities in and for the City of Rosemount; and

WHEREAS, the County is the owner of land legally described on Attachment One, attached hereto and hereby made a part of this Agreement (hereinafter the "Subject Property"), on which it intends to construct and maintain a County maintenance building; and

WHEREAS, the Subject Property is located in Empire Township, Minnesota; and

WHEREAS, Minnesota Statutes, Section 429.021 authorizes the City to extend sanitary sewer and water services outside of its corporate boundaries; and

WHEREAS, the County has requested the extension of municipal sewer and water utility services to the Subject Property; and

WHEREAS, the City is willing to so extend such services on the terms and conditions hereinafter set forth;

NOW, THEREFORE, on the basis of the premises and the mutual covenants and agreements hereinafter set forth, the parties hereto agree as follows:

I. CONSTRUCTION OF FACILITIES

1.1 The City will design and inspect municipal sanitary sewer and water services to the property line of the Subject Property, such facilities being generally as described on Attachment Two, attached hereto and hereby made a part of this Agreement (hereinafter the "Project").

1.2 The County will secure any required right of way and easement rights and construct the Project at its own expense in accordance with plans and specifications prepared by the City.

1.3 Upon completion of the Project and acceptance by the City, all parts of the Project lying outside of the Subject Property shall become the property of the City and a part of its utility systems and the County shall execute such assignments as are necessary to effect the transfer of easement rights and warranties or guarantees for the Project to the City.

II. COUNTY TO PAY COSTS

2.1. The County will pay to the City the sum of Forty-seven Thousand Dollars ($47,000) as payment for estimated expenses incurred by the City in preliminary design and engineering and inspection of the Project. Upon receipt of such sum, the City will commence designing the Project. In the event design and engineering costs exceed the sum stated above, the County will promptly reimburse the City for such additional costs. In the event engineering costs incurred by the City are less than the sum so received, excess funds will be returned to the County.

III. RATES AND CHARGES

3.1. Upon connection by the County to the municipal sewer and water systems, the County will pay connection charges and trunk fees in accordance with the City's schedule of rates and charges. Thereafter, the County will pay for the use and availability of such services in accordance with the rates and charges in effect for other customers of the City's utility systems as they may be amended from time to time by the City Council.

IV. TERM AND TERMINATION

4.1. This Agreement may be terminated at any time upon the mutual consent of the parties.

4.2. Upon payment of all costs and charges due, the County may terminate this agreement at any time by giving the City notice that it wishes to terminate municipal sewer and water service to the Subject Property.

V. SALT SHELTER

5.1. The County will construct a salt and sand warehouse or shelter on the Subject Property in which it will store salt, sand and other related materials for use on public roadways. As additional consideration for this agreement, the County agrees to allow the City to purchase salt and sand directly from the County for use on City roadways. The County will charge the City for the actual quantities used by the City at the unit cost paid by the County for the sand and salt. The County will also make available to the City, at no expense to the City, the use of the County's equipment for moving and loading such salt into City vehicles, and will allow 24 hour a day access to the facility for such purpose.

VI. LIMITATION ON AREA OF SUBJECT PROPERTY SERVED

6.1. Although the County has purchased all of the Subject Property, it is the plan and intent of the County that only the north 40 acres of the Subject Property will be used for the County facilities served by municipal sewer and water services. The County agrees that no part of the Subject Property other than the north 40 acres thereof will be connected to or served by the sewer and water facilities provided for under this Agreement without the written consent of the City.

VII. AGREEMENT TO RUN WITH THE LAND

7.1. This Agreement shall run with the land of the Subject Property and shall bind the successors and assigns of the parties.

CITY OF ROSEMOUNT

By Cathy Busko
Its Mayor

And Linda Hentink
Its Clerk

And
Its City Administrator

COUNTY OF DAKOTA

By
Its PHYSICAL DEVELOPMENT DIRECTOR

Approved as to form and execution:

~~And~~By:
Its Assistant County Attorney/Date

CITY OF ROSEMOUNT

Everything's Coming Up Rosemount!!

CITY HALL
2875 – 145th Street West
Rosemount, MN
55068-4997
Phone: 651-423-4411
Hearing Impaired 651-423-6219
Fax: 651-423-5203

CERTIFICATE

STATE OF MINNESOTA)
COUNTY OF DAKOTA) §
CITY OF ROSEMOUNT)

I, Linda J. Jentink, duly appointed, acting and qualified City Clerk of the City of Rosemount do hereby certify that I have examined the City of Rosemount records and the Minutes Book of said City for the meeting of May 1, 2001, and hereby certify that the attached copy of Resolution 2001 –39 **A RESOLUTION APPROVING A COOPERATIVE AGREEMENT BETWEEN THE CITY OF ROSEMOUNT AND DAKOTA COUNTY, CITY PROJECT 332** and Resolution 2001-40 **A RESOLTUION ORDERING THE PREPARATION OF PLANS AND SPECIFICATIONS FOR DAKOTA COUNTY SHOP SANITARY SEWER CITY PROJECT 332** are true and correct copies of the City Proceedings relating to said Resolutions.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of said City this 4th day of May, 2001.

Linda J. Jentink, City Clerk
City of Rosemount
Dakota County, Minnesota

Seal

CITY OF ROSEMOUNT
DAKOTA COUNTY, MINNESOTA

RESOLUTION 2001 – 39

A RESOLUTION APPROVING A COOPERATIVE AGREEMENT BETWEEN THE CITY OF ROSEMOUNT AND DAKOTA COUNTY CITY PROJECT #332

WHEREAS, the City Council of the City of Rosemount has been approached by Dakota County for the provision of extending sanitary sewer and water services to their new County Maintenance Shop just south of 160th Street within Empire Township, and

WHEREAS, Dakota County will incur all charges for the extension of the services under City Project #332 as stipulated within the Cooperative Agreement.

NOW THEREFORE BE IT RESOLVED that the Mayor and the City Administrator are authorized to execute the Agreement and such amendments as are approved by the City Attorney and the City Administrator.

ADOPTED this 1st day of May, 2001 by the City Council of the City of Rosemount.

Cathy Busho, Mayor

ATTEST:

Linda Jentink, City Clerk

Motion by: Riley Second by: Busho

Voted in favor: Busho, Riley, Cisewski.

Voted against: Edwards, Klassen.

CITY OF ROSEMOUNT
DAKOTA COUNTY, MINNESOTA

RESOLUTION 2001 – 40

A RESOLUTION ORDERING THE
PREPARATION OF PLANS AND SPECIFICATIONS FOR
DAKOTA COUNTY SHOP SANITARY SEWER
CITY PROJECT #332

WHEREAS, the City Council of the City of Rosemount entered into a Cooperative Agreement with Dakota County on May 1, 2001 to provide sanitary sewer service to their new Maintenance Shop, City Project #332; and

NOW THEREFORE BE IT RESOLVED, that the City Council of the City of Rosemount hereby orders the preparation of plans and specifications for the sanitary sewer services, City Project #332 described in the aforementioned Agreement.

ADOPTED this 1st day of May, 2001.

Cathy Busho, Mayor

ATTEST:

Linda Jentink, City Clerk

Motion by: Riley Seconded by: Busho

Voted in favor: Riley, Cisewski, Busho.

Voted against: Edwards, Klassen

BOARD OF COUNTY COMMISSIONERS
DAKOTA COUNTY, MINNESOTA

July 24, 2001 — Resolution No. 01-439

Motion by Commissioner Schouweiler — Second by Commissioner Krause

---

Authorization to Execute Cooperative Agreement with the City of Rosemount for Sanitary Sewer and Water Utilities for New Transportation Facility

WHEREAS, the City operates sanitary sewer and water utilities in and for the City of Rosemount; and

WHEREAS, the County is the owner of land, located in Empire Township, Minnesota, on which it intends to construct and maintain the new Transportation Facility; and

WHEREAS, Minn. Stat. § 429.021 authorizes the City to extend sanitary sewer and water services outside of its corporate boundaries; and

WHEREAS, the County has requested the extension of municipal sewer and water utility services to the new Transportation Facility to provide effective, efficient, and responsive service; and

WHEREAS, the City is willing to extend such services on the terms and conditions set forth in a cooperative agreement.

NOW, THEREFORE, BE IT RESOLVED, That the Dakota County Board of Commissioners hereby authorizes the Physical Development Director to execute the Cooperative Agreement with the City of Rosemount to provide utility service and sanitary sewer and water to the County's new Transportation Facility in Empire Township, signed by the City on May 1, 2001, and any amendments thereto which limit or reduce County liability or risk, subject to approval by the County Attorney's Office as to form and execution.

STATE OF MINNESOTA
County of Dakota

	YES		NO
Harris	X	Harris	
Maher	X	Maher	
Bataglia	X	Bataglia	
Schouweiler	X	Schouweiler	
Turner	X	Turner	
Krause	X	Krause	
Branning	X	Branning	

I, Mary S. Scheide, Clerk to the Board of the County of Dakota, State of Minnesota, do hereby certify that I have compared the foregoing copy of a resolution with the original minutes of the proceedings of the Board of County Commissioners, Dakota County, Minnesota, at their session held on the 24th day of July 2001, now on file in the County Administration Department, and have found the same to be a true and correct copy thereof.

Witness my hand and official seal of Dakota County this 30th day of July 2001.

Mary S. Scheide
Clerk to the Board

COMPREHENSIVE WATER SYSTEM PLAN

Prepared for the:

City of Rosemount
2875 – 145th Street West
Rosemount, MN 55068

August 1, 2007

Prepared by:

WSB & Associates, Inc.
701 Xenia Avenue South, Suite 300
Minneapolis, MN 55416
763-541-4800 (TEL)
763-541-1700 (FAX)

August 1, 2007

Honorable Mayor and City Council
City of Rosemount
2875 – 145th Street West
Rosemount, MN 55068

Re: Comprehensive Water System Plan
City of Rosemount, MN
WSB Project No. 1582-00

Dear Mayor and City Council Members:

Transmitted herewith is the Comprehensive Water System Plan for the above-referenced project. The report is a planning tool to help the City meet its short-term and long-term water demands.

We would be happy to discuss this report with you at your convenience. Please give us a call at 763-541-4800 if you have any questions.

Sincerely,

WSB & Associates, Inc.

Kevin F. Newman

Kevin F. Newman, PE
Project Manager

Enclosure

srb

CERTIFICATION

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.

Kevin F. Newman

Kevin F. Newman, PE

Date: August 1, 2007 Lic. No. 25198

Prepared by:

Joseph C. Ward, PE

Date: August 1, 2007 Lic. No. 45855

Quality Control Review by:

Nancy D. Zeigler

Nancy D. Zeigler, PE

Date: August 1, 2007 Lic. No. 42823

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

Figures

Tables

TABLE OF CONTENTS (continued)

1.0 EXECUTIVE SUMMARY

This report represents a comprehensive water system plan to help the City of Rosemount meet its short-term and long-term water demands. The report was originally prepared November 4, 2005. This update revises growth projections, both population and development, and dependent infrastructure development schedules. Ultimate water demand and development projections were not revised; therefore, ultimate infrastructure improvements required were not revised.

To estimate existing water system demands and project future demands the ultimate land use plan was used as opposed to the 2030 land use plan. There are differences between the land use plans, however, it was important to size infrastructure for service beyond the 2030 land use plan. The ultimate land use plan included in Figure 1 was used for ultimate system infrastructure sizing.

The existing water distribution system consists of eight wells with limited water treatment at each well site, four elevated storage tanks, and over 100 miles of water main ranging in size from 6 to 16 inches in diameter. Also, the system is broken into two pressure zones, eastern and western, by a pressure reducing valve.

The total well capacity is 7,600 gallons per minute (gpm) and firm capacity, assuming the largest well out of service, of 6,000 gpm. Abandonment of Well No. 3 is scheduled, and once it is taken out of service the total well capacity and firm capacity will be 7,100 gpm and 5,500 gpm, respectively. Each well pumps into the distribution system after treatment with chlorine, fluoride, and polyphosphate.

System storage includes three towers in the western pressure zone and one tower in the eastern pressure zone. The total storage capacity of the existing towers is 3.5 Million Gallons (MG). Western pressure zone towers have capacities of 0.5, 1.0, and 1.5 MG for a total of 3.0 MG. The eastern pressure zone tower has a storage capacity of 0.5 MG.

An extended period simulation (EPS) computer model (WaterCAD v. 6.5) was used to evaluate the existing system's operating pressures and available fire flow based on 2004 water demand. The 2004 average water demand was approximately 2.0 Million Gallons per Day (MGD) and maximum day demand was 5.6 MGD. The modeling results indicate a functional system without a fire event with seven wells in operation and three of the existing towers in service. Although the City currently provides adequate service and fire protection to the vast majority of the City, there are a few deficiencies and future challenges including:

- Limited fire protection in the eastern pressure zone
- The existing system is not capable of serving the proposed Air Cargo facility

In the event that the Air Cargo facility is developed, either additional wells will need to be constructed in the eastern pressure zone or construction of approximately 4 miles of trunk water main will be necessary to serve the development from the western pressure zone. The limited fire protection in the eastern pressure zone will be improved as development is increased. The future trunk mains will serve development as needed and provide fire protection.

Rosemount has been experiencing considerable growth and anticipates growth to continue. Major business development is anticipated with the possibility of constructing an Air Cargo facility in the eastern area.

The quantity and timing of future water demands were estimated in accordance with the City's ultimate land use plan, including the estimated developable acreage and water demand per acre for each land use type (estimated unit water demand). Both average and maximum day demands were estimated. A maximum day to average day demand ratio of 3.0 was used for 2010, 2020, and 2030 design intervals, and 2.5 for ultimate demands. The resulting projected average water demand is 2.82 MGD, 4.65 MGD, 6.54 MGD, and 12.44 MGD in 2010, 2020, 2030, and ultimate development, respectively. These estimates include future industrial users and some existing areas that are presently on individual wells joining the water system.

The water distribution system will expand as development requires service. An ultimate trunk water main system has been developed to provide adequate service to the total City build out as shown in Figure 5. If development occurs quicker than anticipated, construction phasing can be changed. However, the ability of the trunk water main system to provide adequate service and fire flow depends highly on the location of supply. If future supply locations are greatly changed, for instance an inability to develop any wells in the eastern pressure zone, then main sizing may need to be redeveloped to accommodate the changed supply location.

Another variable in future water system phasing is treatment. As the City grows, water customers typically will expect higher quality water. Therefore, water treatment will be proposed in the future and it is only prudent to include it in the City's future plans. Due to the location of these facilities around the City of Rosemount, large transmission mains would not be required to provide service to customers. The ultimate system shown in Figure 5 would include mostly 12-inch distribution mains located on the along section lines. Also, the existing 16-inch loop started by the City in the western pressure zone would be continued throughout the western pressure zone. A 16-inch trunk loop would serve as the backbone of the eastern pressure zone as well.

2.0 INTRODUCTION

The City of Rosemount has experienced considerable growth in recent years and anticipates similar growth to continue. The purpose of the comprehensive water system plan is to provide the City with a plan to serve future development.

The existing water system consists of wells, storage, distribution, and limited treatment facilities at each well location. This water system plan will review existing water system demand and existing system capabilities. The study will also project growth, resulting demand on the system, and recommend future system improvements necessary to meet increased demand. A capital improvement plan will be presented and financing options will be discussed. Flexibility in planning, design, and construction in the term and long term are of high importance, since such flexibility will allow savings in time and money when changes to the water system are necessary.

3.0 GENERAL SYSTEM POLICIES

3.1 Strategic Growth Management

Strategic growth management is a key factor in a community's success as it grows. It is important to promote new commercial and industrial development while also balancing such growth with residential growth. Residential development needs to be guided in terms of amount, type, location, and quality. While accommodating growth, it is also essential that environmental quality in Rosemount is protected. Rosemount's ability to deliver reliable services must be maintained as the City grows and there needs to be an awareness of all services, such as water (distribution system, wells, storage, and treatment), sanitary sewer, storm water, transportation, schools, and other public facilities and services.

Rosemount has exhibited a proactive approach to strategic growth management by the development of an updated Comprehensive Plan, discussed in section four, in conjunction with this Comprehensive Water System Plan. Combining the two plans will allow Rosemount to meet its water service needs well into the future and continue its rapid growth while maintaining a high quality of life.

4.0 LAND USE

4.1 Land Use Breakdown

Figure 1 is the ultimate land use plan for the City of Rosemount. This plan was developed by the City of Rosemount and separates the planning area into fifteen (15) different land use categories. Land use is a critical factor in determining future water demand because different land uses exert different demands on the water system.

4.2 Developable Areas

The area within Rosemount's City limits is approximately 32.2 square miles or 20,600 acres. The existing developed area is approximately 8,900 acres including existing parks, agricultural, and unserviced (residential and industrial) areas. Therefore, there is still much land within City limits with development potential.

Each land use section's total acreage was calculated. Existing developed, whether serviced or unserviced, and undevelopable areas (parks and agriculture) were subtracted to obtain developable acreage. This is identified as "Gross" Developable Acreage because it includes roads and common or public areas potentially included in developments. The Gross Developable Acreage by land use categories is shown in Figure 2 and summarized in Table 1.

TABLE 1
Gross Developable Acreage
City of Rosemount, Minnesota

Land Use	Acres
Urban Resiential[1]	5,262
Medium Density Residential[2]	530
High Density Residential[3]	123
Transition Residential	137
Rural Residential	414
Public/Institutional[4]	0
Business Park[5]	1,817
Commercial[6]	531
General Industrial	1,032
Industrial/Mixed Use	699
Air Cargo[7]	630
Corporate Campus	512
Total	**11,687**

[1] Includes 2,480 acres in the Univ. of Minn. Property
[2] Includes 199 acres in the Univ. of Minn. Property
[3] Includes 40 acres in the Univ. of Minn. Property
[4] Assumes existing Wastewater Facility is not developable
[5] Includes 296 acres in the Univ. of Minn. Property
[6] Includes 49 acres in the Univ. of Minn. Property
[7] If Air Cargo Project is not completed land area will become Urban Residential as shown in Figures 1and 2

4.3 Potential Ultimate Service Area

The potential ultimate service area quantifies gross developable acres in terms of those most likely to develop and when development is anticipated. The potential service area development time frames were discussed with City staff. Projects in the planning stage were taken into account as was a site's location in relation to existing developed areas and existing services.

Currently, there is approximately 3,000 acres in the south central area of the City used by the University of Minnesota – Rosemount Research Center (UMore Park). UMore Park is bounded by CSAH 42 on the north, 160th Street/City limits on the south, Biscayne Avenue on the west, and extends approximately ¼ mile east beyond Blaine Avenue. This 3,000 acres excludes 165 acres for Dakota County Technical College located in the north central portion of the 3,000 acres. Since the University's plans for UMore Park are unknown, the time frame for development, if ever, is unknown. Therefore, development and water service to this area has only been included in the ultimate service area.

Another unknown serviced area is the proposed Air Cargo facility located in the eastern pressure zone. There has been no specific location proposed, but it would encompass 630 acres somewhere between US 52, CSAH 42, 160th Street/City limits, and Emery Avenue. The time frame for this development is unknown, but it has been included in the 2010 water system model as a conservative measure. The proposed Air Cargo location will be developed as urban residential if the Air Cargo facility is not developed. Although included in the 2010 water system model, the Air Cargo Facility development has not been shown in the 2010 service area in Table 2 and Figure 3.

Potential service areas are shown in Figure 3 and summarized in Table 2. The potential service area is shown for the years 2005, 2010, 2020, 2030, and ultimate development. In addition, residential and non-residential areas are identified. Growth is projected to occur primarily by surrounding the existing western service area then expanding eastward, with the exception of UMore Park.

TABLE 2
Potential Ultimate Service Area
City of Rosemount, Minnesota

	2005 (ac)	2010 (ac)	2020 (ac)	2030 (ac)	Ultimate (ac)
Residential[1]	2,400	3,021	4,750	6,191	8,910
Non-Residential[2]	2,302	3,171	5,255	6,768	7,708
Total	**4,702**	**6,192**	**10,005**	**12,959**	**16,618**

[1] Ultimate residential includes 2,719 acres of potential residential development on the property owned by the Univ. of Minn.

[2] Ultimate non-residential includes 296 acres of potential business park and 49 acres of commercial development on the property owned by the Univ. of Minn.

The 2005 service area shown in Figure 3 and described Table 2 is 4,702 acres. This acreage is the total developed area discussed in section 4.2 of 8,903 (approximately 8,900), less developed unserved (2,412 ac of residential and industrial), and undevelopable areas (1,789 ac). Agricultural, Rural Residential, and Parks were not considered to be part of the ultimate service area.

5.0 EXISTING CONDITIONS

5.1 Current Service Areas

The existing water distribution system for the City of Rosemount is shown in Figure 4. It consists of two pressure zones, western and eastern. The eastern zone has a lower ground elevation than the western, therefore, water supplied from the western zone could cause main breaks in the eastern zone without a reduction in pressure. A pressure reducing valve (PRV) connects the two zones, which allows the eastern zone to maintain a constant downstream pressure regardless of flow supplied from the western zone. In addition, it allows both pressure zones to act as one system relative to facility sizing and fire protection.

The water distribution system currently serves an area of approximately 4,700 acres and consists of both ductile iron and PVC water mains ranging from 6 inches to 16 inches in diameter. The western pressure zone has been developed and consists of an array of mains, generally ductile iron, with a 16-inch loop throughout the pressure zone. The eastern pressure zone is largely undeveloped and is connected to the western pressure zone via 16-inch transmission main and PRV. Mains are sparsely located as are the users.

The 2006 water demand was approximately 2.24 MGD on an average day and 6.37 MGD on the maximum day. Historical water usage is shown in Table 3. The historical water usage shown in Table 3 has been adjusted to correct for a substantial public/institutional meter reading. Details are discussed in 7.1.

5.2 Existing Water System

5.2.1 Current Water Sources

The City of Rosemount currently has eight wells in service. They are designated Well No. 3, Well No. 7, Well No. 8, Well No. 9, Well No. 12, Well No. 14, Well RR No. 1, and Well RR No. 2. Well Nos. 3, 7, 8, 9, 12, and 14 serve the western pressure zone while Well RR Nos. 1 and 2 serve the eastern pressure zone. Locations of the wells are identified on Figure 4.

All wells draw groundwater from the Jordan Aquifer and are then treated with chlorine, fluoride, and polyphosphate in each well house. After treatment, water is pumped into the distribution system. Detailed information for each of the wells is found in Table 4.

The total capacity of the eight Rosemount wells is 7,600 gpm. The firm capacity of the eight wells, which assumes the largest well out of service (Well No. 9), is 6,000 gpm. Abandonment of Well No. 3 is proposed because of the age and condition of the equipment in the well house for Well No. 3. Abandonment of Well No. 3 will decrease the total and firm capacity of the system to 7,100 gpm and 5,500 gpm, respectively. The firm capacity of the western pressure zone alone would be 5,000 gpm once Well No. 3 is abandoned.

To meet the needs of the existing water system, well firm capacity should equal or exceed the maximum day water demand in accordance with AWWA recommendations. The current maximum day demand was 4,424 gpm, which occurred in 2006. Therefore, existing well firm capacity is adequate to supply existing City water demands.

5.2.2 Current Water Treatment

Water treatment is not mandatory for the City of Rosemount. As discussed in section 5.2.1, the only treatment occurs at each well house. Raw water is treated with chlorine, fluoride, and polyphosphate.

TABLE 3
Historical Water Demand
Summary of DNR Report Information Adjusted for Historical Public/Institutional Irrigation Usage
City of Rosemount, Minnesota

		Annual Water Billed (MG)									
Year	Population Served	Residential	Commercial	Public Institutional	Industrial	Total Year Demand (MG)	Average Day Demand (MGD)	Total Water Pumped (MG)	Percent Unmetered (%)	Maximum Day Pumped (MGD)	Maximum Day Pumped (GPM)
1999	11,726	331	33	31	6	401	1.10	447	10.3	2.94	2,042
2000	12,801	408	39	32	9	488	1.34	537	9.1	3.58	2,486
2001	13,452	435	46	34	12	527	1.44	588	10.4	5.10	3,542
2002	14,292	416	47	31	39	533	1.46	594	10.3	4.13	2,868
2003	14,976	545	65	37	37	684	1.87	765	10.6	4.71	3,271
2004	15,922	544	56	37	27	664	1.82	733	9.4	5.56	3,861
2005	17,600	569	41	46	42	698	1.91	762	8.4	6.05	4,201
2006	19,094	721	44	26	27	818	2.24	944	13.3	6.37	4,424

*Average day demand based on total gallons sold per year. Maximum day demand is based on gallons pumped in a day.

TABLE 4
Existing Well Information
City of Rosemount, Minnesota

Well No.	**3**	**7**	**8**	**9**	**12**	**14**	**RR 1**	**RR 2**
Year Installed	1962	1976	1990	1997	2005	2006	1989	1990
Service Area	West	West	West	West	West	West	East	East
Casing Depth (ft.)	388	400	389	383	397	431	345	345
Total Depth (ft.)	471	490	498	498	470	496	400	400
Size	12"	16"	18"	24"	24"	18"	10"	10"
Static Water Level (ft.)	92	68	53	50	76	120	75	75.0
Drawdown Level (ft.)	125	104	86	110	113	170	200	200
Capacity (gpm)	500	1,200	1,000	1,600	1,300	1,200	400	400

5.2.3 Current Water Storage

There are four elevated storage facilities serving the City of Rosemount. Of the four existing, three are located in the western pressure zone and the fourth in the eastern. The locations of all the towers are identified on Figure 4.

The Chippendale Tower is a toro ellipsoidal tower with 500,000 gal of available storage located at the northeastern corner of Chippendale Avenue and West 150th Street. The Connemara Tower is a 1,000,000 gal Hydropillar located northeast of the intersection of Connemara Trail and Clover Lane. Another Hydropillar, the Bacardi Tower, is located directly south of the intersection of Bacardi Avenue and West 135th Street. The Bacardi Tower has a storage capacity of 1,500,000 gal. A 500,000 gal spheroid tower serving the eastern pressure zone is located southeast of the intersection of US 52 and East 145th Street.

Since the system is pressurized by the well pumps, elevated water storage floats on system pressure. Each of the towers in the western pressure zone has the same overflow level of 1,105. Specific information on each tower is listed in Table 5.

TABLE 5
Existing Elevated Water Storage Facilities
City of Rosemount, Minnesota

Description	Chippendale Tower	Connemara Tower	Bacardi Tower	East Side Tower
Year Erected	1971	1990	2006	2001
Overflow Elev., ft.	1,105	1,105	1,105	1,050
Range, ft.	30	40	40	37.5
Capacity, gal	500,000	1,000,000	1,500,000	500,000

5.2.4 Current Water Distribution and Firefighting Capacity

The existing water distribution system consists of two pressure zones connected by a PRV, as discussed in section 5.1, and over 100 miles of water distribution mains ranging in size from 6 inches to 16 inches (Figure 4). Some mains connecting wells or towers to the distribution system are greater than 16 inches. An extended period simulation (EPS) computer model (WaterCAD v.6.5) was used to evaluate the existing (2004) water system's ability to provide adequate service under a variety of conditions and provide fire protection. The EPS model replicates the daily fluctuation of water demand versus time of day. The EPS model offers a view of time-varying features such as tank levels, water system demand, and pump on and off operation, and available firefighting flow. Figure 6 is a graphical representation of the maximum day hourly water usage that was used to develop the EPS computer model. The development of this curve and other demands is discussed later in section 6.1.

Computer modeling of existing conditions was performed assuming the well pumps were operating at their firm capacity (largest well out of service, Well No. 9) of approximately 4,800 gpm. Well No. 14 and the Bacardi Tower were not included in the existing (2004) system model. The United States Geological Survey (USGS) data and the City GIS system were used to assign elevations to the points in the model. Hydrant flow tests were used to calibrate the model.

Twenty pounds per square inch (psi) of residual pressure at all nodes in the system should be considered a minimum pressure for firefighting needs when reviewing computer modeling outputs. According to the Insurance Services Office (ISO), fire flow demands should be superimposed on the maximum day diurnal demand curve (hourly water usage, Figure 7) after the peak hour demand has occurred. At this point, storage facilities have been used for equalization of demands and would be at a lower level than at other times of the day.

Water Distribution

Figures 10 through 25 show the existing and future system modeling results in the form of contour maps under varying system design conditions. Existing system modeling results included in Figures 10 through 14 show average day pressure contours, peak hour pressure contours, minimum hour pressure contours, and available fire flow contours, respectively. During peak hour conditions, the system exhibits western zone pressures ranging from less than 40 psi to 75 psi, and 45 to 85 psi in the east. Under minimum hour demands western zone pressures range from less than 40 to 82 psi in the west and 48 to 93 psi in the east.

Water distribution mains are typically sized to deliver peak hour demands at pressures in the range of 40-110 psi in accordance with American Water Works Association (AWWA) engineering standards. In addition, it is recommended for pressure fluctuation during the day to remain less than 30 psi.

System modeling indicates existing mains can deliver peak hour demands and minimum hour demands to the City while maintaining pressures above 40 psi and lower than 110 psi, except in the area of Danube Court/Danube Lane. Homeowners in the Danube Court/Danube Lane area have installed individual booster pumps to increase service pressure. There are some small pockets in other areas of the City with pressures slightly lower than 40 psi, however, they are isolated. In addition, there is limited pressure fluctuation of 5-10 psi between peak hour and minimum hour demands. Existing demands are discussed in section 7.

There have been sporadic complaints regarding low pressures according to public works staff. These complaints typically come from a single house and not from several in an area, and are usually caused by soil in the water meter. Once soil is removed from the water meter the pressure problems are corrected for the user. Homes on Clover Lane, in close proximity to the Connemara Tower, complained of low pressures for irrigation systems when they were first constructed. However, individual booster pumps may have been installed to correct this problem.

Fire Protection

For fire protection, distribution mains should be able to deliver greater than 1,500 gpm for residential protection and 3,000 gpm for commercial. WSB met with the City fire marshal to discuss the ISO rating. ISO determines fire insurance rates based on the adequacy of the fire protection system. The ISO ranks cities on a scale from 1 to 10 based on the fire department's communication system (10%), the water supply system (40%), and the fire department (50%), with Class 1 being the highest rating. Class 1 is comprised of the best fire departments, of which there are only about 45 in the United States.

Based on discussions with the City Fire Marshall, buildings in the City of Rosemount that are greater than 12,000 SF require a sprinkler system. Also, buildings are rated the highest if they are within 1,000 feet of a hydrant capable of providing 3,000 gpm for three hours. Flint Hills Resources has their own holding ponds to provide their own fire protection, so the City is not responsible for providing fire protection to Flint Hills Resources.

The western pressure zone exhibits satisfactory fire protection as shown in Figure 13. In the eastern pressure zone, most mains have not been sized to deliver fire flows as it is not developed with the exception of a few industrial businesses. Improvements to the eastern pressure zone, including the tower, were designed and constructed with the understanding that the system would not be able to meet fire flow demands. The water main improvements were constructed to provide a more reliable source of water for consumption to the commercial and residential users in the eastern pressure zone, but not eliminate all the deficiencies. Due to limitations of the existing eastern pressure zone, it was not feasible to meet fire flow demands without major improvements.

5.2.5 Summary of Existing Deficiencies

Existing system deficiencies include:

- Limited fire protection available in the eastern pressure zone

6.0 GROWTH PROJECTIONS

6.1 Projected Residential Growth

Rosemount's 2005 population estimate was 19,418. In the last five years, Rosemount's population has grown 30%, with the bulk of growth occurring in areas receiving water service. According to the 2000 and 1990 censuses, populations were 14,619 and 8,622, respectively. Estimates of the population of the City of Rosemount as published by the State Demographers Office for the years 1991 through 1999 are presented in Table 6, along with the census data and current estimate. Figure 8 is a graphical representation of the population trends.

Population projections based on the City's land use plan are included in Table 6. All population density, residential land use assumptions, and non-residential land use assumptions are discussed in the City's 2030 Comprehensive Plan.

Currently, there is a large amount of property owned by the University of Minnesota in the previously described UMore Park. The property is considered ultimate growth, because there are no current development plans. Most of this property is considered residential in the land use plan.

Much of the property identified for the Air Cargo facility would become residential if the Air Cargo facility is not developed. Population projections do not account for that increase. In the event the Air Cargo project is not constructed, the water demand from the residential and business park, the backup land use, would not vary greatly from the proposed Air Cargo facility due to the associated types of businesses.

TABLE 6
Population Estimates and Projections
City of Rosemount, Minnesota

Year	Total Population	Land Use Population[1]	Serviced Population[2]	Land Use Households	Serviced Households	Land Use Employment	Serviced Employment
1990	8,622						
1991	9,129						
1992	9,750						
1993	10,478						
1994	11,086						
1995	11,721						
1996	12,272						
1997	12,772						
1998	13,146						
1999	13,544		11,726				
2000	14,619		12,801				
2001	15,270		13,452				
2002	16,110		14,292				
2003	16,794		14,976				

TABLE 6
Population Estimates and Projections
City of Rosemount, Minnesota

Year	Total Population	Land Use Population[1]	Serviced Population[2]	Land Use Households	Serviced Households	Land Use Employment	Serviced Employment
2004	17,740		15,922				
2005	19,418		17,600				
2006	20,207		18,389				
2007	20,917		19,099				
2008		21,862	20,044				
2009		22,806	20,988				
2010		23,750	21,932	8,050	7,434	8,400	7,865
2011		24,694	22,903				
2012		25,635	23,871				
2013		26,573	24,836				
2014		27,508	25,798				
2015		28,440	26,757				
2016		29,369	27,713				
2017		30,295	28,666				
2018		31,218	29,616				
2019		32,138	30,563				
2020		33,050	31,502	11,800	11,247	10,100	9,600
2021		33,961	32,440				
2022		34,868	33,374				
2023		35,772	34,305				
2024		36,672	35,232				
2025		37,569	36,156				
2026		38,462	37,076				
2027		39,352	37,993				
2028		40,238	38,906				
2029		41,121	39,816				
2030		42,000	40,725	15,500	15,029	12,220	12,170
Ultimate[3]		85,639	84,358				

[1]Based on land use growth assumptions

[2]Years 1999-2006 based on city figures of 1,818 unserved residents and years 2007-2030 assume uniform total population growth

[3]Ultimate population includes University of Minnesota Property as shown in Figure 1 and construction of the Air Cargo Facility as shown in Figure 1

Table 7 below indicates the ultimate population, units, and acres for future residential development. It is categorized according to its location in the eastern or western pressure zone. The ultimate development characteristics listed below were critical to the ultimate system design. The 2005 Water System Plan included growth projections; however, those projections have been updated for the 2030 Comprehensive Plan and are included in Table 6. Assumptions for the ultimate system development characteristics are listed below.

Table 7
Ultimate Residential Development
City of Rosemount, MN

	Acres	Units	Population
Western Pressure Zone			
Urban Residential	5,875	16,767	50,302
Transition Residential	986	1,972	5,916
High Density Residential	124	1,486	4,458
Medium Density Residential	444	3,108	9,324
Eastern Pressure Zone			
Urban Residential	1,395	4,184	12,552
Medium Density Residential	86	602	1,806
Total City			
Urban Residential	7,270	20,951	62,854
Transition Residential	986	1,972	5,916
High Density Residential	124	1,486	4,458
Medium Density Residential	530	3,710	11,130
Total City	***8,910***	***28,119***	***84,358***

[1] Existing Urban Residential assume 2.6 du/ac, 3.0 people/unit increased through 2010 to Future Urban Residential assume 3.0 du/ac, 3.0 people/unit.

[2] Transition Residential assume 2.0 du/ac, 3.0 people/unit, Existing Transition Residential identified in figure 3 are phased into city service from 2005-2020

[3] Existing High Density Residential assume 10.0 du/ac, 3.0 people/unit. Future High Density Residential assume 12.0 du/ac, 3.0 people/unit.

[4] Medium Density Residential assume 7.0 du/ac, 3.0 people/unit

6.2 Projected Non-Residential Growth

In the past, Rosemount has attracted industrial and public/institutional growth. A major industrial park consisting of Flint Hills Resources, an oil refinery serving much of the upper Midwest, and several smaller industrial users is located west and east of US Highway 52 and north of County Road 42. Dakota Technical College is located one mile east of downtown, and the University of Minnesota owns approximately 3,000 acres south of County Road 42 and east of Biscayne Avenue.

The non-residential growth trend will most likely continue in the future with the potential development of an Air Cargo handling facility in the eastern pressure zone. This development would not consist of one major user, but of many individual office/warehousing businesses (business park) coordinating efforts to transport material to the Minneapolis/St. Paul International Airport.

Flint Hills Resources, Dakota Technical College, and Rosemount Public Schools currently comprise the major non-residential water users for the system. There are growth opportunities for these users and these opportunities have been accounted for by the City in the proposed land use plan. Also, these major users have been included in determining the appropriate water demand per acreage per land use type. For example, Flint Hills Resources uses City water, but they also supply their own water through individual wells located on their property. It is assumed that this combination of usage will continue into the future.

To estimate the quantity and timing of future non-residential demands, a water demand per acre was determined for each land use type (estimated unit water demand) and these factors were combined with gross developable acreage and potential ultimate service area to quantify future water demands.

7.0 EXISTING AND FUTURE WATER DEMANDS

7.1 Estimated Unit Water Demand

Different types of users will exert different demands on the water system. Table 3 shows Rosemount's historical water demand according to residential, commercial, public/institutional, industrial, and unaccounted water usage. Unaccounted water usage may include such losses as flushing water mains, fire fighting, leaks, breaks, and meter inaccuracies. Unaccounted water has remained around 10% of total usage, which is consistent with most cities. Agricultural usage was assumed to be negligible. The vast majority of water usage comes from residential, followed by unaccounted, then commercial, public/institutional, and industrial.

Table 3 does not correspond directly to DNR water usage reports in the public/institutional and total water categories because it has been adjusted for a missed meter reading over an eight-year period. The meter reading was billed for all eight years in the first quarter of 2004. It was known that the reading had been missed for eight years, and was therefore averaged out over that time period to produce a more accurate representation of total and public/institutional water usage.

Water demands for 2003 and 2004 were consistent and are a good representation of existing water demand from the various land use types with the exception of industrial. Industrial usage was consistent between 2002 and 2003, therefore, the average water usage per acre of industrial was determined from these years. The average water usage for each land use type over these periods can be broken down as follows: residential, 91 gallons per capita per day (gpcd); commercial, 785 gallons per acre per day (gpad); public/institutional, 230 gpad; and industrial, 55 gpad.

The residential, commercial, and public/institutional demands are all estimates consistent with other communities; however, the industrial demand is skewed because of the large land area consumed by Flint Hills Resources. Flint Hills Resources uses City water in conjunction with wells on their property to satisfy their total water demand, therefore, they use City water for only a portion of their needs. Water use records for both Flint Hills Resources and Waste Management were reviewed independently and found to be consistent with 55 gpad. Estimated future demands per unit acre of industrial should be more consistent with commercial/business park usage. Residential usage was increased to account for the highest per capita usage year. Estimated usage per acre includes unaccounted for system losses. The following estimates are used in Table 9 for projected water demand: residential, 95 gpcd; commercial, 800 gpad; public/institutional, 250 gpad; future industrial, 800 gpad; and Flint Hills Resources/Waste Management (FHR/WM) 55 gpad.

To estimate the quantity and timing of projected water usage, Table 9 ties the estimated unit water demand to the growth projections included in the 2030 Comprehensive Plan to produce a schedule of projected water usage. Also, Table 9 indicates the ultimate water demand for both pressure zones for each land use type.

TABLE 9
Summary of Projected Water Usage for the City Service Area
City of Rosemount, Minnesota

	Residential			Commerical		Public/Institutional		Business Park		General Industrial		Industrial/Mixed Use		FHR/WM[2]		Corporate Campus		Projected Total Average Daily Use	Projected Maximum Day Demand (3.0, 2.5xavg.)	Projected Peak Hour Demand (1.6xpeak day)	Minimum Hour Demand (0.2xpeak day)
Year	Total Population	Population Served	Avg. Daily Use at 95 gpcd	Land Area, Acres	Ave. Daily Water Use at 800 gpad	Land Area Acres	Ave. Daily Water Use at 250 gpad	Land Area Acres	Ave. Daily Water Use at 800 gpad	Land Area Acres	Ave. Daily Water Use at 800 gpad	Land Area Acres	Ave. Daily Water Use at 800 gpad	Land Area Acres	Ave. Daily Water Use at 55 gpad	Land Area Acres	Ave. Daily Water Use at 800 gpad				
			GPD		GPD		GPD		GPD		GPD		GPD		GPD		GPD	MGD	MGD	MGD	MGD
2005	19,418	17,600	1,672,000	120	96,000	443	110,750	95	76,000	40	32,000	0	0	1327	72,985	0	0	2.06	6.18	9.89	1.24
2006	20,207	18,389	1,746,955	140	112,000	443	110,750	130	104,000	65	52,000	0	0	1327	72,985	0	0	2.20	6.60	10.55	1.32
2007	20,917	19,099	1,814,405	160	128,000	443	110,750	165	132,000	90	72,000	0	0	1327	72,985	0	0	2.33	6.99	11.18	1.40
2008	21,862	20,044	1,904,180	180	144,000	443	110,750	200	160,000	115	92,000	0	0	1327	72,985	0	0	2.48	7.45	11.92	1.49
2009	22,806	20,988	1,993,860	200	160,000	443	110,750	235	188,000	140	112,000	0	0	1327	72,985	0	0	2.64	7.91	12.66	1.58
2010	23,750	21,932	2,083,540	220	176,000	443	110,750	270	216,000	165	132,000	35	28,000	1327	72,985	0	0	2.82	8.46	13.54	1.69
2011	24,694	22,903	2,175,785	240	192,000	443	110,750	305	244,000	190	152,000	70	56,000	1327	72,985	0	0	3.00	9.01	14.42	1.80
2012	25,635	23,871	2,267,745	260	208,000	443	110,750	340	272,000	215	172,000	105	84,000	1327	72,985	0	0	3.19	9.56	15.30	1.91
2013	26,573	24,836	2,359,420	280	224,000	443	110,750	375	300,000	240	192,000	140	112,000	1327	72,985	0	0	3.37	10.11	16.18	2.02
2014	27,508	25,798	2,450,810	300	240,000	443	110,750	410	328,000	265	212,000	175	140,000	1327	72,985	0	0	3.55	10.66	17.06	2.13
2015	28,440	26,757	2,541,915	320	256,000	443	110,750	445	356,000	290	232,000	210	168,000	1327	72,985	0	0	3.74	11.22	17.95	2.24
2016	29,369	27,713	2,632,735	340	272,000	443	110,750	480	384,000	315	252,000	245	196,000	1327	72,985	0	0	3.92	11.76	18.82	2.35
2017	30,295	28,666	2,723,270	360	288,000	443	110,750	515	412,000	340	272,000	280	224,000	1327	72,985	0	0	4.10	12.31	19.69	2.46
2018	31,218	29,616	2,813,520	380	304,000	443	110,750	550	440,000	365	292,000	315	252,000	1327	72,985	0	0	4.29	12.86	20.57	2.57
2019	32,138	30,563	2,903,485	400	320,000	443	110,750	585	468,000	390	312,000	350	280,000	1327	72,985	0	0	4.47	13.40	21.44	2.68
2020	33,050	31,502	2,992,690	420	336,000	443	110,750	620	496,000	415	332,000	385	308,000	1327	72,985	0	0	4.65	13.95	22.32	2.79
2021	33,961	32,440	3,081,800	440	352,000	443	110,750	655	524,000	440	352,000	420	336,000	1327	72,985	15	12,000	4.84	14.52	23.24	2.90
2022	34,868	33,374	3,170,530	460	368,000	443	110,750	690	552,000	465	372,000	455	364,000	1327	72,985	30	24,000	5.03	15.10	24.16	3.02
2023	35,772	34,305	3,258,975	480	384,000	443	110,750	725	580,000	490	392,000	490	392,000	1327	72,985	45	36,000	5.23	15.68	25.09	3.14
2024	36,672	35,232	3,347,040	500	400,000	443	110,750	760	608,000	515	412,000	525	420,000	1327	72,985	60	48,000	5.42	16.26	26.01	3.25
2025	37,569	36,156	3,434,820	520	416,000	443	110,750	795	636,000	540	432,000	560	448,000	1327	72,985	75	60,000	5.61	16.83	26.93	3.37
2026	38,462	37,076	3,522,220	540	432,000	443	110,750	830	664,000	565	452,000	595	476,000	1327	72,985	90	72,000	5.80	17.41	27.85	3.48
2027	39,352	37,993	3,609,335	560	448,000	443	110,750	865	692,000	590	472,000	630	504,000	1327	72,985	105	84,000	5.99	17.98	28.77	3.60
2028	40,238	38,906	3,696,070	580	464,000	443	110,750	900	720,000	615	492,000	665	532,000	1327	72,985	120	96,000	6.18	18.55	29.68	3.71
2029	41,121	39,816	3,782,520	600	480,000	443	110,750	935	748,000	640	512,000	699	559,200	1327	72,985	135	108,000	6.37	19.12	30.59	3.82
2030	42,000	40,725	3,868,875	620	496,000	443	110,750	970	776,000	665	532,000	699	559,200	1327	72,985	150	120,000	6.54	19.62	31.39	3.92
***Ultimate*[1]**	***85,639***	***84,358***	***8,014,001***	***674***	***539,200***	***443***	***110,750***	***1855***	***1,484,000***	***1568***	***1,254,400***	***699***	***559,200***	***1327***	***72,985***	***512***	***409,600***	***12.44***	***31.10***	***49.76***	***6.22***
West[3]	71,281	70,000	6,649,962	321	256,800	408	102,000	743	594,400	180	144,000	0	0	0	0	0	0	7.75	19.38	31.00	3.88
East[3]	14,358	14,358	1,364,039	353	282,400	35	8,750	1112	889,600	1388	1,110,400	699	559,200	1327	72,985	512	409,600	4.70	11.75	18.80	2.35
Air Cargo[4]	5,670	5,670	538,650															0.54	1.35	2.16	0.27

[1]Ultimate Residential population per the 2030 Comprehensive Plan including Univ. of Minnesota property as ultimate development and assumes the Air Cargo facility will be developed
[2]Water use records for Flint Hills Resources and Waste Management indicated 55 gpad, both have been included in this category
[3]Western and Eastern pressure zone population based on land use plan and development characteristics discussed in Section 4 and 6
[4]Water demand for Air Cargo Facility area if developed as residential assumes (3 units/acre, 3 people/unit)

Based on the land use plan, average day water usage is expected to increase to 2.82 mgd by 2010, 4.65 mgd by 2020, 6.54 mgd by 2030, and an ultimate service area usage of 12.44 mgd. Peaking factors and demands are included in Table 9. Water demand estimates include existing industrial users and the future Air Cargo facility, but no other major water users. Also, no major usage changes are anticipated from Flint Hills Resources.

The western and eastern pressure zones water demands are separated for system planning purposes. Certain components of infrastructure can only serve one pressure zone. In addition, the Air Cargo facility water demand is separated in the event it is developed as residential property.

Ultimate water demands were decreased slightly from the 2005 report due to land use changes and a decrease in the unserved population.

7.2 Maximum Day Water Demand

Water consumption will vary greatly over different periods of the year and during different hours of the day. The average daily demand is important for calculating revenues and operating costs. However, maximum day and peak hour demand is necessary for sizing the water supply, treatment, storage, and distribution systems.

A review of the daily water records indicates maximum day water usage of approximately 5.10 mgd in 2001, which equates to a peaking factor (Maximum Day Demand/Average Day Demand ratio) of 3.56. However, the peaking factor has ranged from 3.56 to 2.54 between 2001 and 2006. In some cases, the accuracy of the 2001 peak number as a true peaking factor is somewhat suspect due to the variation in meter reading times from day to day and water main flushing. Daily water usage meter readings may vary by up to two hours each day, which could under or over estimate actual peak day readings. Water main flushing may overestimate peak day water usage if water main flushing continues on a schedule and adequate water reserves are available. Therefore, the availability of water during water main flushing may actually create the illusion of a higher peak day water usage in historical records.

Over the last six years, the average peaking factor for Rosemount has been 2.8 excluding the extremely high year of 2001. In general, as City populations increase, peaking factors decrease due to the increased variety of water usage in a larger City. Based on discussions with City staff, historic water usage, and similar City trends, a peaking factor of 3.0 was used for estimating maximum day demands at the 2010, 2020, and 2030 design intervals. However, the ultimate system peaking factor was assumed to be 2.5, since peaking factors typically decrease with system growth.

To develop a more accurate system model, hourly water usage for the City was studied. Sizing of water distribution mains, storage, and supply are all influenced by the hourly water usage on a maximum day of water usage. Data for system water usage was studied over June of 2005. June 6, 26, and 28 were some of the highest usage days and are shown in Figure 9 as an example. This figure shows the ratio of water used per hour relative to the average for the whole day. Results indicate that the highest demand for water occurs from 5:00 – 8:00 a.m., with an additional peak in use between the hours of 8:00 – 12:00 p.m. During the hours of 5:00 – 8:00 a.m., hourly demand reaches 1.6 times or 60% higher than the average over the entire day.

This data was used to produce a stepwise pattern (Figure 7) for input to the EPS model. Therefore, the system demands were higher during these hours of the day and distribution, supply, and storage were all analyzed for capacity relative to this demand pattern. It is anticipated that as the City grows and industry and population becomes more diverse, the hourly/average demand will decrease. However, to be conservative, this demand pattern was used in each future model.

7.3 Projected Water Demand

The resulting projected water demands for Rosemount, calculated using gross developable acres and the estimated unit water demand as described in this section, is shown in Table 9. These estimates include future residential, commercial, public/institutional, and industrial users. In addition, projected water usage estimates incorporate existing developed transition residential and general industrial currently on individual wells into the City's service area. The projected maximum day demand for design years 2010, 2020, and 2030 is 8.46 mgd, 13.95 mgd, and 19.62 mgd, respectively. The ultimate maximum day demand for the City is estimated at 31.10 mgd.

8.0 FUTURE WATER SYSTEMS

The City has revised their growth projections from the November 4, 2005 Comprehensive Water System Plan, to be included in the 2030 Comprehensive Plan. The infrastructure development schedules have been revised as they are dependent on the projected rate of development, however, the associated design interval water system models were not updated. The ultimate water system model was not revised for this update, because ultimate development projections were not revised.

Since the rate at which improvements are constructed will be dependent on the variable rate of development and resultant water demands, supply, storage, treatment, and distribution needs will be reviewed on an ongoing basis.

8.1 General

Water systems may be comprised of supply, treatment, storage, and distribution. Water treatment for Rosemount consists of chlorination, fluoridation, and polyphosphate at the individual well houses. Water from the Rosemount wells does not exceed any of the Safe Drinking Water Act (SDWA) primary drinking water standards. Therefore, additional treatment is not mandatory. Water from the Rosemount wells does exceed secondary standards for iron and manganese. The Secondary Standards for iron and manganese are 0.3 mg/l and 0.5 mg/l, respectively. Considering the typical water quality from the region, we anticipate future water supply wells to pump to treatment facilities prior to distribution for softening.

Well and treatment plant capacity impact water storage requirements. Diurnal water demand and fire protection requirements also impact water storage needs.

The location of water treatment facilities and water storage facilities impacts distribution system requirements. Diurnal water demand and fire protection requirements also impact distribution system requirements.

City water system needs are met by first providing a water source capable of satisfying maximum day water demand. When the source water is from groundwater, as is the case in Rosemount, the maximum day demand should be satisfied assuming the largest well is temporarily out service (firm capacity). The ultimate water system includes two wells out of service, one in the east pressure zone and one in the west pressure zone for firm capacity.

If the wells are to pump to a treatment facility, as will probably be the case for Rosemount, the treatment facility or treatment facilities' capacity should equal the maximum day water demand. If more than one treatment facility is providing water to a community, as will be the case for Rosemount, the capacity of the wells supplying each treatment facility shall equal the respective treatment facility capacity.

The storage capacity for a water system is used to satisfy system demands in excess of maximum day demands. These additional demands include peak hour demands and potential fire suppression demands.

8.2 Background

The City of Rosemount is divided into two pressure zones. The eastern and western pressure zones are connected via a PRV. Existing Well Nos. 3, 7, 8, 9, 12, 14, the 1,000,000 gal Connemara Tower, 500,000 gal Chippendale Tower, and the 1,500,000 gal Bacardi Tower are in service in the western pressure zone. The eastern pressure zone is served by Well Nos. RR1, RR2, and a 500,000 gal Tower. Treatment consists of chlorination, fluoridation, and polyphosphate addition.

System water demands are currently much greater in the western pressure zone. Growth projections associated with the City's comprehensive plan indicate water demand in the western pressure zone will be greater and occur sooner than the eastern zone. Based on growth projections, several production wells will be necessary to serve the City of Rosemount in the future. Also, greater water treatment capability will be necessary to serve the growing population and industry.

Considering existing facilities and current and projected water system demands, a water system has been developed that incorporates wells, treatment, storage, and distribution in both pressure zones. Three treatment facilities are anticipated with two in the western zone and one in the eastern zone. Each treatment facility will be a nucleus from which the distribution system and associated storage will radiate. The system will be tied together by 16-inch trunk water mains. Possible locations for the western pressure zone treatment facilities are in the vicinity of Well Nos. 12 and 14. The eastern pressure zone treatment facility could be located to the east of the proposed Air Cargo facility. Ultimately, well water availability and water quality will greatly influence realized treatment facility location and process.

8.3 Water Supply Needs

8.3.1 Future Source Requirements

As previously discussed in section 8.1, the firm capacity of the system's wells should equal the maximum day demands. It is currently not a requirement for the system, but it is prudent planning. Therefore, in the future model, it was assumed the well pumping firm capacity would equal the maximum day demands.

Water demand projections were presented in the Existing and Future Demands section of the report. To determine the necessary number of wells to supply future demands, the highest projected maximum day demand was compared with the adjusted base firm pumping capacity. As discussed in section 5.2, the current firm pumping capacity is 6,000 gpm (8.64 mgd). However, abandonment of Well No. 3 will reduce firm capacity to 5,500 gpm (7.92 mgd). Using this adjusted firm pumping capacity as a basis for future planning, the system will need 23.18 mgd (31.10 mgd maximum day – 7.92 mgd current firm pumping capacity) of additional well capacity to meet the maximum day demands for the ultimate planning period.

Three well field locations are proposed for providing the additional capacity to meet the City's projected ultimate demand. Since the pumping capacity of three of the City's existing wells range from 1,000 gpm to 1,300 gpm, a pumping capacity of 1,000 gpm per well was assumed for future wells. A northwest well field, with a total of seven wells, including Well No. 14, having a combined capacity of approximately 10 mgd is proposed for the western area, along with a southwest well field with a total of four wells, including Well No. 12, having a combined capacity of 6 mgd. An eastern well field with eight wells having a combined capacity of 11.5 mgd is proposed for supplying the projected ultimate maximum day demands for the eastern portion of the City.

Based on growth projections, associated treatment facility construction, and expansion projections, the well construction schedule shown in Table 12 was developed. The schedule in Table 12 was used for the cost analysis which follows.

TABLE 12
Well Development Schedule
City of Rosemount, Minnesota

Well Designation	Year Completed	Location or Pressure Zone	Well Design Capacity (gpm)[1]	System Firm Capacity (gpm)	Total Peak Day Demand (gpm)
Well No. 3	Existing	West	500		
Well No. 7	Existing	West	1,200		
Well No. 8	Existing	West	1,000		
Well No. 9	Existing	West	1,600		
Well No. 12	Existing	West	1,300		
Well RR 1	Existing	East	400		
Well RR 2	Existing	East	400		
Well No. 14	Existing	West (North)	1,200	6,000	4,420
Well No. 15	2008	West (North)	1,000	7,000	5,200
Well No. 3	2009 Out of service			6,500	5,500
Well No. 16,17	2010-2015	West (North)	2,000	8,500	7,800
Well No. 18, 19, 20	2015-2020	West (North)	3,000	11,500	9,700
Well No. 21, 22	2020-2025	East	2,000	13,500	11,700
Well No. 23	2025-2030	East	2,000	14,500	13,600
Well No. 24, 25, 26, 27, 28	Ultimate	East	3,000	19,500	
Well No. 29, 30, 31	Ultimate	West (South)	4,000	22,500	21,600

[1] Assume all future wells will produce 1,000 gpm

Due to the large number of wells that will be needed, and the probability that more than one well could be out of service at the same time due to failure or maintenance, consideration should be given to providing the firm capacity for each well field supplying each water treatment plant. This would require the construction of one additional well in each well field.

8.3.2 Groundwater Modeling

A technical memorandum summarizing the results of a well field study conducted for the City is included in Appendix B.

8.4 Water Treatment Needs

8.4.1 Raw Water Quality

Water from the City's existing wells is, in general, good quality water. The water does not exceed any of the Safe Drinking Water Act (SDWA) Primary Drinking Water Standards, but does exceed Secondary Standards for iron and manganese. The Secondary Standards for iron and manganese are 0.3 mg/l and 0.05 mg/l. Based on sampling and testing information, the iron and manganese concentrations in the raw water from Well No. 12 are 0.453 mg/l and 0.072 mg/l, respectively. The iron and manganese concentrations in the raw water from Well No. 14 are 0.465 mg/l and 0.112 mg/l, respectively.

Although exceeding the Secondary Standards will not impact a consumer's health, the water quality will be undesirable for aesthetic reasons. Excessive iron and manganese concentrations can cause red, black, brown, and yellow colored water. Waters with concentrations above the Secondary Standards will typically cause customer complaints if some form of water treatment is not used. These complaints can be controlled either by sequestering or by removing the iron and manganese.

The City of Rosemount currently uses polyphosphates to sequester iron and manganese. Sequestering does not remove the iron and manganese. The polyphosphates chemically bind with the iron and manganese to reduce the formation of precipitates, which cause, red, black, brown, and yellow water. However, the chemical bond deteriorates with time.

Sequestering, in general, is not recommended for waters with combined iron and manganese concentrations greater than 1 mg/l or for waters with manganese concentrations greater than 0.1 mg/l. At iron and manganese concentrations greater than the recommended limits, sequestering becomes less effective.

The most effective means of controlling red, brown, black, and yellow water caused by iron and manganese is to remove the iron and manganese before it enters the distribution system.

Treatment for iron and manganese is a common practice. The removal of iron and manganese from waters involves two basic processes; oxidation and filtration. The oxidation process involves oxidizing the iron and manganese to insoluble particles, which then can be removed by the filtration process.

8.4.2 Water Treatment Plant Capacity

Three treatment plants are proposed to serve the ultimate demands for the City. These three water treatment plants would each be located near the proposed well fields and sized to match the proposed well field design capacities. A proposed northwestern water treatment plant and southwestern water treatment plant are planned in the western pressure zone. The northwestern plant would be designed to treat 10 mgd to match the proposed firm capacity of the northwest well field, and the southwestern plant would be designed to treat 6 mgd to match the proposed firm capacity of the southwest well field.

An eastern water treatment plant designed to treat 11.5 mgd to match the proposed capacity of the eastern well field is proposed in the eastern pressure zone.

The combined capacity of the three water treatment plants would be 27.5 mgd. At this combined treatment capacity, 100% of the projected ultimate average day demands would be treated water, and approximately 88% of the projected ultimate maximum day demands would be treated water. The remaining portion of the projected ultimate maximum day demand would be provided as untreated water from existing Well Nos. 7, 8, 9, RR1 and RR2.

8.4.3 Water Treatment Alternatives

Two alternatives were evaluated for removal of iron and manganese from the City's water supply. Alternative No. 1 includes a treatment system for each of the proposed plants, which would use pressure aeration for oxidation of the iron and manganese followed by pressure filtration to remove iron and manganese. Alternative No. 2 includes a treatment system for each of the plants, which would use gravity aeration for oxidation of the iron and manganese followed by gravity filtration for removal of iron and manganese. For both of these alternatives, space would be allotted for the basic treatment processes involved with removal of iron and manganese. Unless required, no space is proposed for treatment of radium, nitrate, or arsenic.

For Alternative No. 1, raw water from the production wells will be pumped to the pressure aerators for oxidation of iron and manganese. Following the pressure aerators, water will flow under pressure to the pressure filters for removal of iron and manganese floc. Under normal operation, flow from the production wells will be split evenly between the individual aerators and pressure filters. Four (4) chemical feed systems are proposed, including liquid chlorine (sodium hypochlorite), potassium permanganate, fluoride (fluorosilicic acid), and polyphosphate. After filtration, the water will be fluoridated and chlorinated and

then discharged to the distribution system. Continued feeding of polyphosphate following treatment is recommended to provide corrosion control in the distribution system. Potassium permanganate will be fed to the raw water after aeration for regeneration of the manganese greensand, which is one layer of the filter media. Finished water from the individual pressure filter cells will be used for backwashing the filters. Filter backwash water will be discharged to two below grade, cast-in-place, concrete backwash reclaim tanks for reuse and settling of solids. Settled solids will be periodically pumped to the sanitary sewer. Clarified backwash water will be recycled to the filter influent lines.

The estimated capital costs for Alternative No. 1 treatment plants at each of the three water treatment plant locations are summarized below. A breakdown of these cost are included in Appendix A.

- Cost for 10 MGD Northwest Water Treatment Plant: $8,600,000
- Cost for 6 MGD Southwest Water Treatment Plant: $6,226,000
- Cost for 11.5 MGD Eastern Water Treatment Plant.....$9,405,000

For Alternative No. 2, raw water from the production wells will be pumped to gravity aerators for oxidation of iron and manganese. Following the aerator(s), water will flow by gravity to the gravity filters for removal of iron and manganese floc. Under normal operation, the flow from the aerators will be split evenly between the proposed gravity filters. After filtration, the water will flow to a below grade, cast-in-place, concrete clearwell. Four (4) chemical feed systems are proposed, including liquid chlorine (sodium hypochlorite), potassium permanganate, fluoride (fluorosilicic acid), and polyphosphate. Finished water from the clearwell will be chlorinated and fluoridated before being pumped to the distribution system. Continued feeding of polyphosphate following treatment is recommended to provide corrosion control in the distribution system. Potassium permanganate will be fed to the raw water after aeration for regeneration of the manganese greensand, which is one layer of the filter media.

Finished water from the clearwell will also be used for backwashing the filters. Filter backwash water will be discharged to two below grade, cast-in-place, concrete backwash reclaim tanks for reuse and settling of solids. Settled solids will be periodically pumped to the sanitary sewer. Clarified backwash water will be recycled to the filter influent lines.

The estimated capital costs for Alternative No. 2 treatment plants at each of the three water treatment plant locations are summarized below. A breakdown of these cost are included in Appendix A

- Cost for 10 MGD Northwest Water Treatment Plant: $9,928,000
- Cost for 6 MGD Southwest Water Treatment Plant: $7,110,000
- Cost for 11.5 MGD Eastern Water Treatment Plant:.....$10,538,000

The City has identified potential locations for proposed northwestern and southwestern water treatment plants. Figure 26 shows a conceptual layout for a 10 mgd pressure filter plant constructed at the northwestern plant site and Figure 27 shows a conceptual layout for a 10 mgd gravity filter plant constructed at the same location. Figure 28 shows a conceptual layout for a 6 mgd pressure filter plant constructed at the southwestern plant site and Figure 29 shows a conceptual layout for a 6 mgd gravity filter plant constructed on the same site. No sites have been identified for an eastern water treatment plant and therefore conceptual layouts have not been included in this report.

Methods of phasing construction of the building and the equipment for the proposed water treatment facilities should be incorporated in the planning, design, and construction of all water treatment improvements. Flexibility should be inherent in all efforts to allow for changing regulations and variations in source water quality.

TABLE 13
Water Treatment Needs
City of Rosemount, Minnesota

Well Designation	Year Completed	Well Field Location[2]	Well Design Capacity (gpm)[1]	Well Field Capacity (mgd)	Treatment Plant Capacity (mgd)
Well No. 14	2006	West (North)	1,200	1.7	
Well No. 15	2008	West (North)	1,000	3.2	
Well No. 16,17	2010-2015	West (North)	2,000	6.0	
Northwest WTP	**2010-2015**				**6.0**
Well No. 18, 19, 20	2015-2020	West (North)	3,000	10.4	
Northwest WTP Expansion	**2015-2020**				**10.4**
Well No. 21, 22	2020-2025	East	2,000	2.9	
East WTP	**2020-2025**				**5.8**
Well No. 23	2025-2030	East	1,000	4.3	
Well No. 24,25,26,27,28	2030-Ultimate	East	5,000	11.5	
East WTP Expansion	**2030-Ultimate**				**11.5**
Well No. 12	2005	West (South)	1,300	1.8	
Well No. 29,30,31	Ultimate	West (South)	3,000	6.2	
Southwest WTP	**Ultimate**				**6.2**

[1] Assume all future wells will produce 1,000 gpm
[2] Assumes Air Cargo Facility will be served by transmission mains

8.5 Water Storage Needs

Sufficient storage capacity must be available to provide storage to balance peak demands with water production capacity and to meet emergency needs. Equalization storage is required to meet water system demands in excess of delivery capability and is sized to provide demands in excess of the maximum demand up to the peak hour demand.

Typically, a water utility provides emergency storage to supply fire flow requirements recommended by the ISO. As discussed in section 5, the maximum fire flow recommended for Rosemount is 3,000 gpm available for a duration of 3 hours.

Table 14 quantifies the amount of water storage required to meet diurnal flow variations and limited fire suppression requirements during a maximum day event for the years 2010, 2020, 2030, and ultimate build out. Table 14 is based on an evaluation of past diurnal demands for Rosemount and fire suppression capabilities of approximately 3000 gpm for a 3-hour period.

The approximate location of storage facilities is based on distribution system extent at year of need and distribution system layout and sizing to meet system demands and limited fire suppression needs.

A combination of elevated and ground storage facilities is shown for the future water system. An evaluation of elevated storage versus ground storage is recommended before planning for the design and construction of new storage facilities. In general, the capital cost for construction of elevated storage will be more expensive than ground storage. However, because of the additional pumping and power requirements, operation and maintenance cost for ground storage will be more expensive then elevated storage. Elevated storage operates without relying on pumping or other powered facilities and is a more reliable source of water for distribution in the event of a power failure. For ground storage facilities, a back-up power supply is required to operate the high service booster pumps during a power outage.

TABLE 14
Projected Water Storage Needs
City of Rosemount, Minnesota

Design Year	2005	2010	2020	2030	Ultimate
Average Day Water Demand (mgd)	2.06	2.82	4.65	6.54	12.44
Peak Day Water Demand (mgd)	6.18	8.46	13.95	19.62	31.10
Peak Day Water Demand (gpm)	4,420	5,875	9,688	13,625	21,597
Well Firm Capacity (gpm)	6,000	6,500	11,500	14,500	22,500
Required Fire Fighting Rate (gpm)	3,000	3,000	3,000	3,000	3,000
Required Fire Fighting Duration (hours)	3	3	3	3	3
Total Coincident Demand (gpm)	9,000	9,500	14,500	17,500	25,500
Required Fire Fighting Storage (gal)	540,000	540,000	540,000	540,000	540,000
Equalization Storage (gal)	764,000	1,016,000	1,674,000	2,355,000	3,732,000
Emergency/Reserve Storage (gal)	756,000	1,264,000	2,436,000	3,645,000	8,168,000
Total Storage Needed (gal)	2,060,000	2,820,000	4,650,000	6,540,000	12,440,000
Existing Storage (gal)	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
Additional Storage Needed (gal)	**-1,440,000**	**-680,000**	**1,150,000**	**3,040,000**	**8,940,000**

[1]Assume all future wells will produce 1,000 gpm

[2]Assumes Air Cargo Facility will be served by transmission mains

Table 15 presents the storage facility construction schedule and is based on meeting the water demands associated with peak hour flows and fire suppression needs.

The schedule was used for the cost analysis which follows in a subsequent section.

TABLE 15
Water Storage Construction Schedule
City of Rosemount, Minnesota

Storage Improvement	Total Storage	Total Storage Req'd	Year Completed	Pressure Zone	Location
Chippendale Tower (0.5 MG)			Existing	West	CSAH 42/Chippendale Ave.
Conamera Tower (1.0 MG)			Existing	West	800' East of Conamera Trail/Shannon Pkwy.
East Tower (0.5 MG)			Existing	East	Southeast of US 52/CSAH 42
Bacardi Tower (1.5 MG)	3.5 MG	2.48 MG	Existing	West	800' South of CR 38/Bacardi Ave.
Northwest WTP Ground Storage (2.0 MG)	5.5 MG	3.74 MG	2015	West	CR 38/Bacardi Ave.
Elevated Storage (1.0 MG)	6.5 MG	5.61 MG	2025	East	1/2 Mile east of PRV and 1/4 Mile North of CSAH 42
East WTP Ground Storage (2.0 MG)	8.5 MG	6.54 MG	2030	East	1/2 Mile North of Emery Ave. E/160th St.E
Elevated Storage (1.0 MG)			Ultimate	East	1/2 Mile North of Emery Ave. E/160th St.E
Elevated Storage (1.5 MG)			Ultimate	West	3/4 Mile east of Biscayne Ave. and 3000' North of 160th St.
Southwest WTP Ground Storage (1.5 MG)	12.5 MG	12.44 MG	Ultimate	West	South of Boulder Trail/Business Pkwy.

8.6 Trunk Water Main Looping

The ability to transport flow between water sources, water storage, and water demand is a key element in providing an economically responsible and reliable water system. A good distribution system makes each element of the water system more effective across the entire water system service area, reducing the cost for redundant individual facilities. Water main looping also provides for redundant flow paths across the distribution system so a reliable water source exists regardless of a single break in a water main.

The ultimate proposed trunk water main system and piping grid system is presented in Figure 5. The system consists primarily of 12-inch water main along section lines. Trunk mains were distributed to serve each particular development in accordance with the land use plan, therefore, mains serving smaller demand land use locations are smaller than 12-inch. Demands were estimated for each of the land use types and locations and applied at each of the locations. In addition, the City has already begun a 16-inch trunk main loop. This loop was continued throughout the western pressure zone and another 16-inch loop was created to serve the eastern pressure zone. The amount of looping and redundancy presented in this figure provide adequate operating pressures and available fire flow capacity to serve each land use type appropriately.

Water system modeling for the design year intervals was not updated based on the August 1, 2007 updated growth projections. Therefore, the infrastructure included in the design interval models does not reflect the updated growth projections and subsequent phasing of trunk water main improvements.

Phasing of the trunk improvements was determined by conducting computer modeling at key years including 2010, 2015, 2025, and the ultimate service area. Figure 6 shows phasing for the proposed ultimate trunk water main system. Modeling results are presented in Figures 14 through 25. Figures include peak hour (of maximum day) pressure contours, available fire flow contours, and minimum hour pressure contours. Projected water demand and projected wells, water treatment, and water storage capacity were used in the modeling. Water mains were added to meet demands as they are projected to develop, unless they were needed earlier to meet desirable system pressures and fire flows. Upgrades to existing water mains are proposed as they are needed.

In the year 2015, an additional PRV will be necessary to provide water to the eastern pressure zone. This PRV will provide redundancy to the system in the event one is taken out of service for maintenance. Also, in this year, demands in the eastern zone require more transmission capacity since the water treatment plant is not slated for development until the year 2025.

Pressure contours show some areas having less than 3,000 gpm fire flows on the proposed future trunk mains. These lower fire flows are caused by dead ends in the trunk main system at the borders of the eastern and western pressure zones. Additional mains may be necessary in these areas in the future for water main looping; however, as more 8-inch mains are constructed and looped to serve individual homes it may become unnecessary to loop the trunk mains.

Air Cargo Facility

Due to the unknown schedule of development for the Air Cargo facility, WSB modeled potential alternatives for providing water to this area. The two options include:

1. Begin developing wells in the Air Cargo facility vicinity
2. Construct transmission mains from the western pressure zone to the Air Cargo facility

As discussed in section 7, demands from the Air Cargo facility are expected to be similar to a business park or industrial/mixed use development. The potential service options were modeled as a part of the 2010 system. In this scenario, the only new development in the eastern pressure zone would be the Air Cargo facility.

To serve the development with transmission mains, another 16-inch main would need to be installed from the existing PRV to the intersection of CSAH 42 and Emery Avenue and is recommended. The total length for this transmission main would be approximately 4 miles. Although this option seems expensive for the immediate future, ultimate system demands will require a 12-inch main be constructed along this same route. Therefore, the only cost difference would be to upsize this main.

9.0 CAPITAL IMPROVEMENT AND UPKEEP PROGRAM

The cost of improvements, including construction cost and annual operation, maintenance and replacement costs have been estimated and used in developing a Capital Improvement Program. As discussed previously, population and development projections have been revised in accordance with the 2030 Comprehensive Plan. The proposed infrastructure construction timeframes shown below have not been updated to reflect the revised population and development projections. However, the estimated costs to complete the ultimate system and estimated project costs remain unaffected. The schedule of improvements for the next 20 years and their estimated construction cost are presented in Table 16. Improvements are categorized in 5, 10, 15 and 20-year increments. Improvements include wells, water treatment, water storage, and trunk water mains.

TABLE 16
Capital Improvement Plan

Improvement	**Engineer's Opinion of Probable Project Cost** **2005 dollars**
0-5 Years	
• Well No. 15, 16, 17 (Northwest)	3,660,000
• 12-inch, 18-inch, & 24-inch Raw Water Piping from Wells to WTP	1,900,000
• 8-inch trunk main (27,695 ft. total /East 0 ft & West 27,695 ft)	1,523,000
• 12-inch trunk main (88,028 ft. total /East 35,220 ft & West 52,808 ft)	6,602,000
• 16-inch trunk main (52,245 ft. total /East 37,800 ft & West 14,445 ft)	4,963,000
• Northwest Water Treatment Plant	9,928,000
6-10 Years	
• Northwest Water Treatment Plant Ground Storage (2.0 MG)	2,100,000
• Well No. 18, 19, 20 (Northwest)	3,660,000
• 12-inch & 18-inch Raw Water Piping from Wells to WTP	1,400,000
• 8-inch trunk main (17,739 ft. total /East 4,459 ft & West 13,280 ft)	976,000
• 12-inch trunk main (48,044 ft. total /East 23,227 ft & West 24,817 ft)	3,603,000
• 16-inch trunk main (13,667 ft. total /East 0 ft & West 13,667 ft)	1,298,000
• Pressure Reducing Valve Station	150,000
• East Side Elevated Storage (1.0 MG)	2,520,000
11-20 Years	
• East Water Treatment Plant Ground Storage (2.0 MG)	2,100,000
• Well No. 21, 22, 23, & 24 (East)	4,880,000
• 12-inch, 18-inch, & 24-inch Raw Water Piping from Wells to WTP	1,100,000
• 8-inch trunk main (14,057 ft. total /East 14,057 ft & West 0 ft)	773,000
• 12-inch trunk main (92,552 ft. total /East 92,552 ft & West 0ft)	6,941,000
• 16-inch trunk main (10,580 ft. total /East 10,580 ft & West 0 ft)	1,005,000
• Eastside Water Treatment Plant	10,538,000

Improvement	Engineer's Opinion of Probable Project Cost 2005 dollars
Ultimate	
• Well No. 25, 26, 27 (Southwest)	3,660,000
• 12-inch & 18-inch Raw Water Piping from Wells to WTP	1,400,000
• Well No. 28, 29, 30, 31 (East)	4,880,000
• 12-inch, 18-inch, & 24-inch Raw Water Piping from Wells to WTP	1,100,000
• Southwest Water Treatment Plant	7,110,000
• East Side Elevated Storage (1.0 MG)	2,520,000
• West Side Elevated Storage (1.5 MG)	3,150,000
• Southwest Water Treatment Plant Ground Storage (1.5 MG)	1,790,000
• 8-inch trunk main (38,201 ft. total /East 24,789 ft & West 13,412 ft)	2,101,000
• 12-inch trunk main (92,327 ft. total /East 9,350 ft & West 82,977 ft)	6,925,000
• 16-inch trunk main (29,922 ft. total /East 0 ft & West 29,922 ft)	2,843,000

Notes:

1. Costs are for budgeting purposes only, and are subject to change as projects are studied, designed and constructed.
2. Trunk main costs shown are for the total cost. In many cases oversizing cost will apply instead of the entire construction cost. In most cases oversizing cost is that above 8-inch. However, in some commercial/industrial areas, the oversizing cost may be that above 12-inch.
3. Project Costs include 20% for contingency and 20% for engineering, legal and administrative costs.

Operation, maintenance, and replacement (OM&R) costs are not included in the capital improvement program, but have been estimated and will be included in the calculation of user rates that follows. Planning for a system's operation, maintenance and replacement is equally as important as planning for capital improvements.

FIGURES

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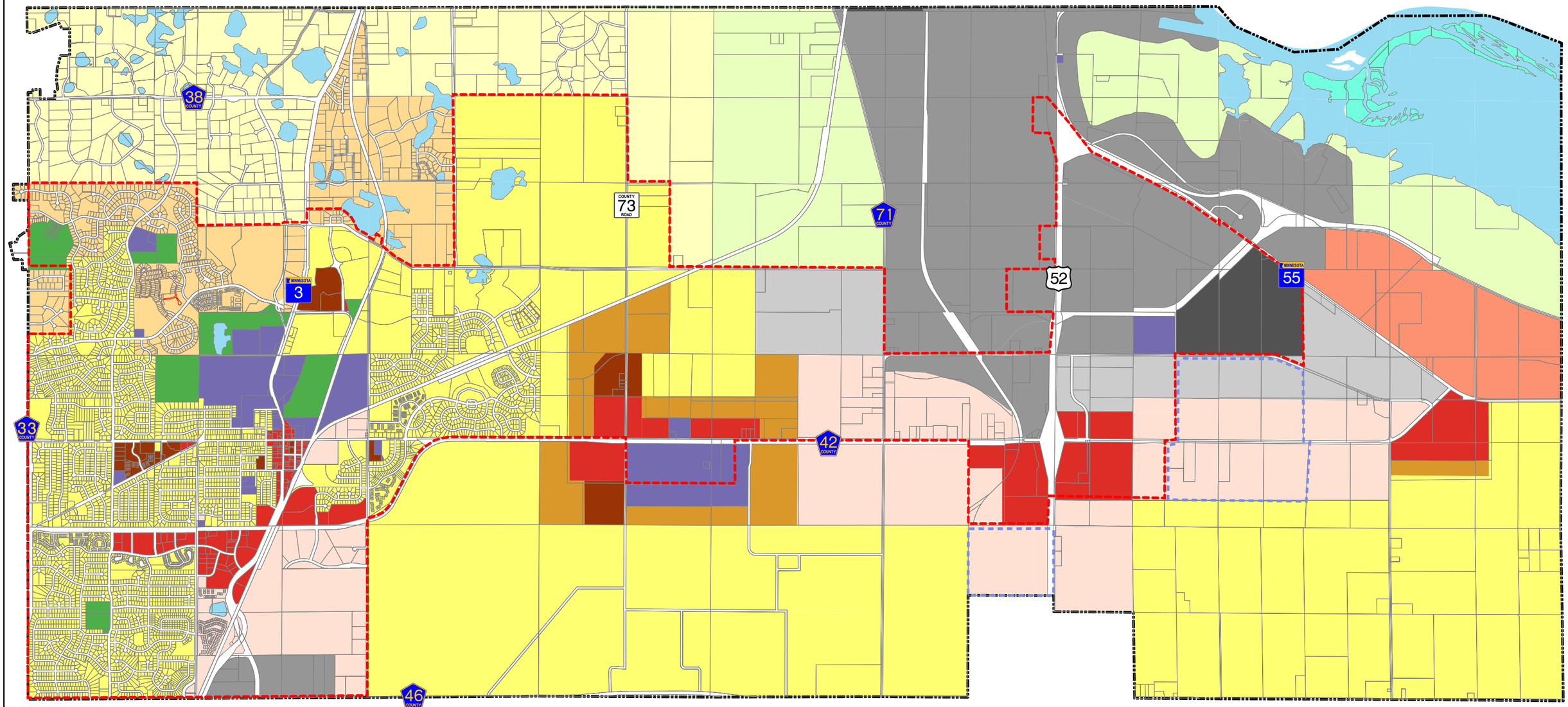

Comprehensive Water System Plan

Legend

- 2010 MUSA Line
- 2020 MUSA Line
- Public ROW
- Private ROW
- Agricultural
- Rural Residential
- Urban Residential
- Transitional Residential
- Medium Density Residential
- High Density Residential
- Public/Infrastructure
- Parks/Open Space
- Business Park
- Corporate Campus
- Commercial
- Industrial/Mixed Use
- General Industrial
- Waste Management
- Flood Plain
- Water

N W E S

0 1,500 3,000 6,000 Feet

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ROSEMOUNT MINNESOTA

42/52 Land Use Plan

Figure 1

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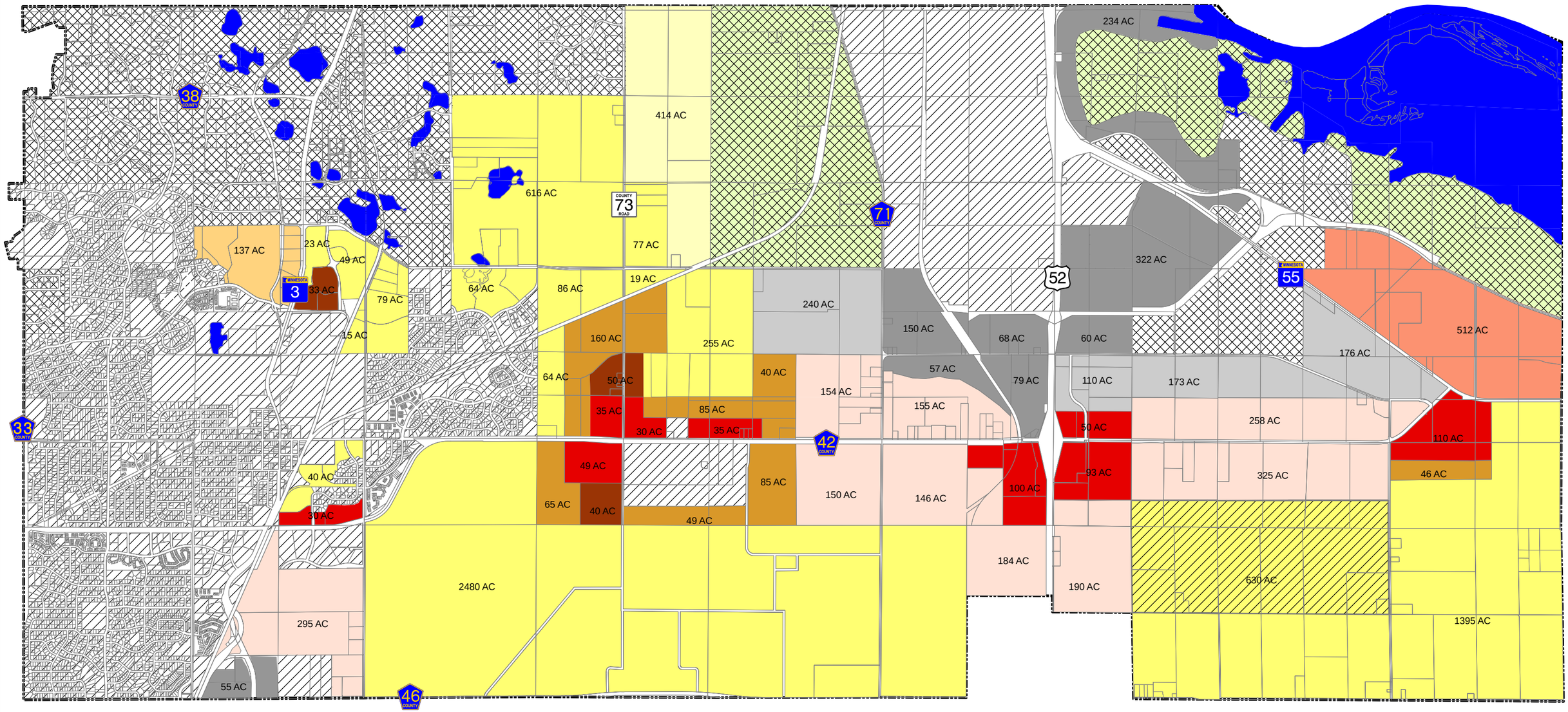

Comprehensive Water System Plan

Legend

- Urban Residential
- Medium Residential
- High Density Residential
- Transitional Residential
- Rural Residential
- Business Park
- Corporate Campus
- Commercial
- General Industrial
- Industrial/Mixed Use
- Existing Development with Sewer Service
- Existing Development without Sewer Service
- Air Cargo
- Undevelopable Area
- Water

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0 1,500 3,000 6,000 Feet

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Gross Developable Acreages Figure 2

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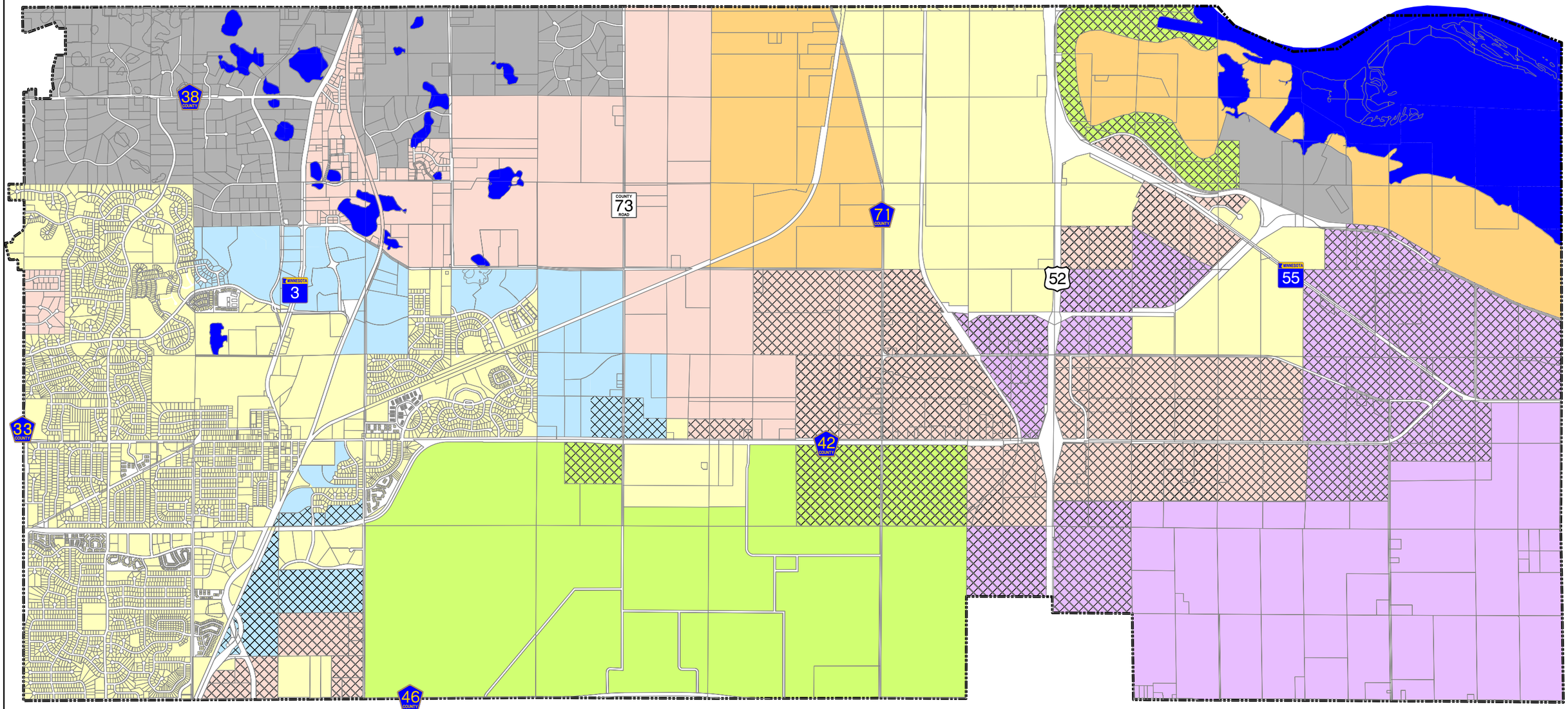

Comprehensive Water System Plan

Legend

- Existing Development with Water Service
- Existing Development without Future Water Service
- Undevelopable Area
- 2010 Residential
- 2010 Non Residential
- 2020 Residential
- 2020 Non Residential
- 2030 Residential
- 2030 Non Residential
- Ultimate Residential
- Ultimate Non Residential
- Water

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0 1,500 3,000 6,000 Feet

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Potential Ultimate Service Area Figure 3

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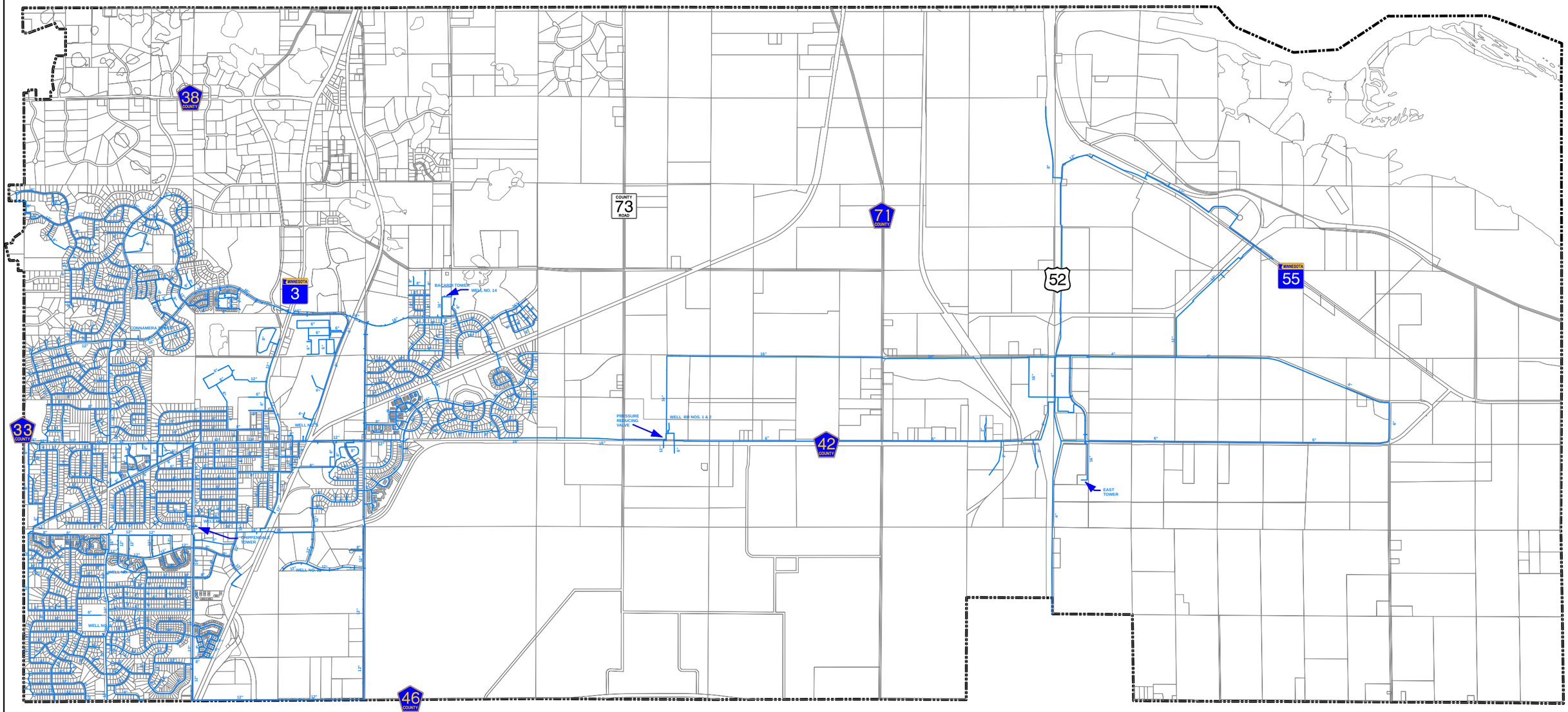

Comprehensive Water System Plan

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Existing Water Distribution System
Figure 4

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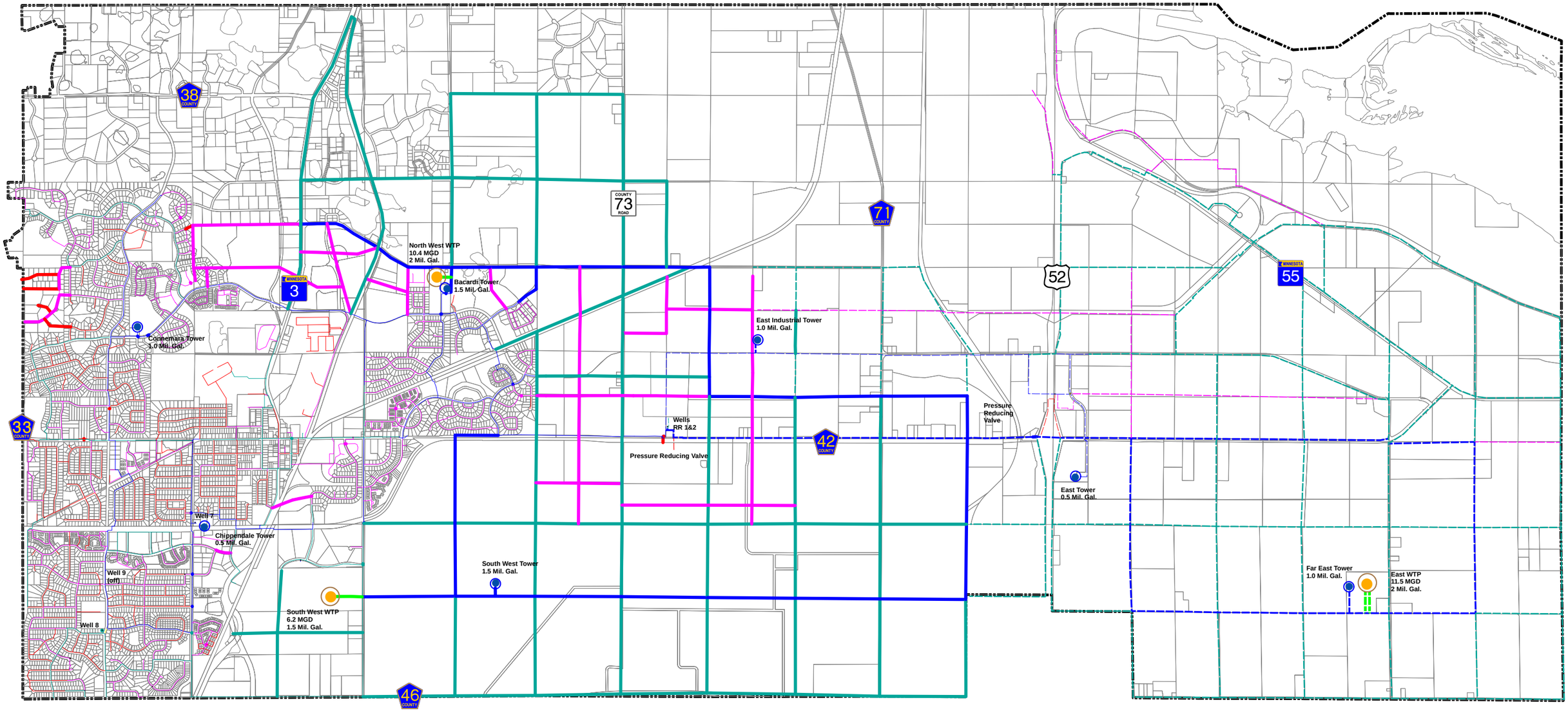

Comprehensive Water System Plan

Legend

- Water Tower
- Treatment Plant
- West Pressure Zone
- East Pressure Zone
- 24" Main Or Larger
- 18" Main
- 16" Main
- 12" Main
- 8" Main
- 6" Main or Smaller

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0 1,500 3,000 6,000 Feet

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Ultimate Trunk Water Main System Figure 5

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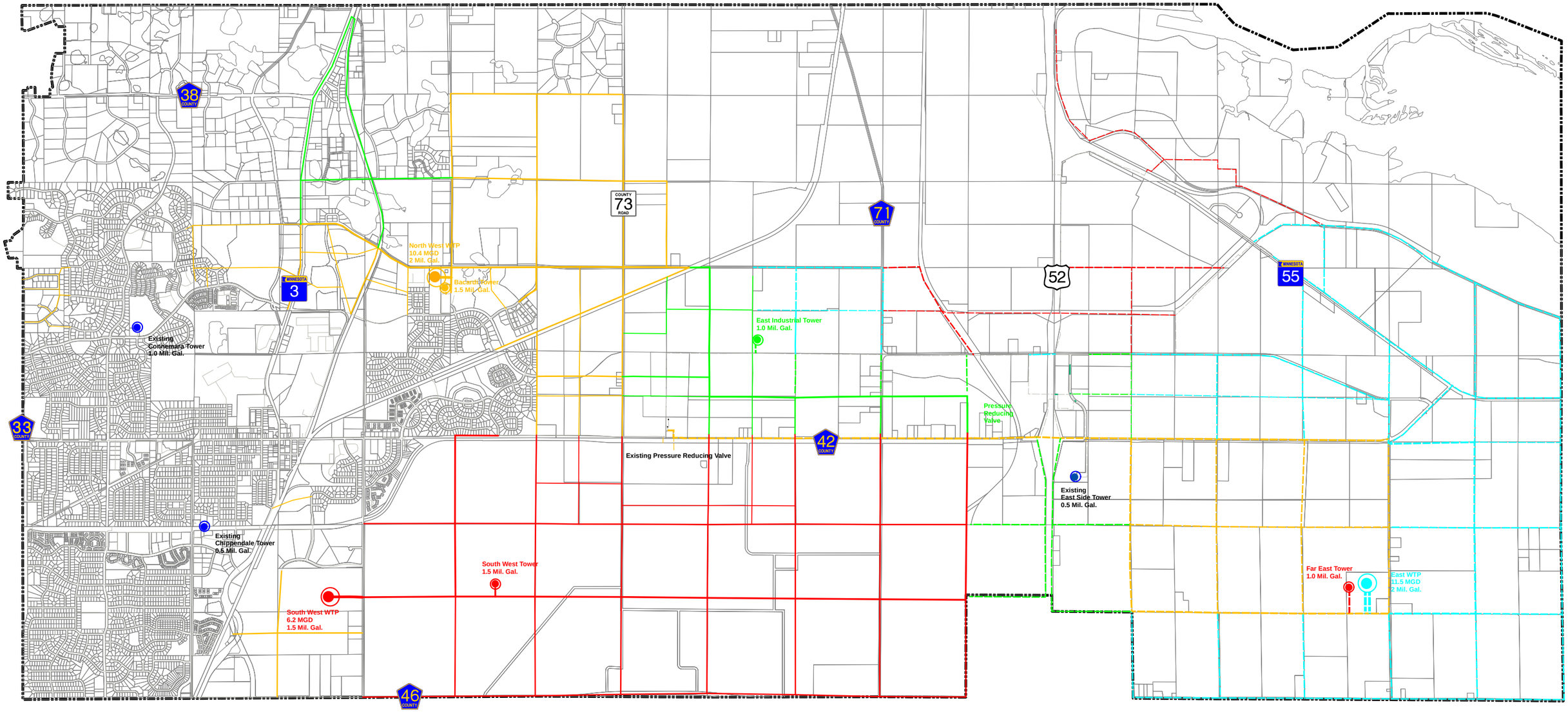

Comprehensive Water System Plan

Legend

- Water Tower
- Treatment Plant
- West Pressure Zone
- East Pressure Zone
- 2010
- 2015
- 2025
- Ultimate

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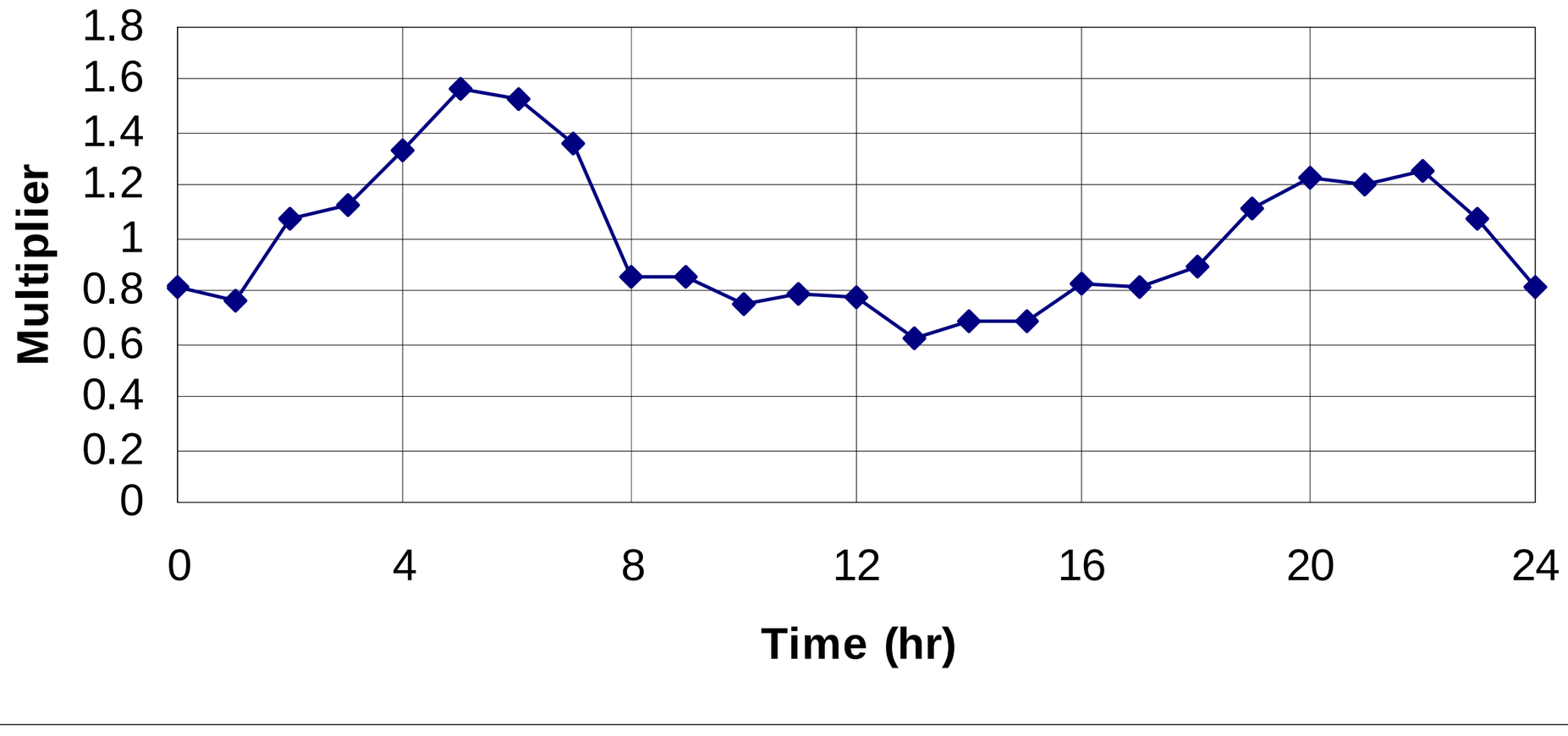
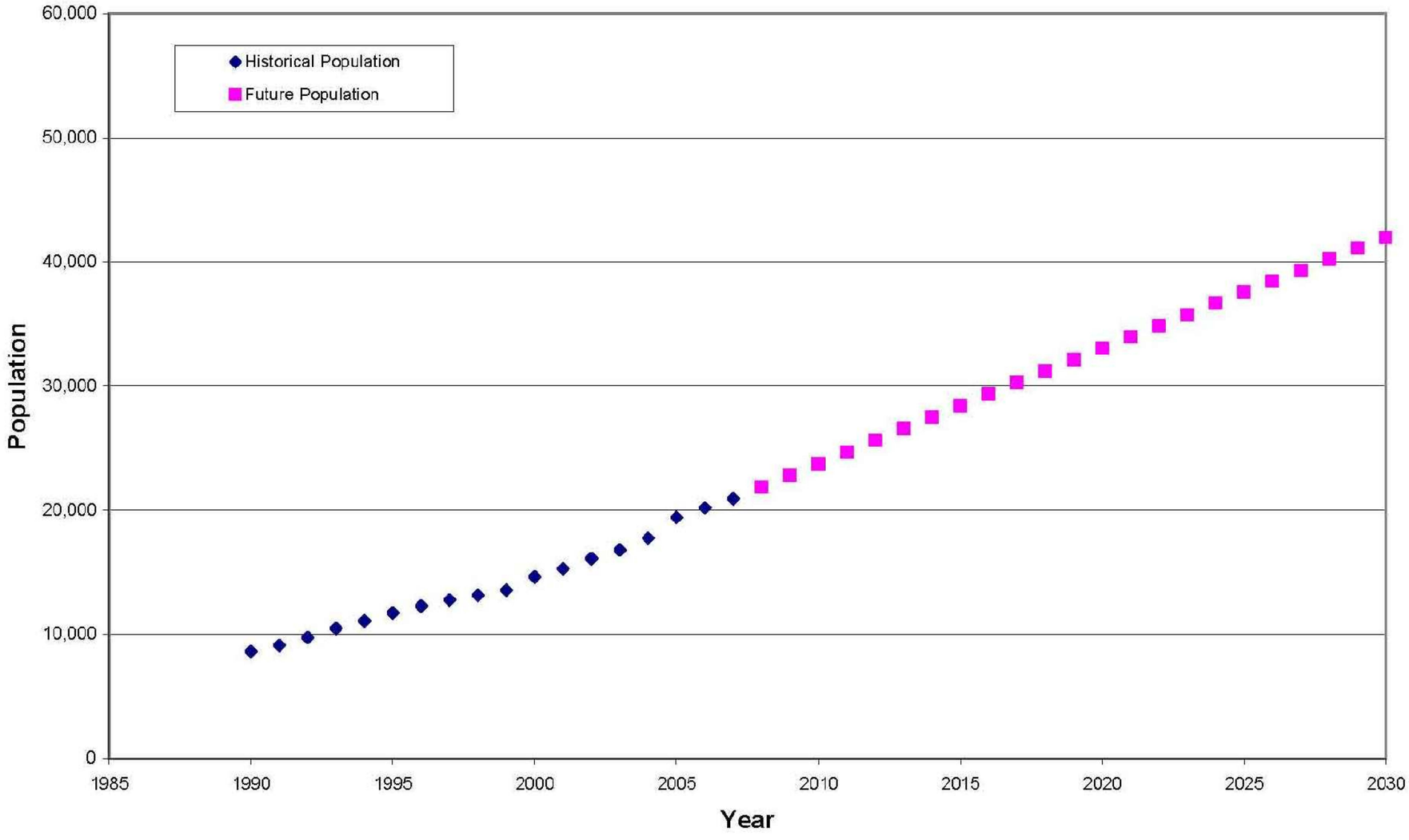
ROSEMOUNT MINNESOTA

Trunk Main Phasing Figure 6

Figure 7
City of Rosemount Hourly Water Usage



City of Rosemount Population Projections



ROSEMOUNT
MINNESOTA

Comprehensive Water System Plan

City of Rosemount Population Projections Figure 8

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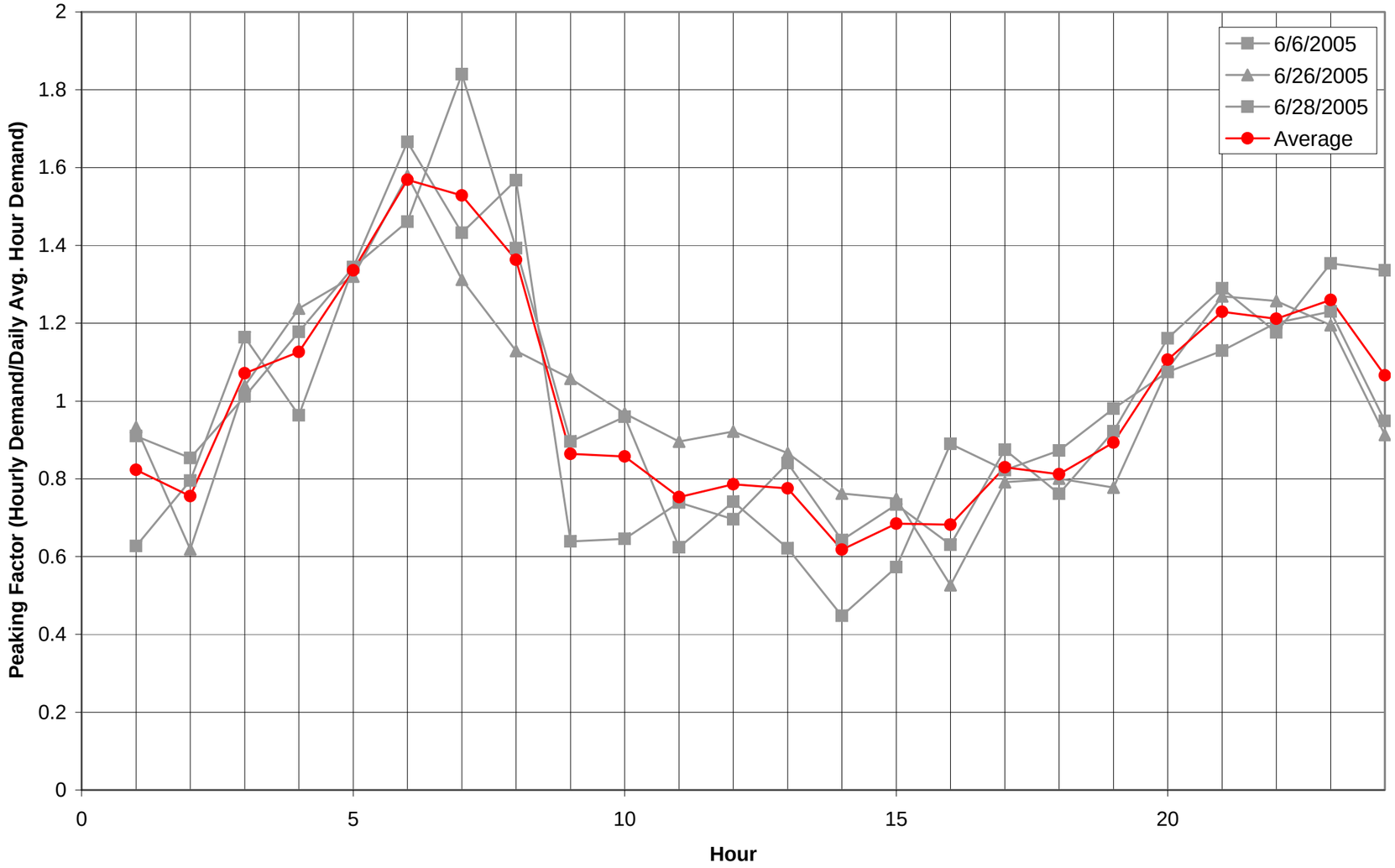
Figure 9
Daily Water Usage Pattern



Comprehensive Water System Plan

ROSEMOUNT MINNESOTA

Daily Water Usage Pattern Figure 9

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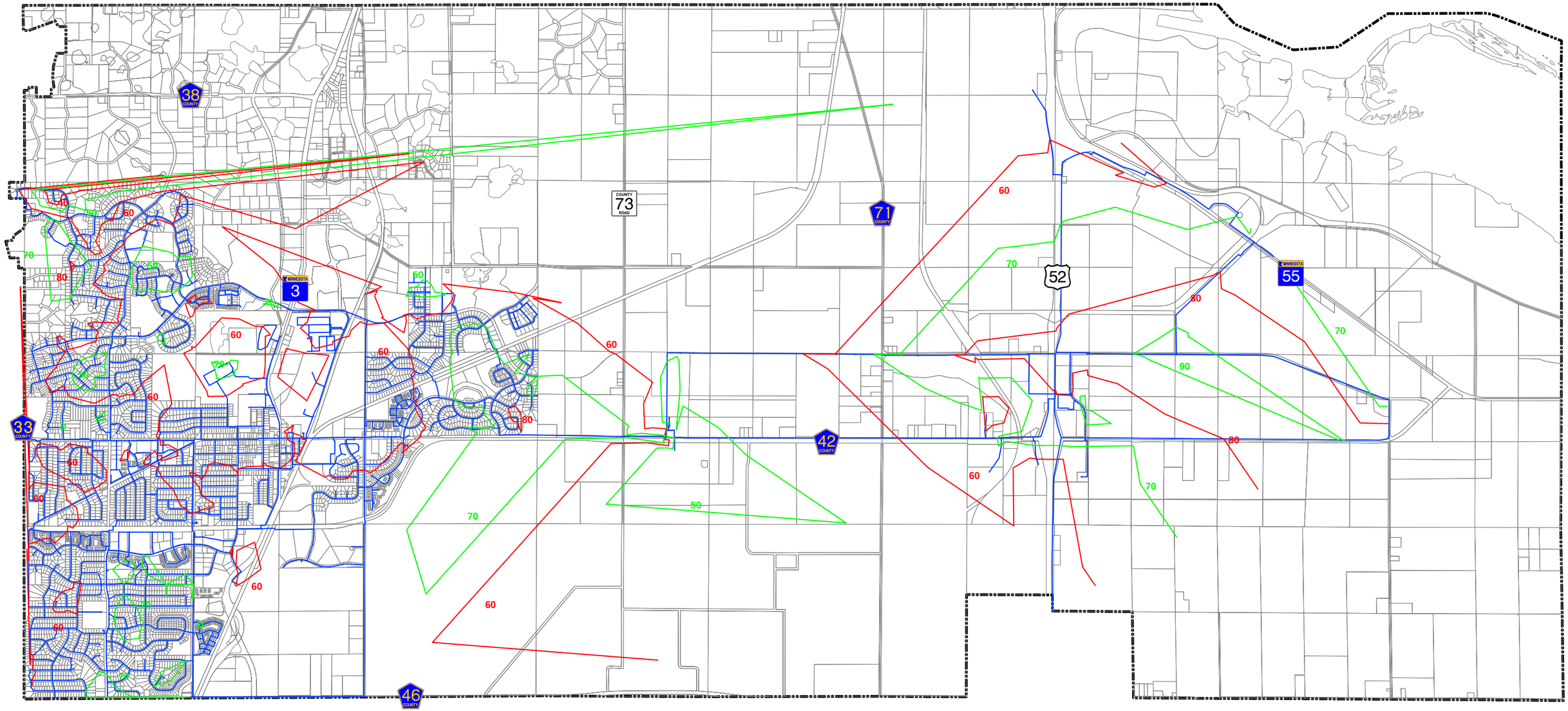

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Existing System Average Day Pressure Figure 10

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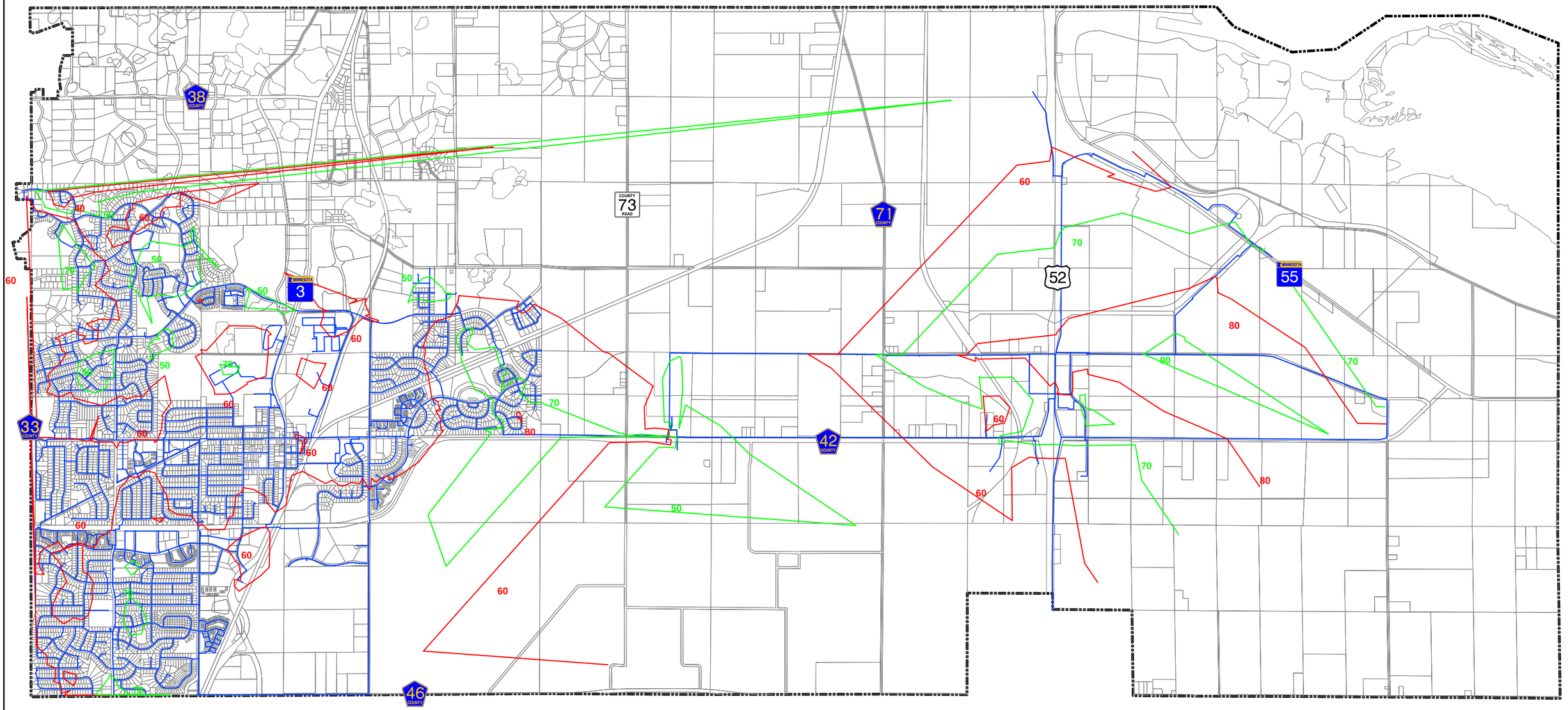

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Existing System Peak Hour Pressure Figure 11

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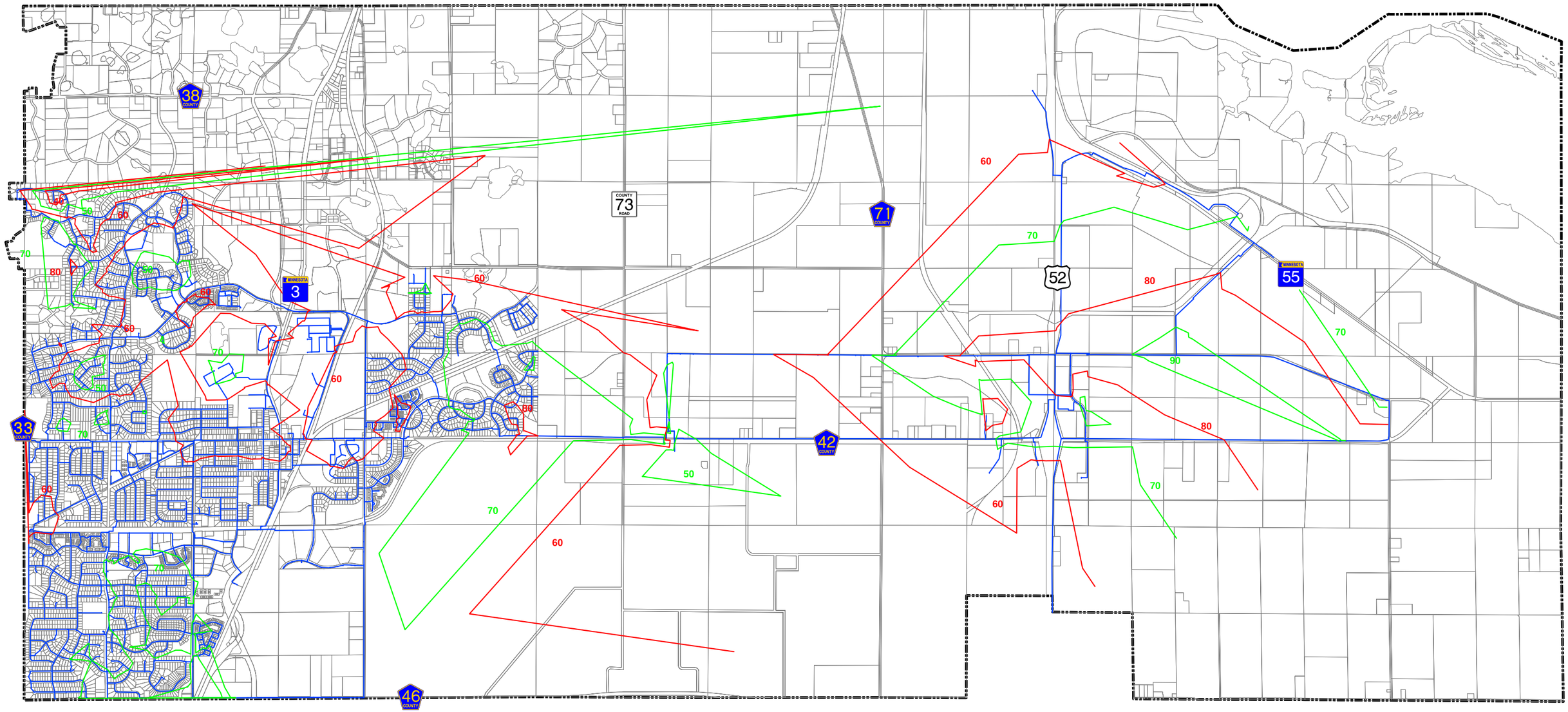

Comprehensive Water System Plan

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Existing System Minimum Hour Pressure Figure 12

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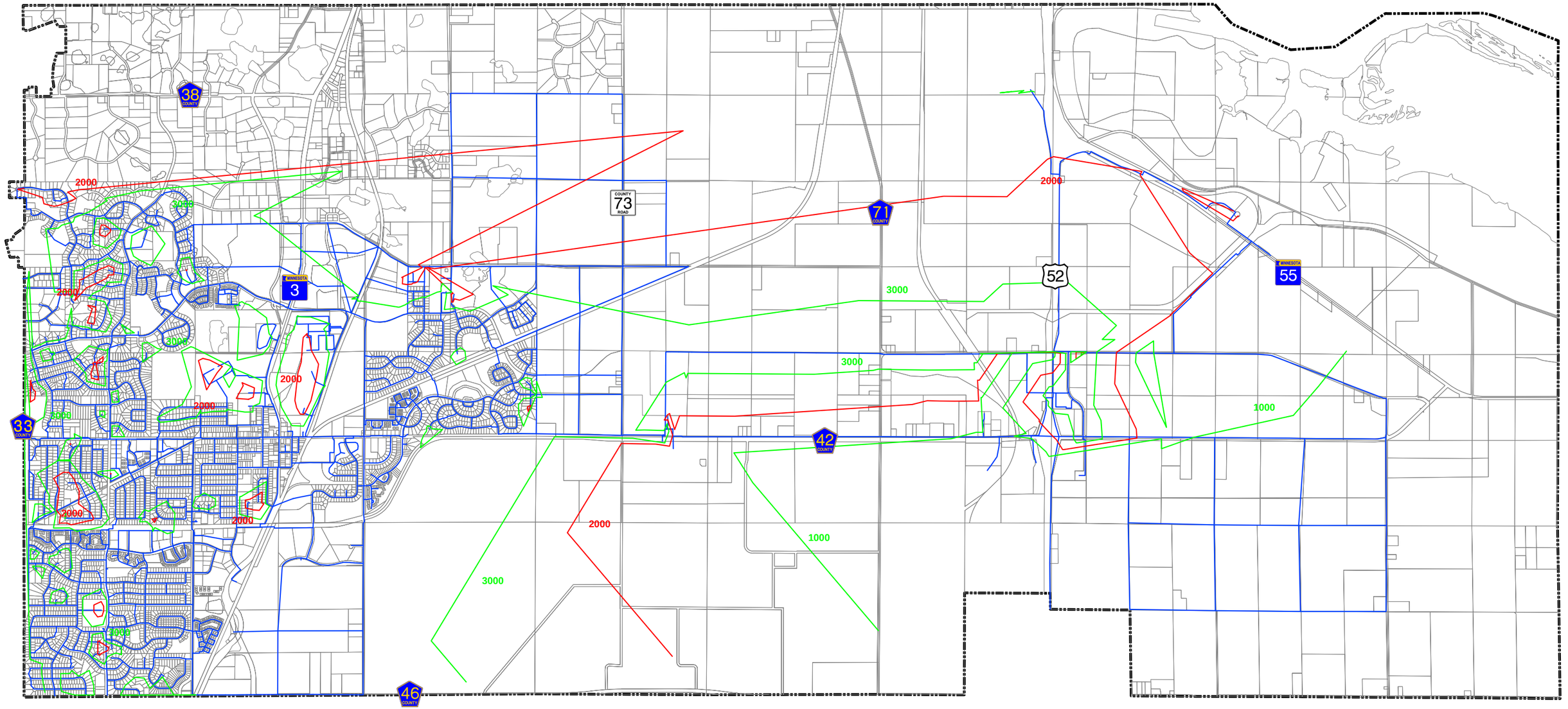

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Existing System Available Fire Flow

Figure 13

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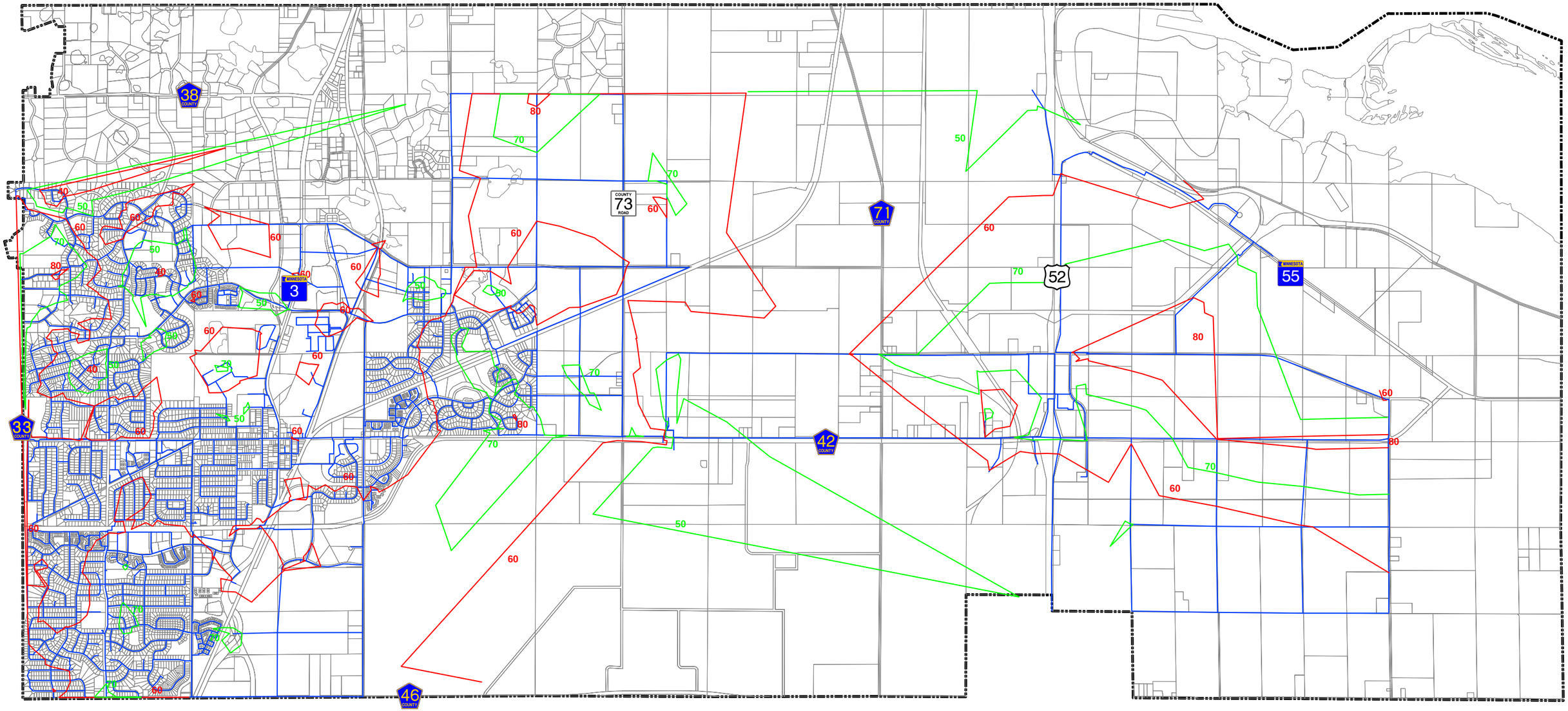

Comprehensive Water System Plan

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ROSEMOUNT MINNESOTA

2010 System Peak Hour Pressure Figure 14

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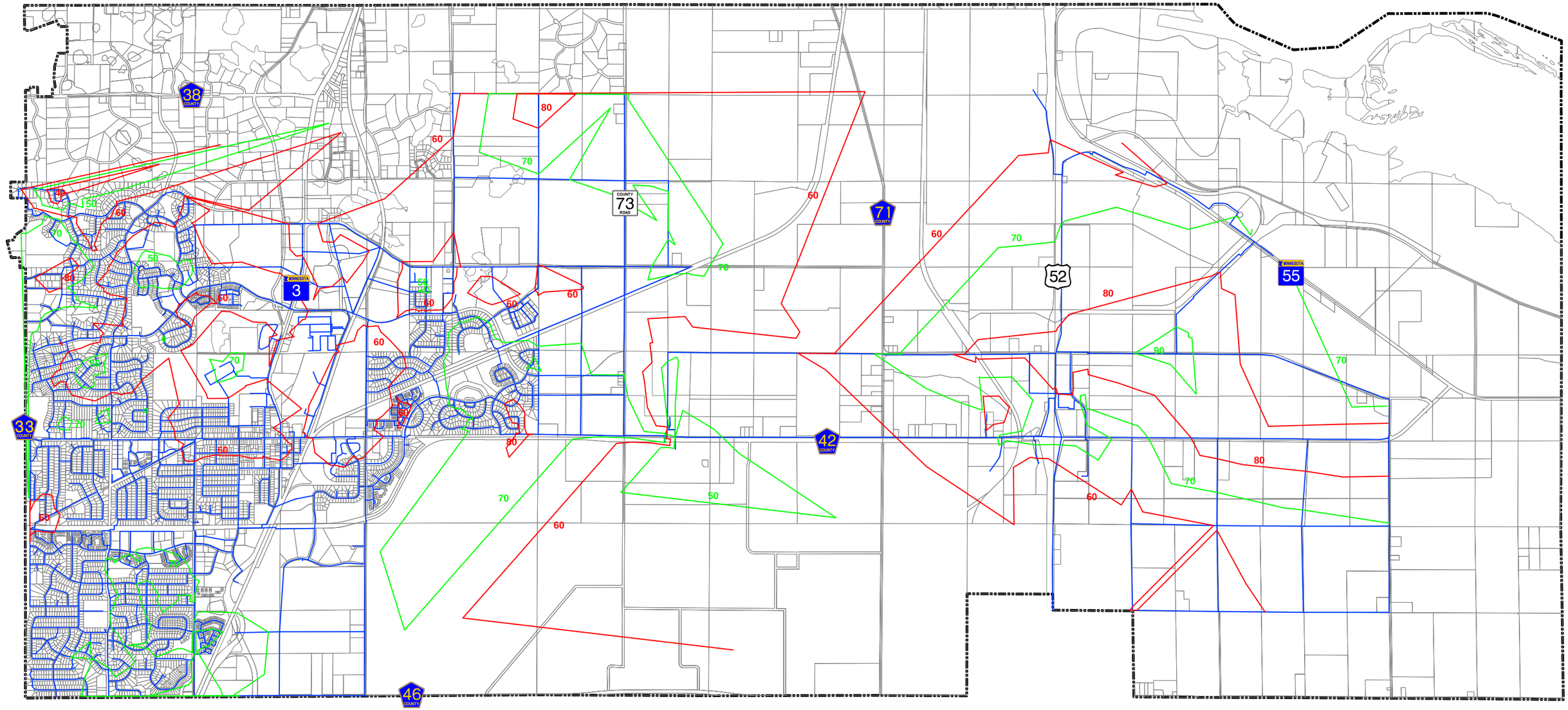

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2010 System Minimum Hour Pressure Figure 15

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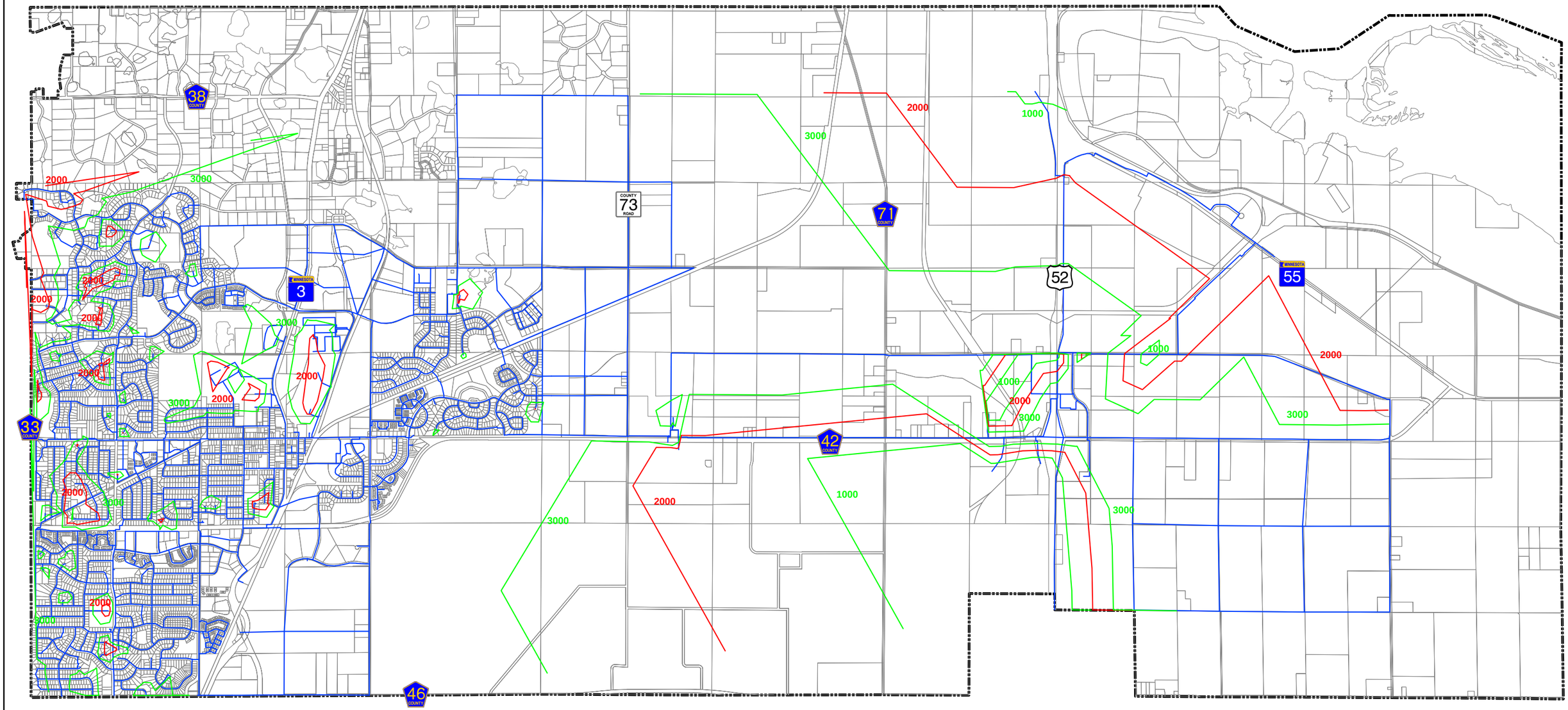

Comprehensive Water System Plan

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MINNESOTA

2010 System Available Fire Flow

Figure 16

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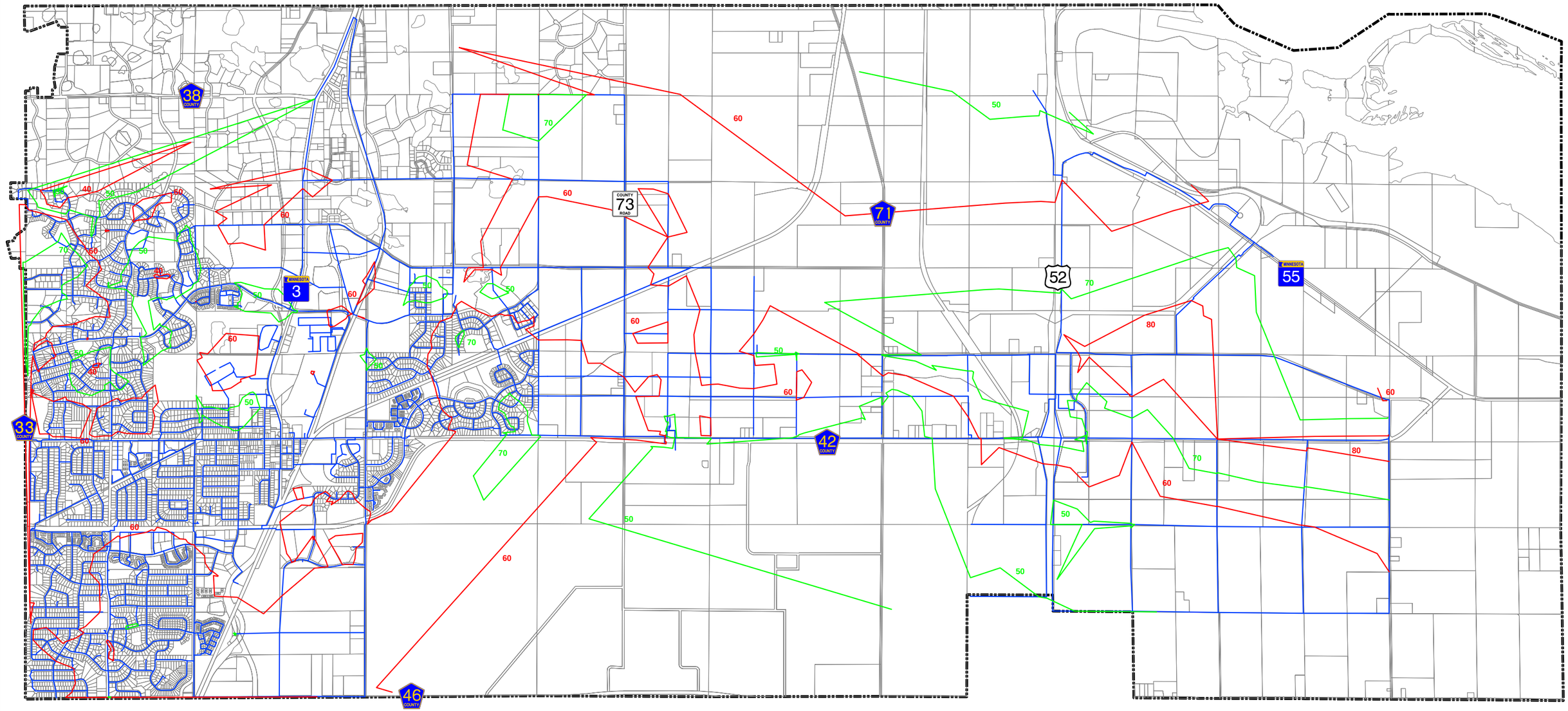

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2015 System Peak Hour Pressure Figure 17

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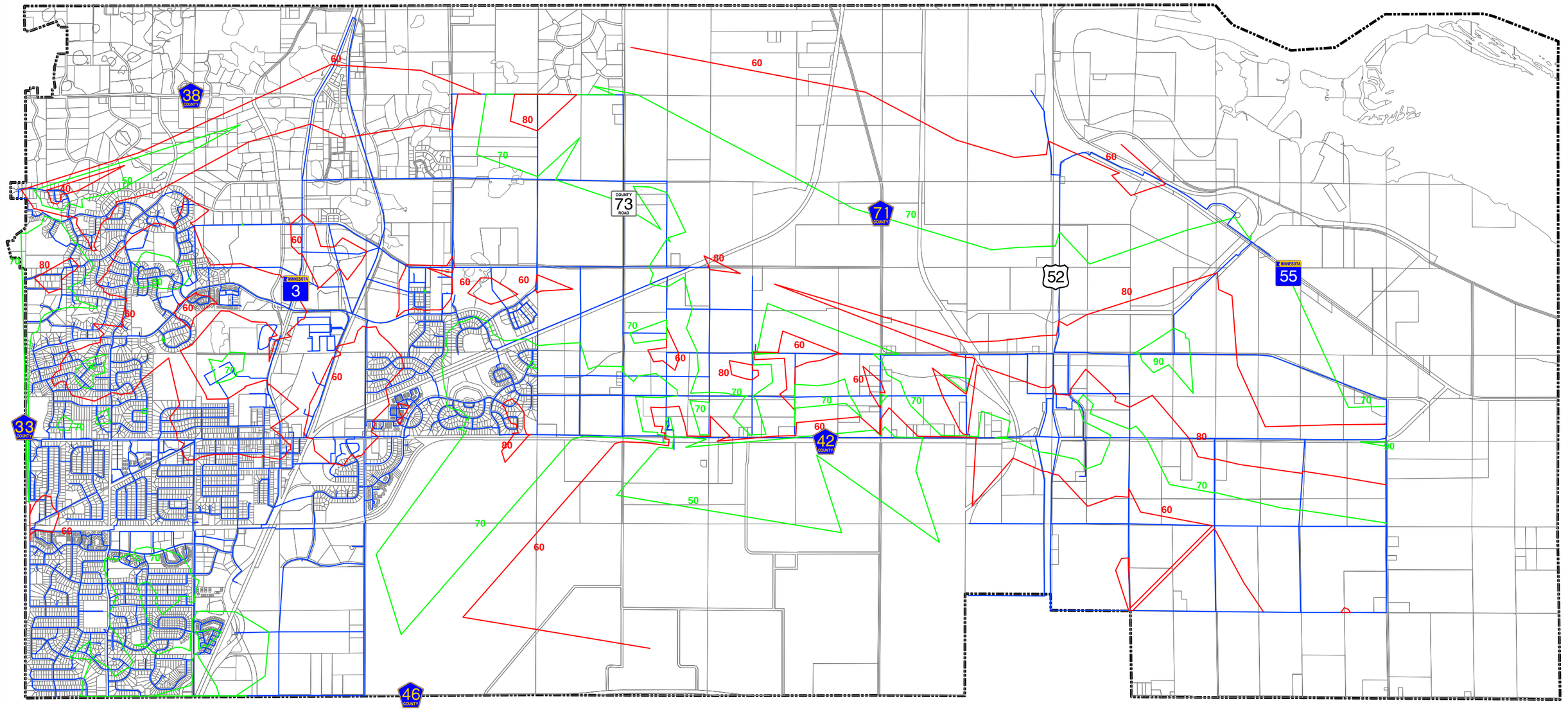

Comprehensive Water System Plan

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2015 System Minimum Hour Pressure

Figure 18

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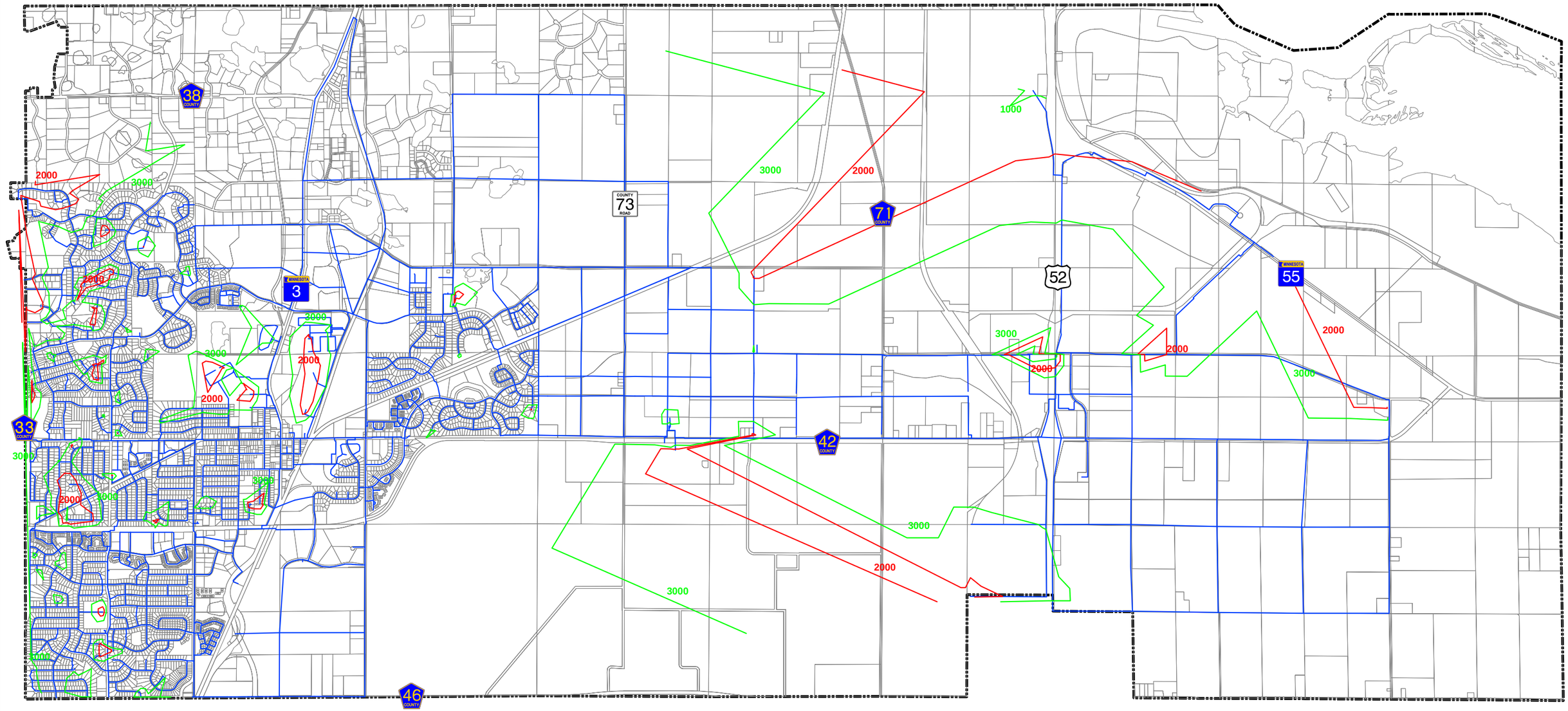

Comprehensive Water System Plan

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Feet

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MINNESOTA

2015 System Available Fire Flow

Figure 19

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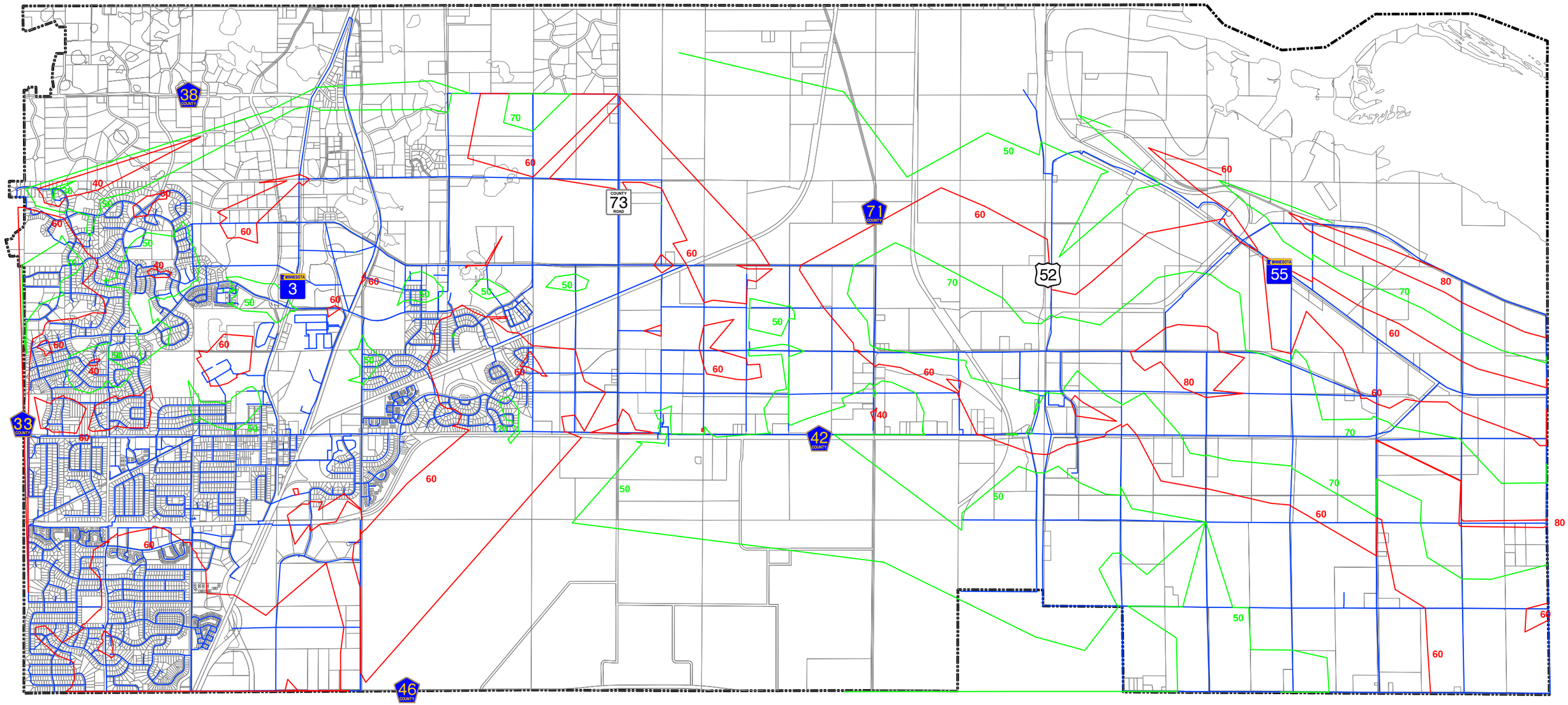

Comprehensive Water System Plan

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2025 System Peak Hour Pressure Figure 20

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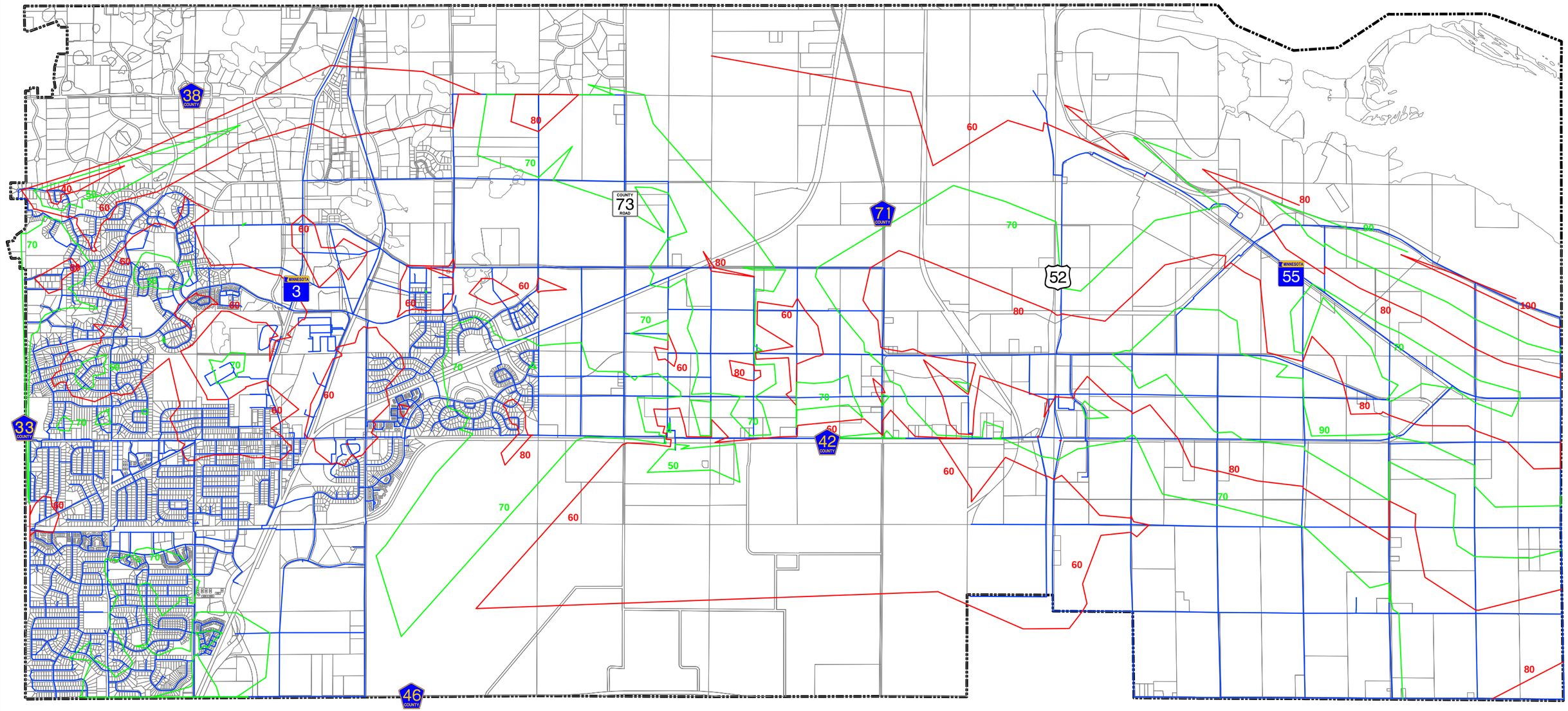

Comprehensive Water System Plan

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2025 System Minimum Hour Pressure Figure 21

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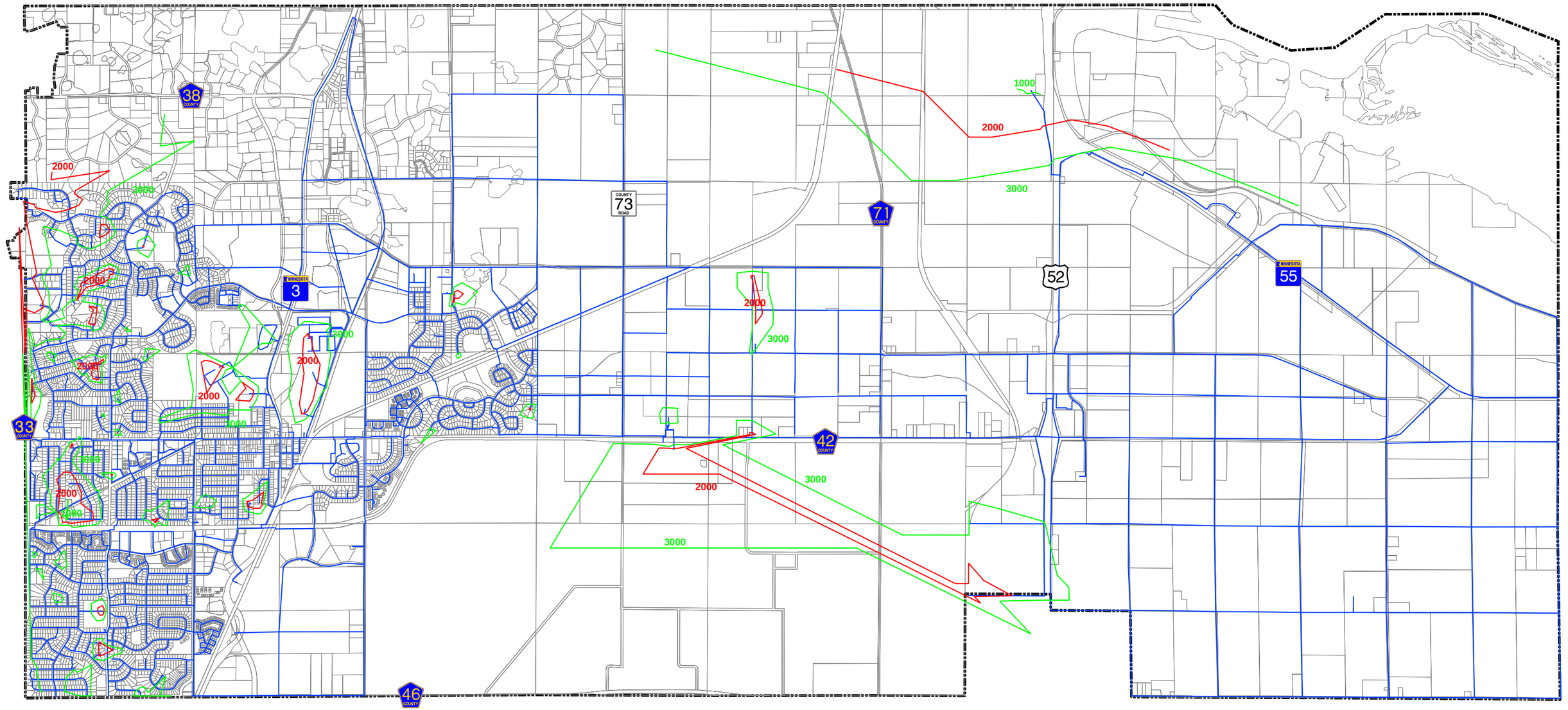

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2025 System Available Fire Flow Figure 22

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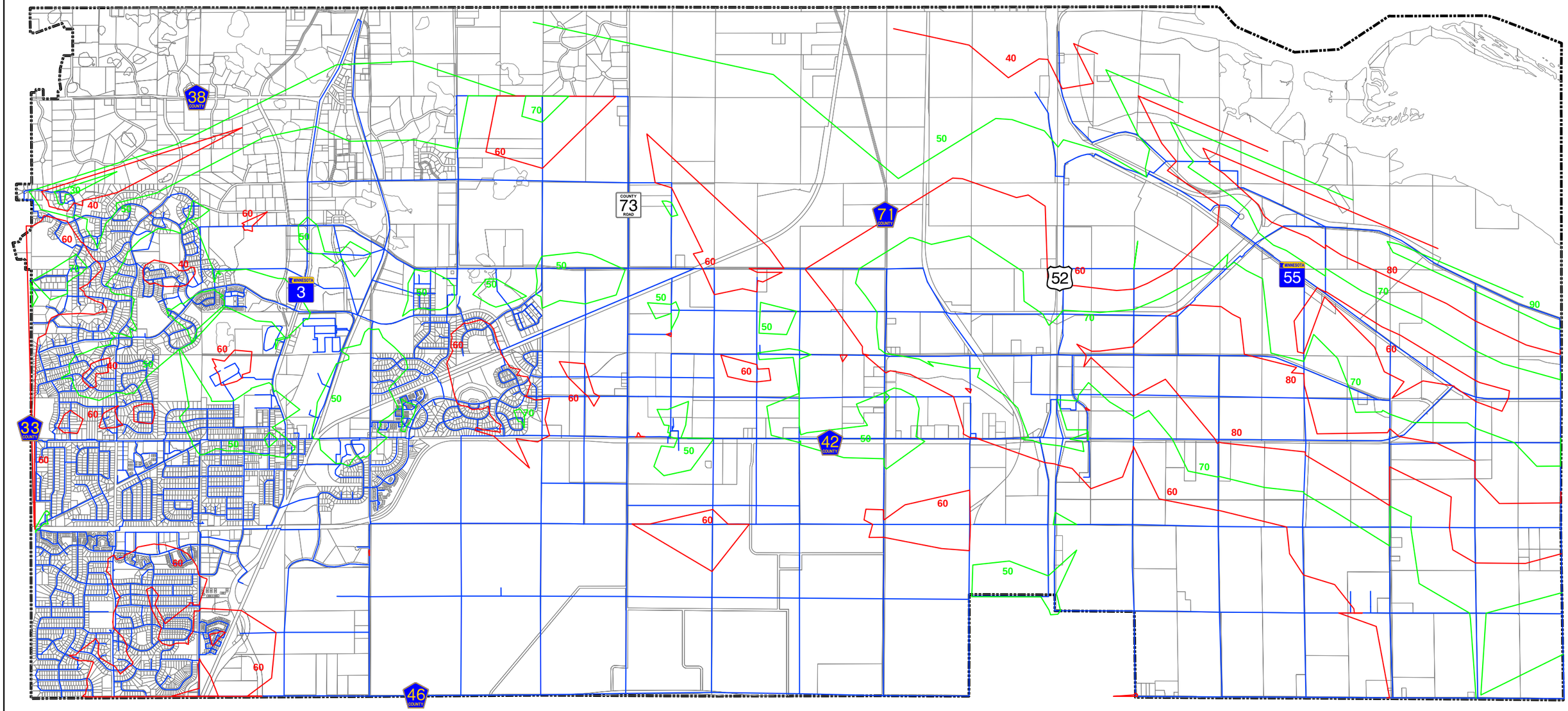

Comprehensive Water System Plan

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MINNESOTA

Ultimate System Peak Hour Pressure Figure 23

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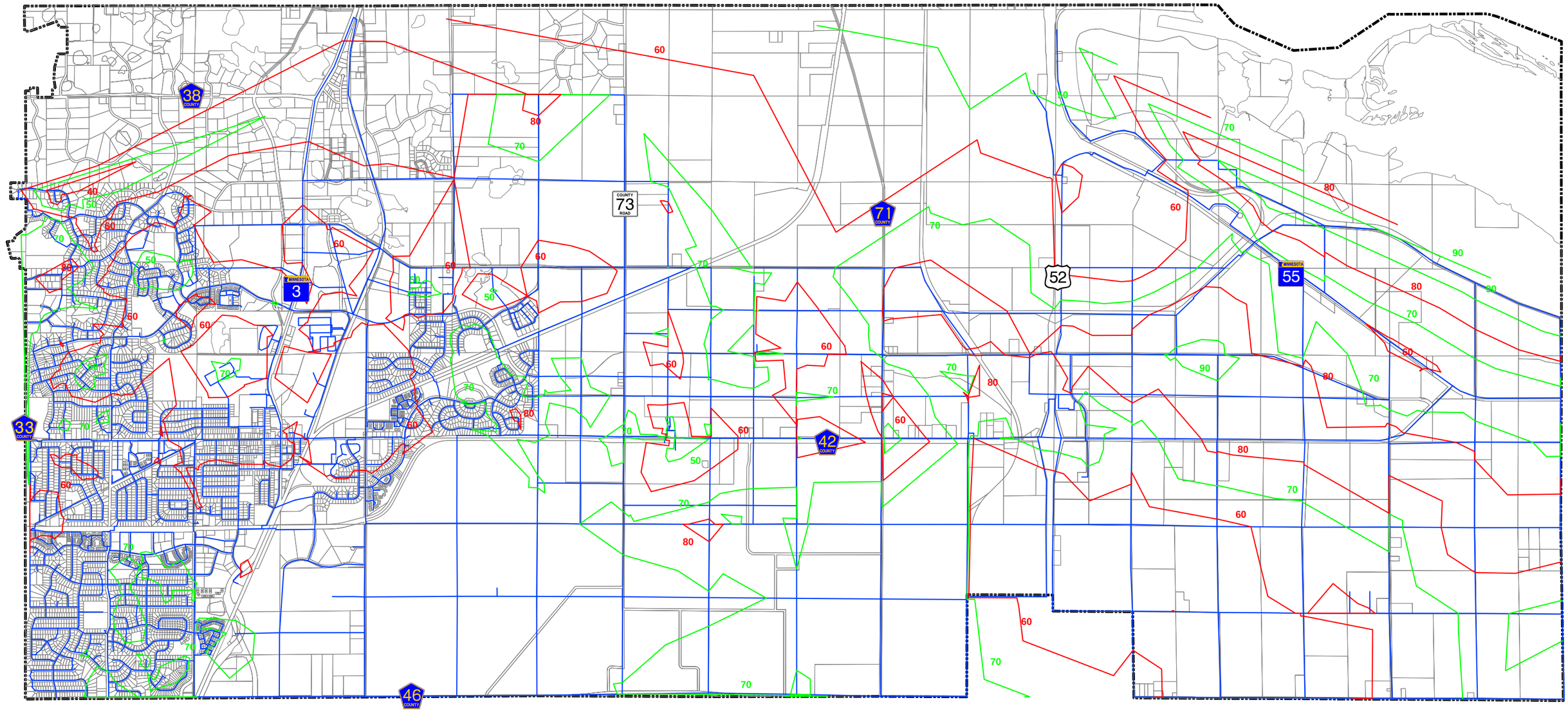

Comprehensive Water System Plan

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Feet

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Ultimate System Minimum Hour Pressure Figure 24

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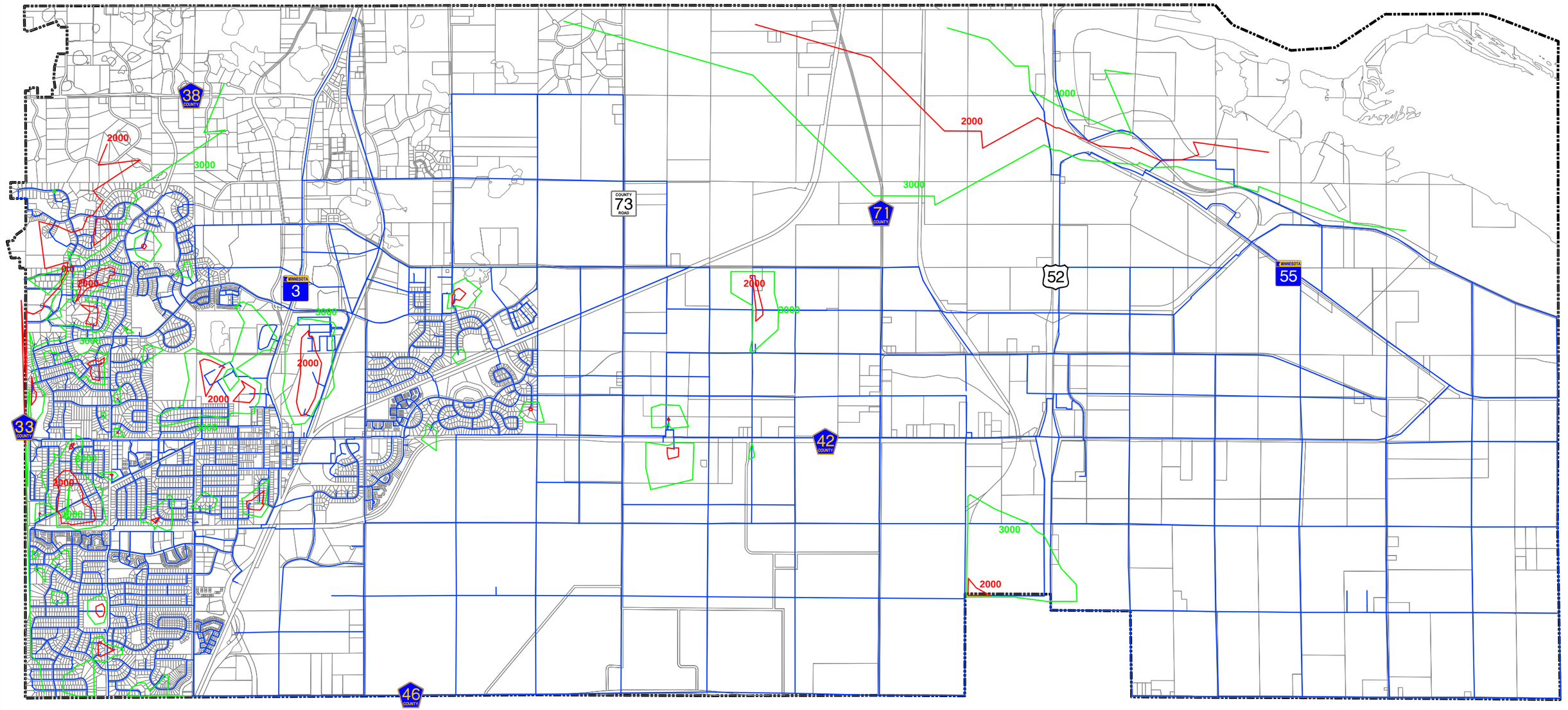

Comprehensive Water System Plan

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Feet

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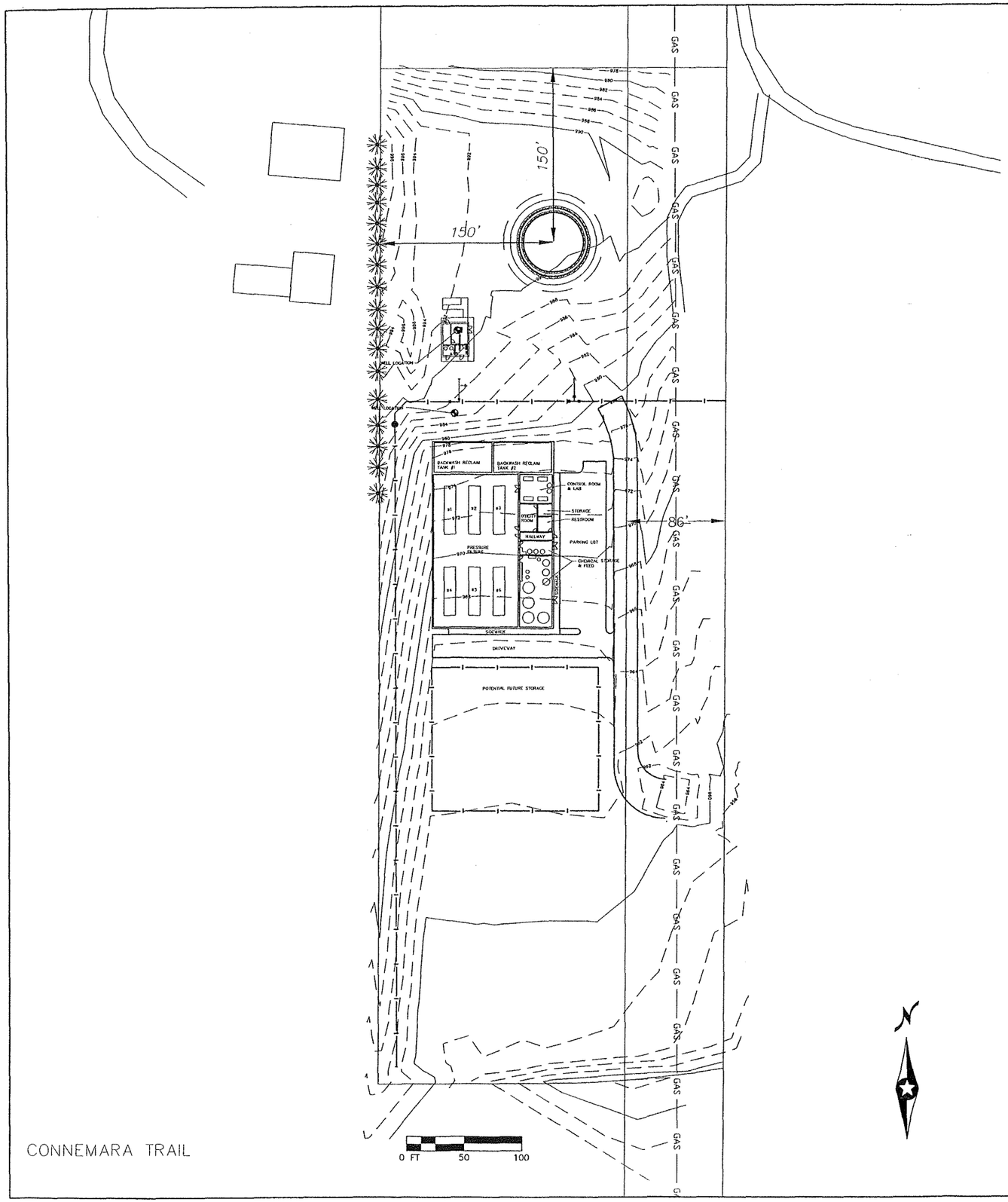
Ultimate System Available Fire Flow Figure 25



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DESIGN BY: KN
PROJECT NO: 01582-00
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KEVIN F. NEWMAN
LIC. NO. 25198
DATE:

COMPREHENSIVE WATER SYSTEM PLAN
FOR THE CITY OF ROSEMOUNT, MN

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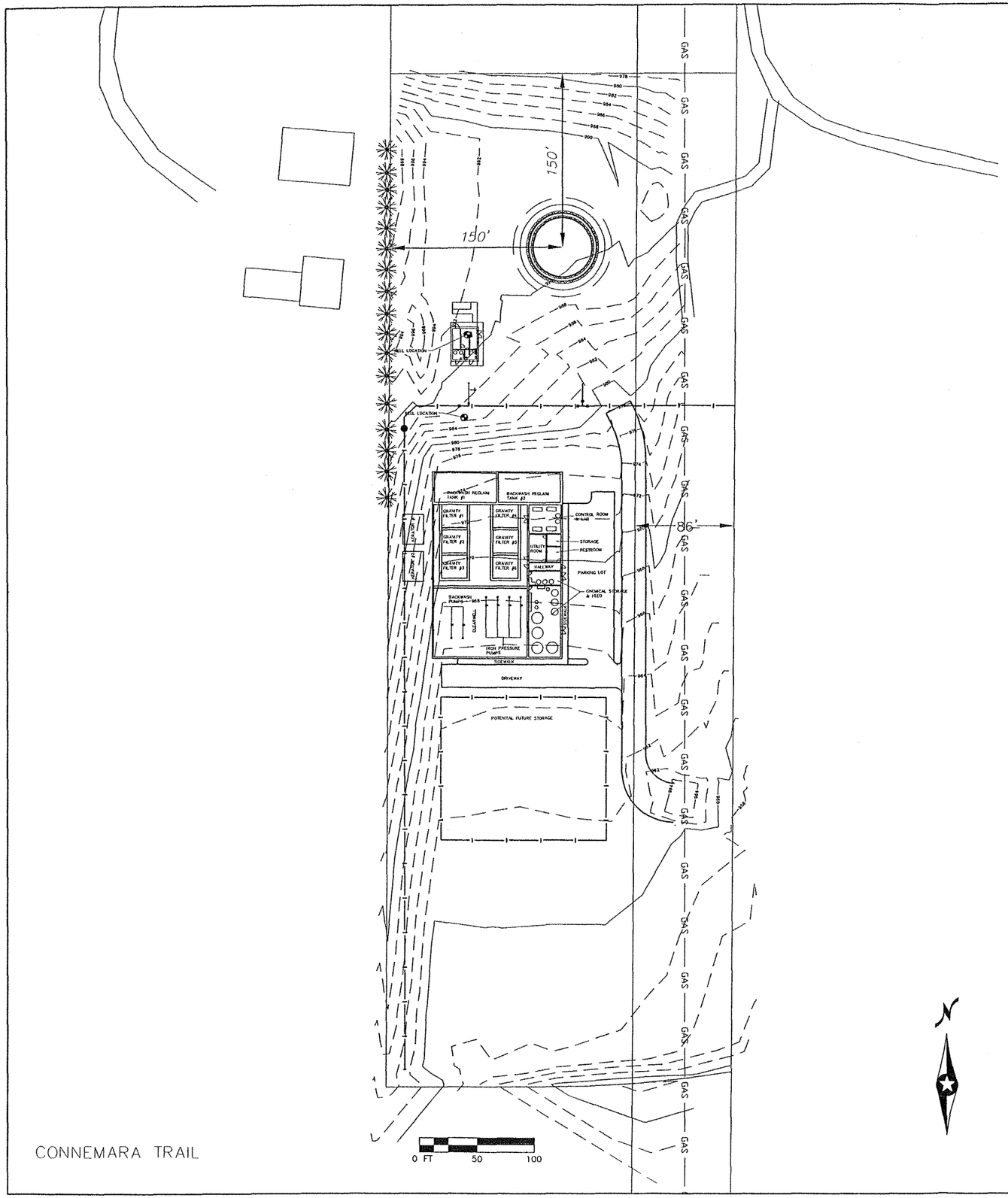
CITY PROJECT 10 MGD PRESSURE FILTER OPTION FOR NORTHWEST WTP

PAGE FIGURE 26.



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CITY PROJECT

10 MGD GRAVITY FILTER OPTION FOR NORTHWEST WTP

PAGE FIGURE 27.

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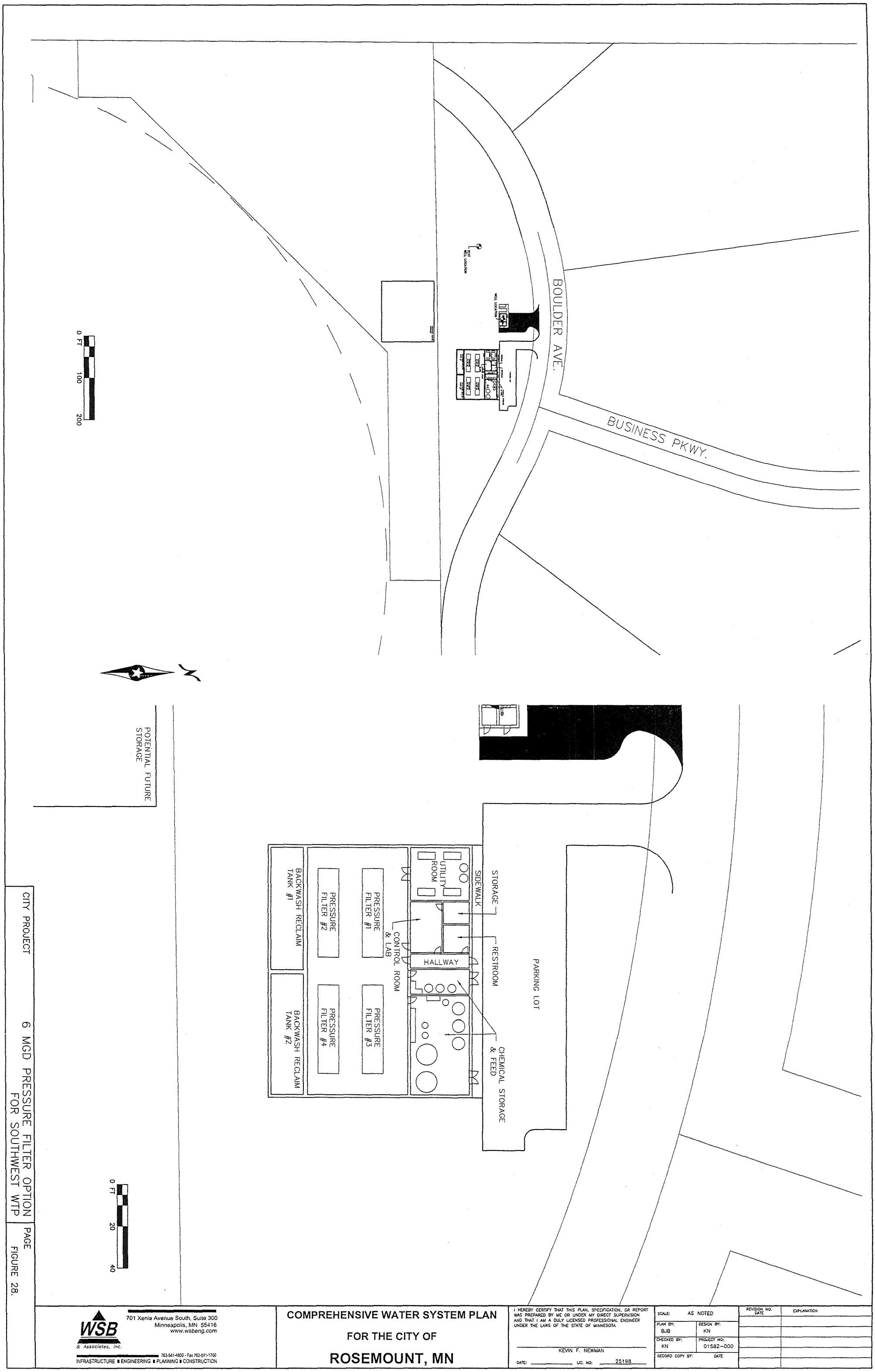

CITY PROJECT 6 MGD PRESSURE FILTER OPTION FOR SOUTHWEST WTP

PAGE FIGURE 28.

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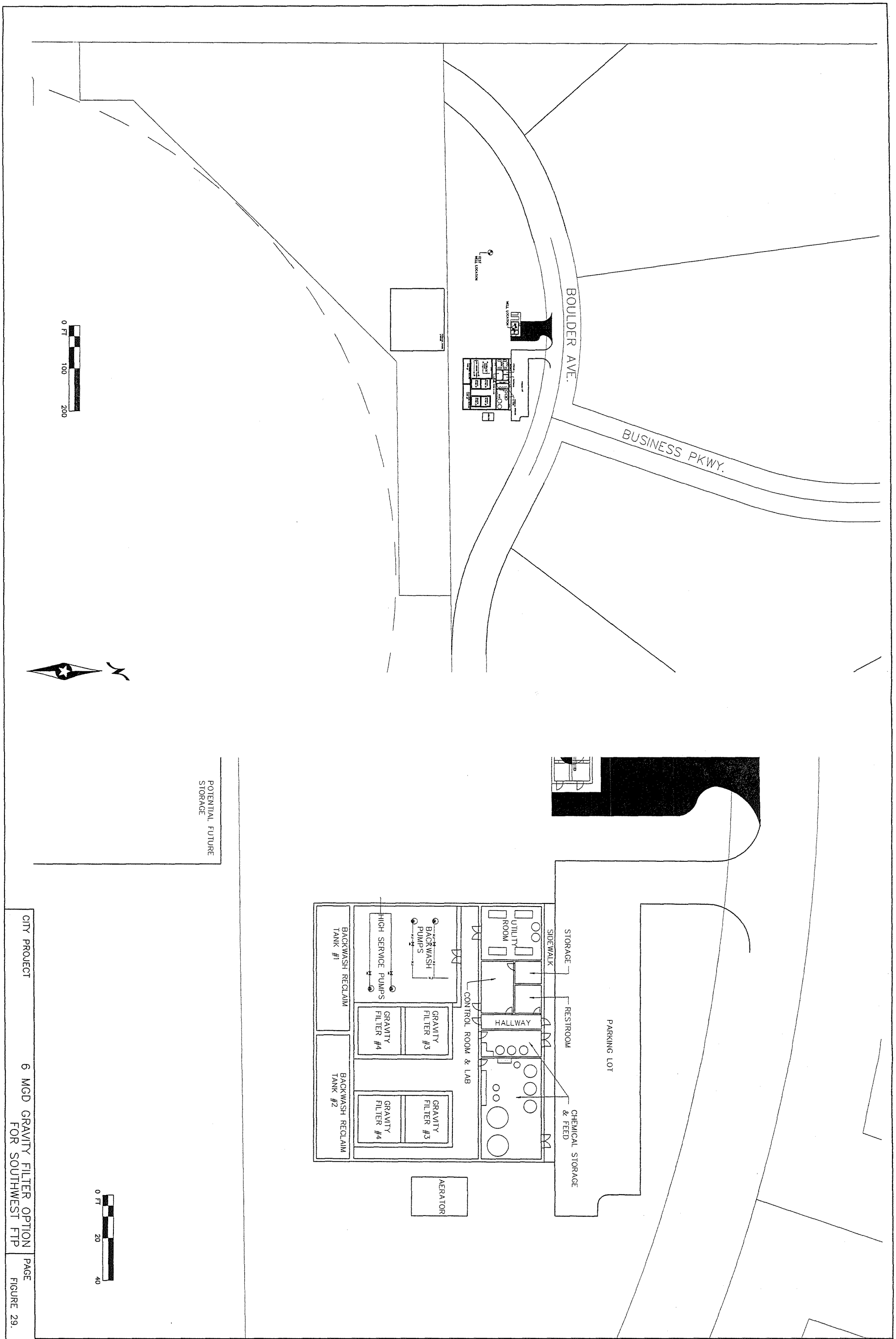

CITY PROJECT

6 MGD GRAVITY FILTER OPTION FOR SOUTHWEST FTP

PAGE

FIGURE 29.

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REVISION NO. DATE	EXPLANATION

APPENDIX A

10 MGD Iron and Manganese Removal Pressure Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$500,000.00	$500,000.00
2	Building	LS	1	$1,600,000.00	$1,600,000.00
3	Backwash Reclaim Tanks	LS	1	$386,000.00	$386,000.00
4	Pressure Filters, Associated Piping & Equipment	LS	1	$2,200,000.00	$2,200,000.00
5	Laboratory Furniture and Equipment	LS	1	$25,000.00	$25,000.00
6	Backwash Reclaim Pumps	LS	1	$40,000.00	$40,000.00
7	Backwash Reclaim Sludge Pumps	LS	1	$30,000.00	$30,000.00
8	Chemical Storage and Feed Equipment	LS	1	$60,000.00	$60,000.00
9	Process Piping and Equipment	LS	1	$600,000.00	$600,000.00
10	Electrical	LS	1	$150,000.00	$150,000.00
11	HVAC & Plumbing	LS	1	$200,000.00	$200,000.00
12	Instrumentation and Controls	LS	1	$300,000.00	$300,000.00
13	Standby Generator and Transfer Switch	LS	1	$100,000.00	$100,000.00
14	Landscaping	LS	1	$25,000.00	$25,000.00
	Subtotal				$6,216,000.00
	Contingencies (15%)				$932,400.00
	Total Estimated Construction Cost				**$7,148,400.00**
	Engineering, Administration, and Legal Fees (20%)				$1,429,680.00
	Total Estimated Project Cost				**$8,578,080.00**

6 MGD Iron and Manganese Removal Pressure Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$400,000.00	$400,000.00
2	Building	LS	1	$1,056,000.00	$1,056,000.00
3	Backwash Reclaim Tanks	LS	1	$330,000.00	$330,000.00
4	Pressure Filters, Associated Piping & Equipment	LS	1	$1,500,000.00	$1,500,000.00
5	Laboratory Furniture and Equipment	LS	1	$20,000.00	$20,000.00
6	Backwash Reclaim Pumps	LS	1	$30,000.00	$30,000.00
7	Backwash Reclaim Sludge Pumps	LS	1	$25,000.00	$25,000.00
8	Chemical Storage and Feed Equipment	LS	1	$45,000.00	$45,000.00
9	Process Piping and Equipment	LS	1	$460,000.00	$460,000.00
10	Electrical	LS	1	$135,000.00	$135,000.00
11	HVAC & Plumbing	LS	1	$170,000.00	$170,000.00
12	Instrumentation and Controls	LS	1	$250,000.00	$250,000.00
13	Standby Generator and Transfer Switch	LS	1	$75,000.00	$75,000.00
14	Landscaping	LS	1	$15,000.00	$15,000.00
	Subtotal				$4,511,000.00
	Contingencies (15%)				$676,650.00
	Total Estimated Construction Cost				**$5,187,650.00**
	Engineering, Administration, and Legal Fees (20%)				$1,037,530.00
	Total Estimated Project Cost				**$6,225,180.00**

11.5 MGD Iron and Manganese Removal Pressure Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$550,000.00	$550,000.00
2	Building	LS	1	$1,700,000.00	$1,700,000.00
3	Backwash Reclaim Tanks	LS	1	$400,000.00	$400,000.00
4	Pressure Filters, Associated Piping & Equipment	LS	1	$2,510,000.00	$2,510,000.00
5	Laboratory Furniture and Equipment	LS	1	$25,000.00	$25,000.00
6	Backwash Reclaim Pumps	LS	1	$40,000.00	$40,000.00
7	Backwash Reclaim Sludge Pumps	LS	1	$30,000.00	$30,000.00
8	Chemical Storage and Feed Equipment	LS	1	$60,000.00	$60,000.00
9	Process Piping and Equipment	LS	1	$650,000.00	$650,000.00
10	Electrical	LS	1	$150,000.00	$150,000.00
11	HVAC & Plumbing	LS	1	$200,000.00	$200,000.00
12	Instrumentation and Controls	LS	1	$350,000.00	$350,000.00
13	Standby Generator and Transfer Switch	LS	1	$125,000.00	$125,000.00
14	Landscaping	LS	1	$25,000.00	$25,000.00
	Subtotal				$6,815,000.00
	Contingencies (15%)				$1,022,250.00
	Total Estimated Construction Cost				**$7,837,250.00**
	Engineering, Administration, and Legal Fees (20%)				$1,567,450.00
	Total Estimated Project Cost				**$9,404,700.00**

10 MGD Iron and Manganese Removal Gravity Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$500,000.00	$500,000.00
2	Building	LS	1	$1,700,000.00	$1,700,000.00
	Head Tank Aerators	EA	2	$135,000.00	$270,000.00
3	Concrete Gravity Filter Tanks and Splitter Box	EA	6	$60,500.00	$363,000.00
4	Filter Media, Troughs, Underdrain Block, Associated Piping & Equipment	LS	1	$1,700,000.00	$1,700,000.00
5	Concrete Clearwell	LS	1	$400,000.00	$400,000.00
6	Concrete Backwash Reclaim Tanks	LS	1	$386,000.00	$386,000.00
7	Laboratory Furniture and Equipment	LS	1	$25,000.00	$25,000.00
8	Vertical Turbine Backwash Pumps	EA	2	$35,000.00	$70,000.00
9	Backwash Reclaim Pumps	EA	2	$20,000.00	$40,000.00
10	Backwash Reclaim Sludge Pumps	EA	2	$15,000.00	$30,000.00
11	Clearwell Discharge Pumps	EA	3	$50,000.00	$150,000.00
12	Chemical Storage and Feed Equipment	LS	1	$60,000.00	$60,000.00
13	Process Piping and Equipment	LS	1	$700,000.00	$700,000.00
14	Electrical	LS	1	$150,000.00	$150,000.00
15	HVAC & Plumbing	LS	1	$200,000.00	$200,000.00
16	Instrumentation and Controls	LS	1	$300,000.00	$300,000.00
17	Standby Generator and Transfer Switch	LS	1	$125,000.00	$125,000.00
18	Landscaping	LS	1	$25,000.00	$25,000.00
	Subtotal				$7,194,000.00
	Contingencies (15%)				$1,079,100.00
	Total Estimated Construction Cost				**$8,273,100.00**
	Engineering, Administration, and Legal Fees (20%)				$1,654,620.00
	Total Estimated Project Cost				**$9,927,720.00**

6 MGD Iron and Manganese Removal Gravity Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$400,000.00	$400,000.00
2	Building	LS	1	$1,100,000.00	$1,100,000.00
	Head Tank Aerators	EA	1	$135,000.00	$135,000.00
3	Concrete Gravity Filter Tanks and Splitter Box	EA	4	$60,500.00	$242,000.00
4	Filter Media, Troughs, Underdrain Block, Associated Piping & Equipment	LS	1	$1,091,000.00	$1,091,000.00
5	Concrete Clearwell	LS	1	$350,000.00	$350,000.00
6	Concrete Backwash Reclaim Tanks	LS	1	$330,000.00	$330,000.00
7	Laboratory Furniture and Equipment	LS	1	$20,000.00	$20,000.00
8	Vertical Turbine Backwash Pumps	EA	2	$25,000.00	$50,000.00
9	Backwash Reclaim Pumps	EA	2	$15,000.00	$30,000.00
10	Backwash Reclaim Sludge Pumps	EA	2	$12,000.00	$24,000.00
11	Clearwell Discharge Pumps	EA	3	$35,000.00	$105,000.00
12	Chemical Storage and Feed Equipment	LS	1	$45,000.00	$45,000.00
13	Process Piping and Equipment	LS	1	$550,000.00	$550,000.00
14	Electrical	LS	1	$135,000.00	$135,000.00
15	HVAC & Plumbing	LS	1	$170,000.00	$170,000.00
16	Instrumentation and Controls	LS	1	$275,000.00	$275,000.00
17	Standby Generator and Transfer Switch	LS	1	$85,000.00	$85,000.00
18	Landscaping	LS	1	$15,000.00	$15,000.00
	Subtotal				$5,152,000.00
	Contingencies (15%)				$772,800.00
	Total Estimated Construction Cost				**$5,924,800.00**
	Engineering, Administration, and Legal Fees (20%)				$1,184,960.00
	Total Estimated Project Cost				**$7,109,760.00**

11.5 MGD Iron and Manganese Removal Gravity Filter Plant
Enginneers Opinion of Total Probable Project Cost

Item No.	Item Description	Units	Quantity	Unit Price	Total Price
1	Sitework/Mobilization	LS	1	$550,000.00	$550,000.00
2	Building	LS	1	$1,800,000.00	$1,800,000.00
	Head Tank Aerators	EA	2	$145,000.00	$290,000.00
3	Concrete Gravity Filter Tanks and Splitter Box	EA	8	$60,500.00	$484,000.00
4	Filter Media, Troughs, Underdrain Block, Associated Piping & Equipment	LS	1	$1,802,000.00	$1,802,000.00
5	Concrete Clearwell	LS	1	$425,000.00	$425,000.00
6	Concrete Backwash Reclaim Tanks	LS	1	$400,000.00	$400,000.00
7	Laboratory Furniture and Equipment	LS	1	$25,000.00	$25,000.00
8	Vertical Turbine Backwash Pumps	EA	2	$40,000.00	$80,000.00
9	Backwash Reclaim Pumps	EA	2	$20,000.00	$40,000.00
10	Backwash Reclaim Sludge Pumps	EA	2	$15,000.00	$30,000.00
11	Clearwell Discharge Pumps	EA	3	$50,000.00	$150,000.00
12	Chemical Storage and Feed Equipment	LS	1	$60,000.00	$60,000.00
13	Process Piping and Equipment	LS	1	$700,000.00	$700,000.00
14	Electrical	LS	1	$150,000.00	$150,000.00
15	HVAC & Plumbing	LS	1	$200,000.00	$200,000.00
16	Instrumentation and Controls	LS	1	$300,000.00	$300,000.00
17	Standby Generator and Transfer Switch	LS	1	$125,000.00	$125,000.00
18	Landscaping	LS	1	$25,000.00	$25,000.00
	Subtotal				$7,636,000.00
	Contingencies (15%)				$1,145,400.00
	Total Estimated Construction Cost				**$8,781,400.00**
	Engineering, Administration, and Legal Fees (20%)				$1,756,280.00
	Total Estimated Project Cost				**$10,537,680.00**

APPENDIX B

Rosemount Well Field Study

Prepared for
City of Rosemount

October 2005

BARR

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Rosemount Well Field Study

Table of Contents

List of Tables

List of Figures

List of Appendices

1.0 Introduction

The City of Rosemount, Minnesota is in the midst of a comprehensive water system planning effort. As part of the process, the City is planning the ultimate build out of its water system. Barr Engineering is assisting in this effort by conducting a groundwater flow modeling study to identify and evaluate future well fields.

This technical memorandum summarizes the results of the well field study conducted for the City under subcontract to WSB & Associates. The objectives of the well field study include:

(1) Evaluate where to locate new municipal water supply wells,

(2) Estimate how many wells are required to meet projected water demand,

(3) Estimate required well spacing needed to limit interference to acceptable levels

(4) Evaluate the technical feasibility of installing additional wells into the Jordan Sandstone aquifer,

(5) Evaluate the regulatory feasibility of installing additional wells into the Jordan Sandstone aquifer by estimating the impact of the new wells on surrounding wells and natural resources,

(6) Review known contaminant releases in the area and provide general input regarding how the proposed wells may be impacted by those releases.

The report will provide a brief discussion of the **Background** of the project followed by a section describing the **Groundwater Modeling** effort which will include discussion of the **Baseline Condition** used for comparison purposes. This will be followed by the actual **Well Field Evaluation,** which will be broken down into **Evaluation of Long Term Pumping** and **Impact on the Aquifer Source** which discusses allowable aquifer draw down as compared to what is predicted. Next the report will cover **Potential for Well Interference** with nearby existing wells which will be of particular interest to the Minnesota Department of Natural Resources (DNR) and may have significant implications on certain wells field locations, **Known Contaminant Release**, a section on **Evaluating Short Term Peak Pumping**, and a **Conclusion.**

2.0 Background

The City of Rosemount has seen a significant increase in development recently as have many metro area communities. The City is primarily residential and commercial along its western edge where all of it water system infrastructure, is currently concentrated. The Flint Hills Resources refinery (formerly Koch) is located along the City's north eastern edge and is a significant presence that affects water system planning. An additional feature affecting potential well locations in the City is the large tract of University of Minnesota property located in the southern part of the City. All of these were taken into account while preparing this study.

Until recently, the City operated six (6) municipal water supply wells including Well 3 (unique number 211999), Well 7 (unique number 112212), Well 8 (unique number 509060), Well 9 (unique number 554248), Rural Well 1 (unique number 457167, referred to as RW1), and Rural Well 2 (unique number 474335, referred to as RW2). In response to the growth noted above the City recently put Well 12 into service and will be putting Well 14 into service in the near future. All existing and proposed wells pump from the Jordan Sandstone aquifer. Well locations are shown on Figure 1. It is also our understanding that the City plans to remove Well 3 from service in the near future. Therefore, Well 3 was not including in the groundwater modeling done for this study.

The City's current permit with the Department of Natural Resources allows for an annual groundwater appropriation of 788 million gallons per year (MGY). Projections provided by WSB & Associates on behalf of the City (Table 1) indicate that at ultimate build-out the Rosemount municipal water system will provide an average off 12.78 million gallons per day (MGD) which translates to approximately 4.7 billion gallons per year (BGY). The projections also indicate that the ultimate peak day requirement will be 31.95 MGD. To meet these increased demands the City will need to appropriate additional water either from new wells or other sources.

The Minnesota Department of Natural Resources (MDNR) is responsible for managing the State's groundwater resources. John Greer of Barr Engineering spoke with Pat Lynch, MDNR Area Hydrologist for Dakota County, on July 14 regarding the City's planning efforts. Mr. Lynch was not aware of any water quantity issues or concerns at this time that could negatively impact the City's plans to expand the municipal water supply. Mr. Lynch did say that the MDNR prefers to increase groundwater appropriations incrementally and that they will look at a water supplier's conservation efforts when reviewing an application for an increased appropriation.

3.0 Groundwater Modeling

Barr Engineering evaluated three (3) proposed well field locations identified by WSB: two in the western portion of Rosemount and one in the eastern portion of Rosemount. Locations of these proposed well fields are shown on Figure 2. They are called Well Field One which is the southwest most field located near Well #12, Well Field Two which is located near Well #14 in the north central part of the City and Well Field Three which is the east most well field.

A MODFLOW finite difference model based on the Scott and Dakota Counties groundwater model prepared for the Minnesota Department of Health by Barr Engineering (Barr, 1999; 2001) was used to evaluate pumping from the Rosemount municipal wells in the Jordan Sandstone aquifer. This MODFLOW model does not include any aquifers below the Jordan Sandstone. Barr Engineering made modifications to the Scott and Dakota Counties groundwater model for this study in order to more accurately simulate the variation of bedrock surface topography and variations in aquifer hydraulic properties in the vicinity of Rosemount. The modeling pre- and post-processing package Ground Water Vistas (Rumbaugh and Rumbaugh, 2003) was used to facilitate preparation of the changes to the MODFLOW model and to process the modeling results.

In some areas of the Minneapolis-St. Paul metropolitan area, the Jordan Sandstone aquifer and the overlying Prairie du Chien Group aquifer are well connected hydraulically. Where these aquifers are hydraulically well connected pumping from a municipal water supply well in the Jordan Sandstone will have a measurable, and potentially significant, affect on the piezometric surface in the Prairie du Chien Group aquifer in the vicinity of the municipal well. Results of a pumping test conducted as part of the Rosemount wellhead protection area delineation work suggest that there is some leakage from the Prairie du Chien (Barr, 2002) into the Jordan Sandstone. There are private water supply wells in the vicinity of Rosemount that are completed in the Prairie du Chien Group aquifer. Since there is some leakage between the Prairie du Chien Group and Jordan Sandstone aquifers, the possibility that pumping in the Rosemount municipal wells could affect water levels in the private wells in the Prairie du Chien Group aquifer must be evaluated.

There are uncertainties associated with using the MODFLOW model to predict future drawdown. These uncertainties include regional hydraulic head fluctuations, unknown pumping in nearby Jordan Sandstone aquifer wells, and well inefficiency. In order to account for these uncertainties, a safety factor was used in the evaluation of modeling results. The safety factor is an attempt to minimize the chances of the piezometric head in the Jordan Sandstone aquifer being drawn below the top of the

aquifer if one of the modeled scenarios were to be implemented. A safety factor of 30 to 50 feet has been used in light of the transmissivity of the Jordan Sandstone aquifer. This safety factor also allows for variations in weather conditions such as a prolonged drought or additional drawdown from new pumping sources not included in this model.

4.0 Baseline Condition

In order to discuss drawdown created by the pumping of a proposed well a baseline condition must be determined. In this case baseline means the assumed static water level in each of the aquifers evaluated. This is significant because groundwater levels at a given location vary throughout any given year and from year to year because of a number of items including precipitation, and when it occurs, pumping from the aquifer and when it occurs, hot spells and when they occur. For the purposed of predicting drawdown in this project the baseline is assumed to be 2003 conditions, which is the last complete year for which data is available for surrounding pumping conditions. A related assumption is that the baseline condition did not cause problematic interference with nearby wells.

It follows then that the drawdown predicted by groundwater modeling in this report will be noted from the baseline piezometric conditions. For the Rosemount well field study, the baseline piezometric condition for the Jordan Sandstone aquifer is based on historically measured groundwater levels in nearby wells and the City's current permitted annual appropriation of 788 MGY. The baseline piezometric condition for the Jordan Sandstone was generated by first assigning a pumping rate of 50-gpm (approximately 26.3 MGY) each to Wells RW1 and RW2 and subtracting the total volume pumped by Wells RW1 and RW2 from the annual appropriation and then evenly distributing the remaining volume (approximately 762 MGY) among Wells 7, 8, 9, 12, and 14. For the baseline case, therefore, an average annual pumping rate of 280-gallons per minute (gpm) was applied to Wells 7, 8, 9, 12, and 14. Pumping rates for high capacity pumping wells in the area around Rosemount are assumed to be the 2003 water usage listed in the DNR's State Water Use Database (SWUDs) converted to a pumping rate. The hydraulic head distribution in the Prairie du Chien Group and Jordan Sandstone aquifers produced by the MODFLOW model under the baseline pumping conditions is shown on Figures 2 and 3 respectively. These head distributions were used as the initial or base line conditions to which all future pumping conditions will be compared.

5.0 Evaluation of Well Fields

As noted above three well fields were evaluated in this report. Well Field 1 is in the vicinity of Well 12 and the while Well Field 2 is in the vicinity of Well 14 (Figure 4). Well Field 3 is in the southeastern corner of Rosemount (Figures 4). For this evaluation, four wells (including Well 12) were placed in the Well Field1, seven wells (including Well 14) were placed in the Well Field 2, and eight wells were placed in Well Field 3 (Figure 4). Wells were sited no closer than 1,700 feet apart in Well Field 3 and no closer than 2,600 feet in Well Fields 1 and 2.

A preliminary evaluation of the western and eastern well fields was done by distributing projected 2020 pumping evenly among the existing and proposed wells and running the groundwater model in steady state mode. This represents the annual average impact the proposed wells will have on groundwater levels as compared to baseline conditions. Pumping from the municipal wells in the western and eastern portions of Rosemount were modeled separately. This was done to quickly identify any major problems (e.g., significant localized aquifer deficiencies or well interference) that would indicate that changes to either well or well field locations would be necessary. No problems were identified in the preliminary evaluation. Since this preliminary work did not include interaction of all the proposed wells it is not presented here. Results of the preliminary evaluation are available upon request.

5.1 Evaluation of Long Term Pumping

In order to evaluate the affect of long term pumping from existing and proposed Rosemount municipal wells the projected ultimate water demand (Table 1) was used. Since plans call for wells RW1 and RW2 to be used sparingly, if at all, in the future the pumping rates for these two wells was fixed at 50-gpm each. Based on the projected ultimate water demand provided by WSB, and accounting for the assumed pumping from wells RW1 and RW2, a pumping rate of 392-gpm was assigned to each of the 14 existing and proposed wells in the western part of Rosemount and a pumping rate of 411-gpm was assigned to each of the proposed wells in the eastern part of Rosemount. The model was then run in steady state mode.

5.2 Impact on Aquifer Source

As indicated on Figures 5 and 6, the model predicts a maximum drawdown of approximately 27 feet in the Prairie du Chien Group aquifer and approximately 40 feet in the Jordan Sandstone aquifer under the ultimate water demand pumping scenario. Note that these are modeled water levels in the

aquifers not the level in the pumped wells which would be lower yet depending on well efficiencies. There is 50 feet of available drawdown in the Prairie du Chien Group and 186 feet in the Jordan Sandstone aquifers. This includes a safety factor as discussed above meaning that even if you were to draw down the entire 50 feet of available drawdown in the Prairie du Chien the water level is still 30 to 50 feet above the top of the aquifer. Note that available drawdown is defined as the amount of drawn down available in the aquifer before the water level would drop below the top of the water bearing unit in which the measurement is made. When the predicted drawdown modeled is less than the available drawdown the modeled condition is acceptable. If the predicted drawdown exceeded what was available there is a possibility that the DNR would intervene to protect the affected resource aquifer.

The predicted drawdowns in the two aquifers are less than the available drawdowns. Thus, from the standpoint of stress on the aquifers, the model indicates that pumping to meet Rosemount's projected ultimate water demand likely would not have any long term adverse impact on either the Prairie du Chien Group or Jordan Sandstone aquifers. This means that the DNR would allow the aquifers to be pumped as modeled here without limitations placed on the pumping rates to protect the aquifer itself.

5.3 Potential for Well Interference

The locations of private wells in the vicinity of Rosemount taken from the Minnesota Geological Survey's County Well Index (CWI) are shown on Figures 5 and 6. The symbols are color-coded to indicate the aquifer in which each of the private wells is completed. Based on model results there are private wells completed in the Prairie du Chien Group and Jordan Sandstone aquifers in areas where the model predicts drawdown of more than 10 feet (Figures 5 and 6). This suggests that, depending on pump setting depths, the possibility exists for pumping to meet the City's ultimate water demand may adversely interfere with some private water supply wells in the vicinity of Rosemount. (It should be noted that the possibility of adverse interference with private wells in the vicinity of Rosemount exists under pumping to meet the projected 2020 water demand as well.) Should the MDNR agree with an interference complaint that pumping from the Rosemount municipal wells in the Jordan Sandstone aquifer results in degradation of performance of another owner's well then the City would be required to rectify the situation. The required response could range from lowering of a pump in the private well to drilling a new well for the owner with the work paid for by the City. Thus, potential well interference is something that should be considered as plans for municipal wells are developed.

The model predicts that drawdown from pumping in the existing and proposed Rosemount wells to meet the City's ultimate water demand will extend beyond the city limits into neighboring municipalities including Apple Valley, Coates, Eagan, Hastings, Inver Grove Heights, and Lakeville. These cities operate municipal water supply wells that pump from the Jordan Sandstone aquifer. Thus, it is possible that pumping in the Rosemount wells may adversely affect wells in one or more of these communities (and vice versa). Therefore, it is recommended that the City of Rosemount maintain communication channels with the neighboring communities regarding water use and plans for expansion of the municipal water systems with the goal of ensuring that all the municipalities can meet their water demands in the future.

5.4 Known Contaminant Release Sites

The locations of known contaminant release sites including leaking underground storage tanks (LUSTs) and non-storage tank release sites in the vicinity of Rosemount available from MPCA files are shown on Figure 13. No further remedial action is planned at some of these sites. Groundwater contamination (not necessarily in the Prairie du Chien Group or Jordan Sandstone aquifers) may have been or may still be associated with some of these release sites (this could include residual contaminant levels associated with sites where no further remedial action is planned). Historical boundaries of groundwater contaminant plumes (generally in or above the Prairie du Chien Group aquifer) from industrial properties in the northeastern portion of Rosemount as well as from a source on property owned by the University of Minnesota in the southern portion of Rosemount are also shown on Figure 13.

Under the ultimate water demand pumping scenario, the groundwater model was used to identify the areas from which groundwater is predicted to flow to existing or proposed Rosemount municipal wells in 10 years or less. These predicted 10-year groundwater time of travel zones, or 10-year capture zones, are shown on Figure 13. While the predicted 10-year capture zones do not intersect the historical groundwater contaminant plume boundaries they do encompass some of the known contaminant release site locations.

In addition to this a meeting was held with the MPCA to discuss Rosemount's planned well field expansions and the potential they may have to impact or be impacted by contaminant releases and groundwater contaminant plumes. Additional information related to that meeting and the resulting proposed course of action that the City should take when siting wells in the future is included as Appendix 1 at the end of this report.

5.5 Evaluation of Short Term Peak Pumping

The effect of short term peak pumping from the existing and proposed Rosemount municipal wells was also evaluated. This evaluation was done by running the model in transient mode with three pumping periods to simulate one full year of pumping at ultimate build out pumping rates. The first pumping period represents pumping from January, Day zero, to mid summer, Day 180, at average annual pumping rates. The second pumping period, the peak demand period, represents an 18 day stretch from day 181 to day 199 where all wells are running continuously to meet demand. The third pumping period represents the return to normal pumping for the remainder of the year, Day 200 to day 365.

In the second pumping period (i.e., the peak pumping period) wells in the western well fields were assigned a pumping rate of 953-gpm and wells in the eastern well field were assigned a pumping rate of 1027-gpm. These rates are based on the projected ultimate peak day demands provided to Barr Engineering by WSB (Table 1). The length of the peak pumping period was set at 18 days based on information provided by WSB. Wells RW1 and RW2 were assigned a pumping rate of 50-gpm in all three pumping periods.

The results of this modeling exercise are depicted on Figures 7 through 12. Figures 7 - 9 represent the drawdowns predicted in the Prairie du Chien aquifer while Figures 10 – 12 represent drawdowns in the Jordan aquifer. Figures 8 and 11 show the impacts of the peak pumping period. Predicted drawdowns in the Prairie du Chien Group and Jordan Sandstone aquifers at the end of each of the pumping periods are within the predicted available drawdowns in the aquifer. However, the predicted drawdowns do indicate that there would be the possibility of adverse well interference under this ultimate peak pumping scenario.

6.0 Conclusions

Based on the water use projections and other information provided by WSB, the modeling done for this study suggests that it is technically feasible for the City to obtain sufficient water from the Jordan Sandstone aquifer using existing and proposed wells to meet both the projected ultimate average day and peak day water demand. Wells can be sited in proposed Well Fields 1, 2, and 3 as planned by the City. Siting them in these locations does not draw down water levels below the top of the aquifer. Modeling suggested that the ultimate average and peak day demands could be met by siting three additional wells in Well Field 1 near Well 12, six additional wells in Well Field 2 near Well 14 and eight new wells in Well Field 3. Wells should never be sited closer than 1,700 to 1,900 feet apart in Well Field 3 and no closer than 2,600 to 2,800 feet apart in the Well Fields 1 and 2 in order to limit potential localized interference. Wells spaced closer than this may result in unacceptable interference between each other and have negative impacts on well capacity. From a regulatory stand point no conditions were encountered that would make using the Jordan aquifer as a source a significant problem, however, the modeling results did indicate that there is a potential for adverse well interference with private and possibly other municipal wells in the vicinity of Rosemount. The DNR will get involved in well inference complaints and work with you to make sure that corrections are made to the wells that are negatively impacted by those you install. If planned for, the potential interference can be dealt with in the normal course of planning out your water system by adding the impacted properties to your system or modifying their wells as needed. Finally, some of the ten year capture zones for the proposed wells do encompass known release sites. None encompassed the large known contaminant plumes originating in south central or northeast Rosemount. The City should follow the procedures recommended in Appendix 1 each time they site a new well to make sure that potential contamination sources are identified and planned for in the well design and construction process.

7.0 References

Barr Engineering Company (Barr), 1999. Scott-Dakota Counties Groundwater Flow Model. Prepared for the Minnesota Department of Health. October, 1999.

Barr Engineering Company (Barr), 2001. Scott-Dakota Counties Groundwater flow Model Update, prepared for Minnesota Department of Health, March 2001.

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Rumbaugh, J.O. and D.B. Rumbaugh, 2003. Guide to Using Groundwater Vistas – Version 4, Environmental Simulations Inc.

Tables

Table 1

Projected Water Usage for the City Service Area
City of Rosemount, Minnesota

Total of All Well Fields

Year	Projected Total Average Daily Use	Projected Peak Day Demand (2.5xavg.)
	MGD	MGD
2005	2.09	5.23
2006	2.64	6.59
2007	3.19	7.99
2008	3.77	9.41
2009	4.31	10.77
2010	4.85	12.14
2011	5.21	13.02
2012	5.56	13.90
2013	5.91	14.78
2014	6.26	15.66
2015	6.62	16.54
2016	6.85	17.12
2017	7.08	17.70
2018	7.31	18.27
2019	7.54	18.85
2020	7.77	19.43
2021	8.04	20.10
2022	8.31	20.76
2023	8.57	21.43
2024	8.84	22.10
2025	9.11	22.77
Ultimate	***12.78***	***31.95***

Western Well Fields

Year	Projected Total Average Daily Use	Projected Peak Day Demand (2.5xavg.)
	MGD	MGD
2005	1.99	4.97
2006	2.38	5.95
2007	2.79	6.96
2008	3.20	8.01
2009	3.59	8.98
2010	3.99	9.97
2011	4.21	10.52
2012	4.43	11.07
2013	4.65	11.62
2014	4.87	12.17
2015	5.09	12.72
2016	5.09	12.73
2017	5.10	12.75
2018	5.11	12.77
2019	5.11	12.78
2020	5.12	12.80
2021	5.12	12.80
2022	5.12	12.80
2023	5.12	12.80
2024	5.12	12.80
2025	5.12	12.80
Ultimate	***8.05***	***20.12***

Eastern Well Field

Year	Projected Total Average Daily Use	Projected Peak Day Demand (2.5xavg.)
	GPD	MGD
2005	0.10	0.26
2006	0.26	0.64
2007	0.41	1.02
2008	0.56	1.41
2009	0.71	1.79
2010	0.87	2.17
2011	1.00	2.50
2012	1.13	2.83
2013	1.27	3.16
2014	1.40	3.49
2015	1.53	3.83
2016	1.75	4.39
2017	1.98	4.95
2018	2.20	5.51
2019	2.43	6.07
2020	2.65	6.63
2021	2.92	7.30
2022	3.19	7.97
2023	3.45	8.64
2024	3.72	9.31
2025	3.99	9.97
Ultimate	***4.73***	***11.83***

Appendix 1

Approach to Future Well Siting, File Memorandum

BARR

Internal Memorandum

To: File

From: Eric Dott, P.G., Senior Hydrogeologist

Subject: Approach to Future Well Siting

Date: October 26, 2005

Project: 23/19-927-JCG

c: John Greer

The purpose of this memorandum is to summarize our recommended approach for evaluating and managing future well sites for potential groundwater contamination concerns, with the objective of managing the City's environmental liability risks and managing health risks. Our recommended approach is based in part on the discussions we had with Minnesota Pollution Control Agency (MPCA) staff from the Voluntary Investigation and Cleanup (VIC) program and the Attorney's General staff.

The primary groundwater contamination concern in the area of focus is the presence of at least one known chlorinated solvent plume emanating from the former University of Minnesota Rosemount Agricultural Research Center, located in south-central Rosemount. The identified plume has been reported by Delta Environmental Consultants, Inc. (2002) to migrate with the regional water table aquifer flow toward the northeast, where it presumably discharges to the Mississippi River. Throughout the eastern portion of the area of focus, the water table is approximately 35 to 75 feet below ground surface within sand and gravel glacial outwash deposits.

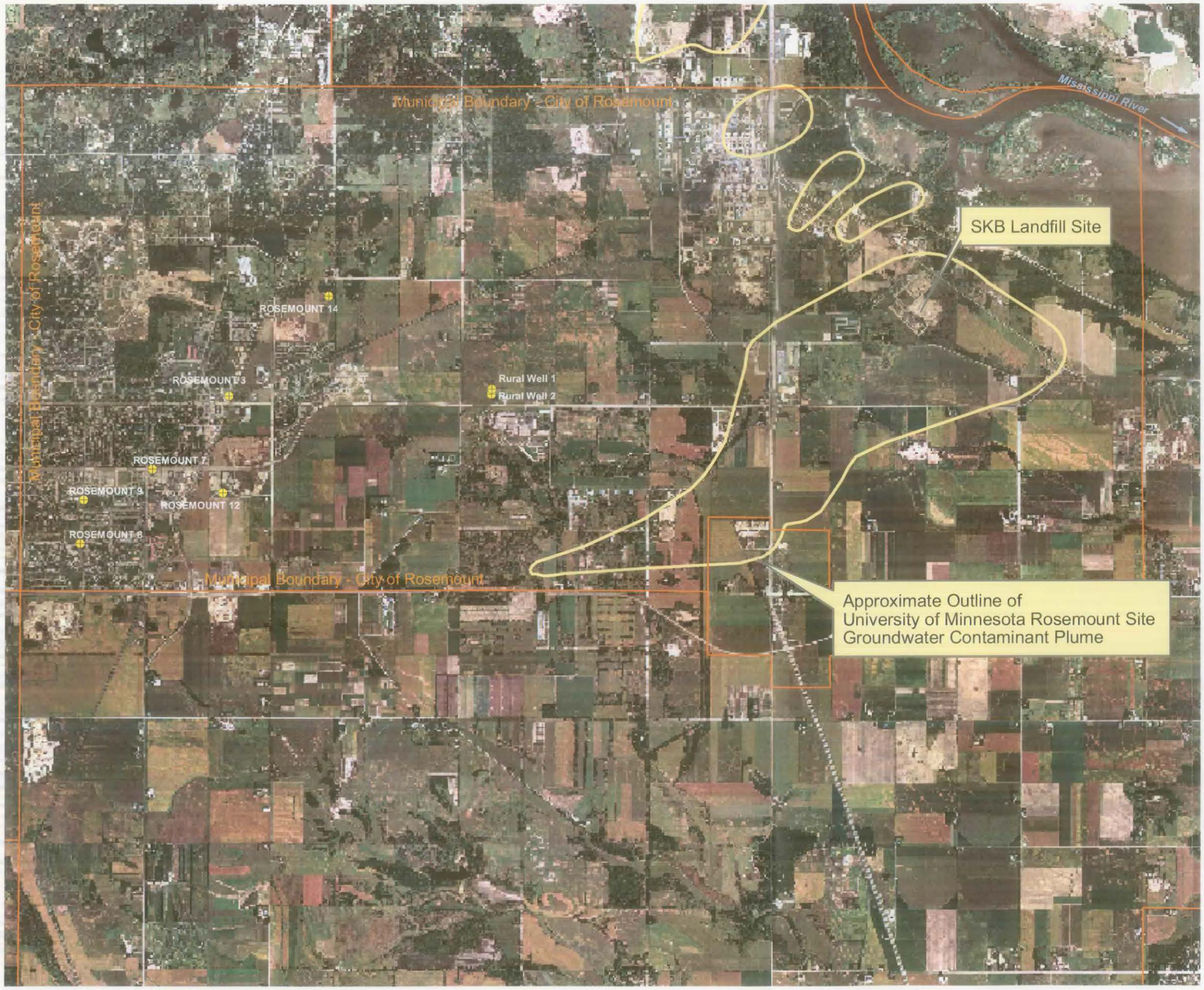
Other release sites have been identified in the areas where wells are planned so sources of potential shallow groundwater contamination may be present in the area of focus, however, the information available at this time suggests that the other known sites are likely to be current or former petroleum storage tank sites such as gas stations or individual tank installations (farm stead storage tanks). By the nature of petroleum contamination, such impacts to groundwater tend to be focused at the water table interface and/or are limited to a shallow dissolved-phase plume. Furthermore, petroleum impacts tend to experience significant natural attenuation when conditions are sufficient for microbial and other physical degradation or attenuation processes to occur. Consequently, the type of contamination of significance to locating and designing new water supply wells in this area, is contaminant releases that have the potential to result in a plume migrating significant distances (farther than 0.25 miles) and/or contaminants that might have a tendency to sink through aquifer material (i.e. more dense than water). With these considerations in mind we have developed the following recommended approach for evaluating the potential for significant groundwater contamination to be present or to be within the proposed area of influence.

Based on our discussions with VIC staff, we recommend the following approach to evaluating future water supply well locations:

1. Identify a potential water supply well location with in the area of focus.
2. Perform a Phase I Environmental Assessment of the area of encompassed by a modeled ten year capture zone of the proposed well.
3. If potential sources of contaminated groundwater are present within the ten year capture zone- either relocate the proposed well or evaluate the treatability of the contaminants present- if not treatable then relocate the proposed well;
4. If the suspected contaminant(s) are believed to be treatable and the City is willing to construct and operate such a treatment system- gather groundwater data by installing a small diameter sampling well at the proposed well site.
5. If no detectable contamination is found; proceed with well design.
6. If contamination is detected (i.e. an "identified release") and the City still wants to install a well at this location seek VIC program assistance.
7. Perform a pumping test and include groundwater quality testing at key observation wells and from the pumped well.
8. Using a groundwater flow model of the area, evaluate whether a significant plume is influenced or captured by the proposed pumping.
9. If a groundwater contaminant plume will be intercepted or otherwise affected by the planned well installation- obtain assurances and/or technical review assistance from the VIC program. Note that this assistance is not free and the City will be billed at the hourly VIC rate for MPCA involvement (current rate as of the date of this report is $150/hour).
10. Evaluate the need to mitigate risks or impacts that may be caused by planned water supply extraction- this may include development of an operational contingency plan and possibly a groundwater quality monitoring program for implementation during initial operation of the supply well.
11. If appropriate, obtain a letter of no association from the MPCA. Ultimately, the City will only be able to get a no association letter if contamination is found on the actual site they intend to purchase. If the issue is potential impact to a plume, you should attempt to obtain a letter from them documenting the plan for mitigating the impacts and noting that you are not the party responsible for generating the plume in the first place.

Reference

Delta Environmental Consultants, Inc. 2002. *2001-2002 Groundwater Monitoring Results: University of Minnesota Rosemount Research Center, Rosemount, Minnesota*. Prepared for Mr. David Douglas, MPCA, February 28, 2002.



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Feet

Approximate Historical GroundwaterContaminant Plume Areas

Existing Rosemount Municipal Well

Figure 1

APPROXIMATE GROUNDWATER
CONAMINANT PLUME AREA
City of Rosemount, Minnesota

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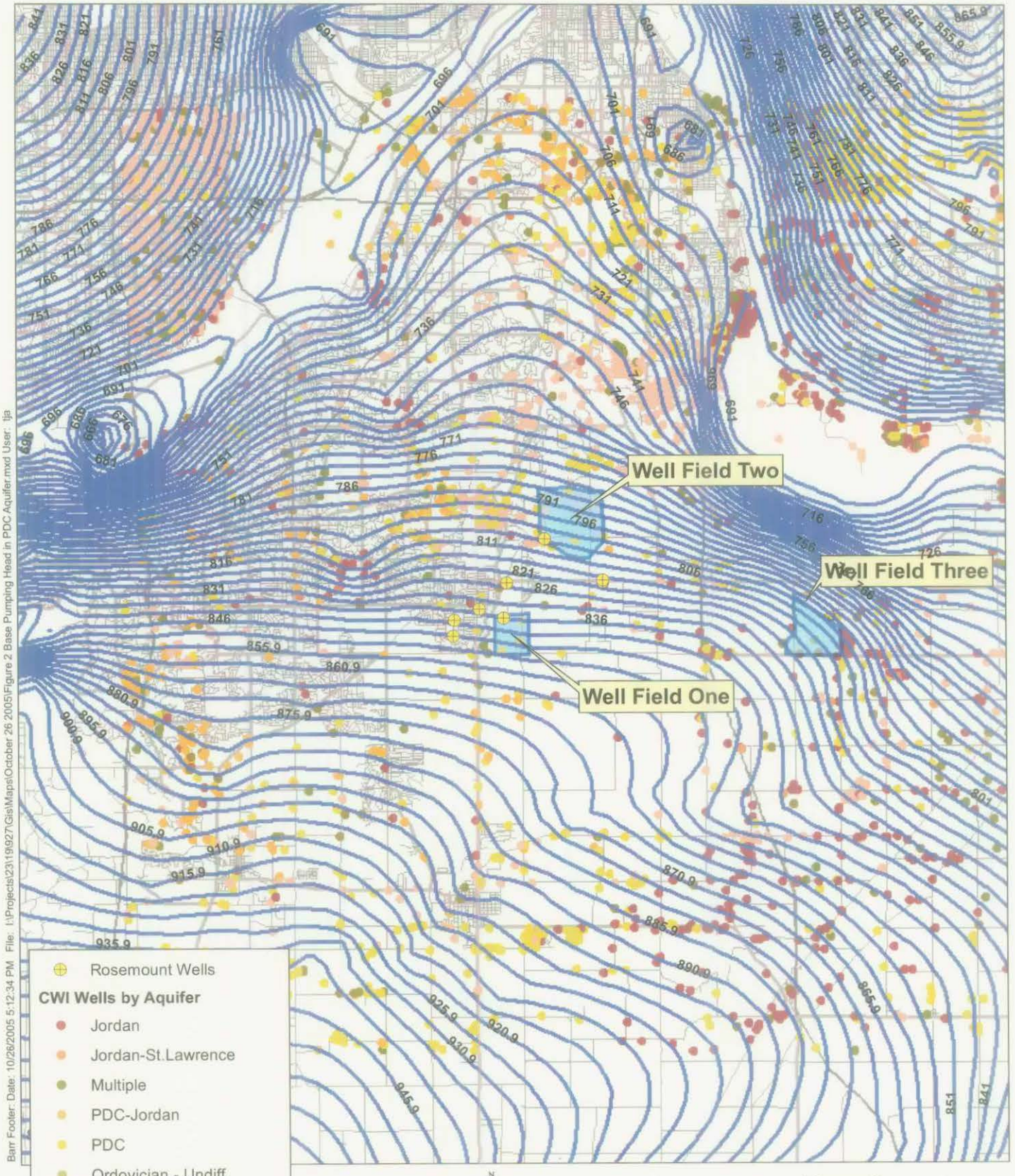
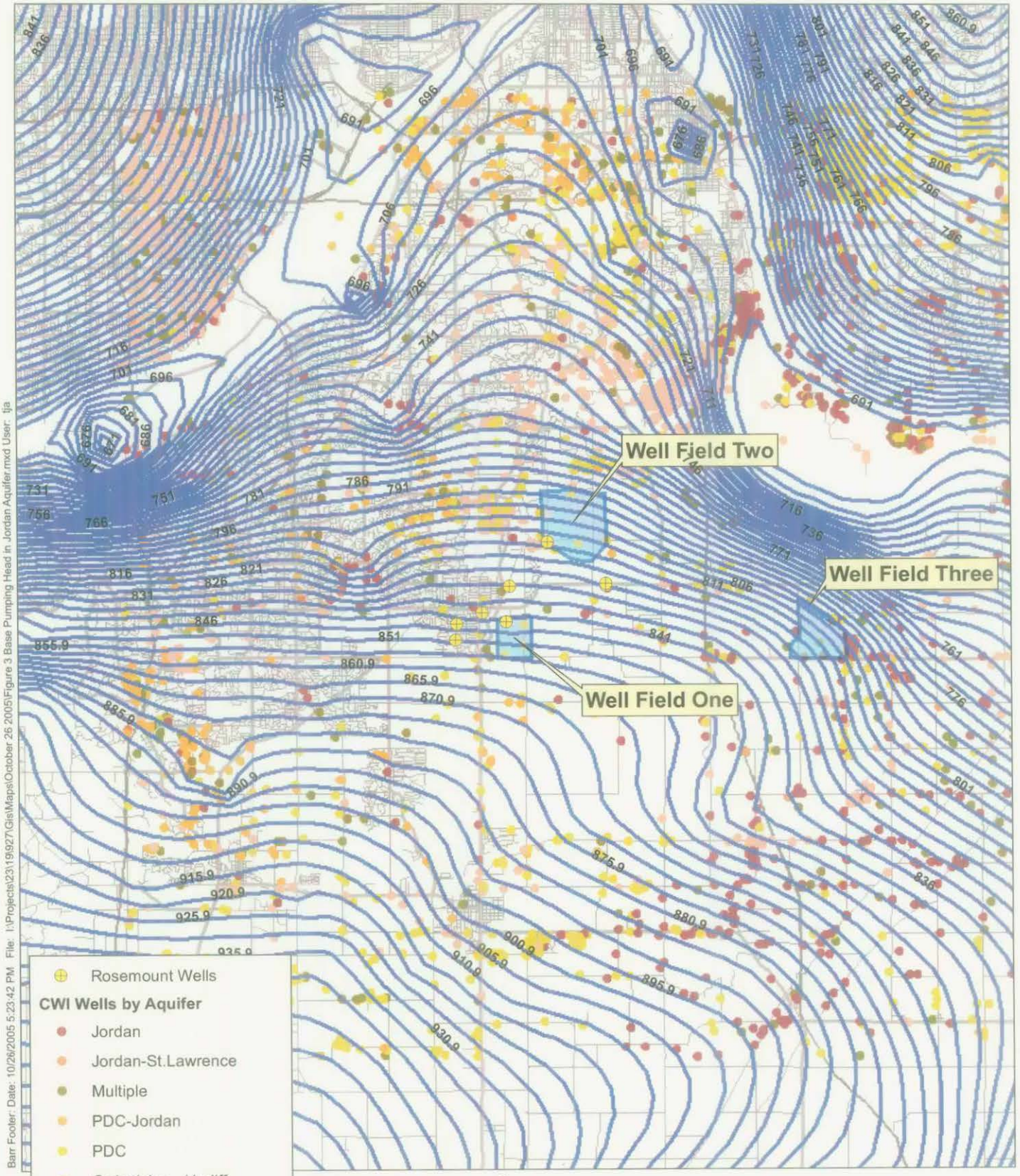


Barr Footer: Date: 10/26/2005 5:12:34 PM File: I:\Projects\23\19927\Gis\Maps\October 26 2005\Figure 2 Base Pumping Head in PDC Aquifer.mxd User: tja

Figure 2
Base Pumping Head in PDC Aquifer
(based on SWUDS Appropriation)
Wells at 280 gpm
(RR1 and RR2 at 50 gpm)

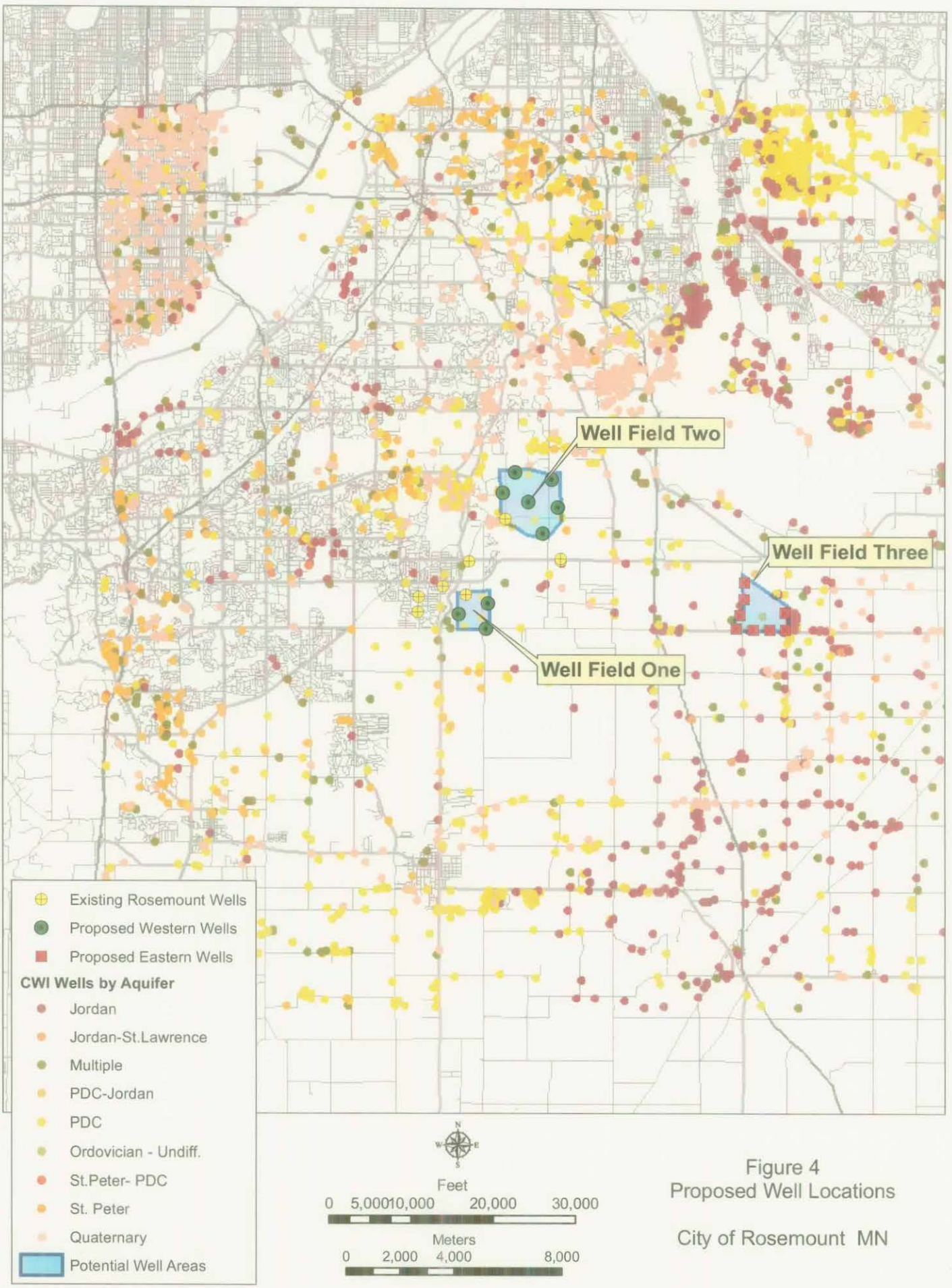
City of Rosemount MN



Barr Footer: Date: 10/26/2005 5:23:42 PM File: I:\Projects\23\19927\Gis\Maps\October 26 2005\Figure 3 Base Pumping Head in Jordan Aquifer.mxd User: tja

Figure 3
Base Pumping Head inJordan Aquifer
(based on SWUDS Appropriation)
Wells at 280 gpm
(RR1 and RR2 at 50 gpm)

City of Rosemount MN



Barr Footer: Date: 10/26/2005 5:30:59 PM File: I:\Projects\23\19\927\Gis\Maps\October 26 2005\Figure 4 Proposed Well Locations.mxd User: tja

Figure 4
Proposed Well Locations

City of Rosemount MN

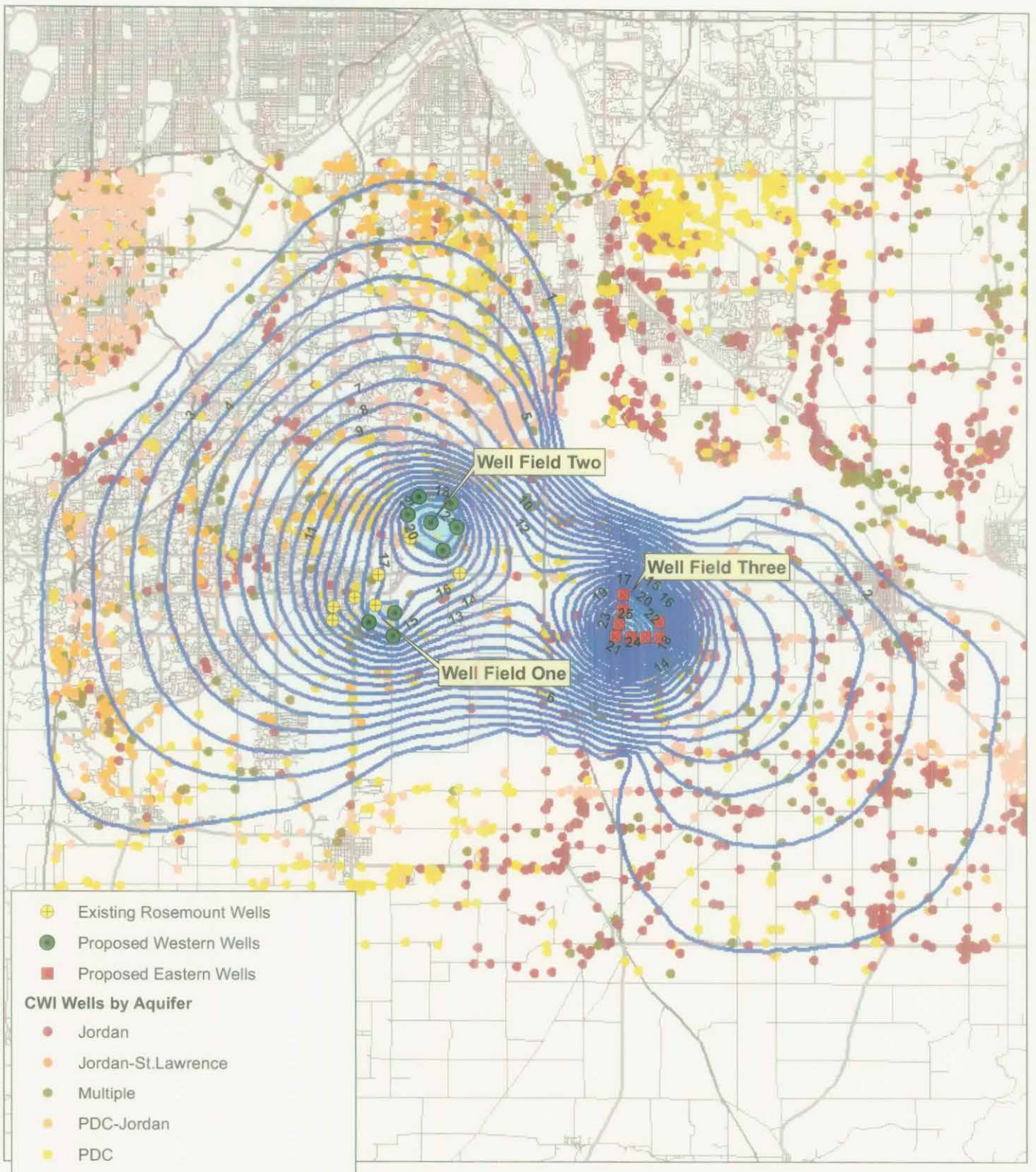
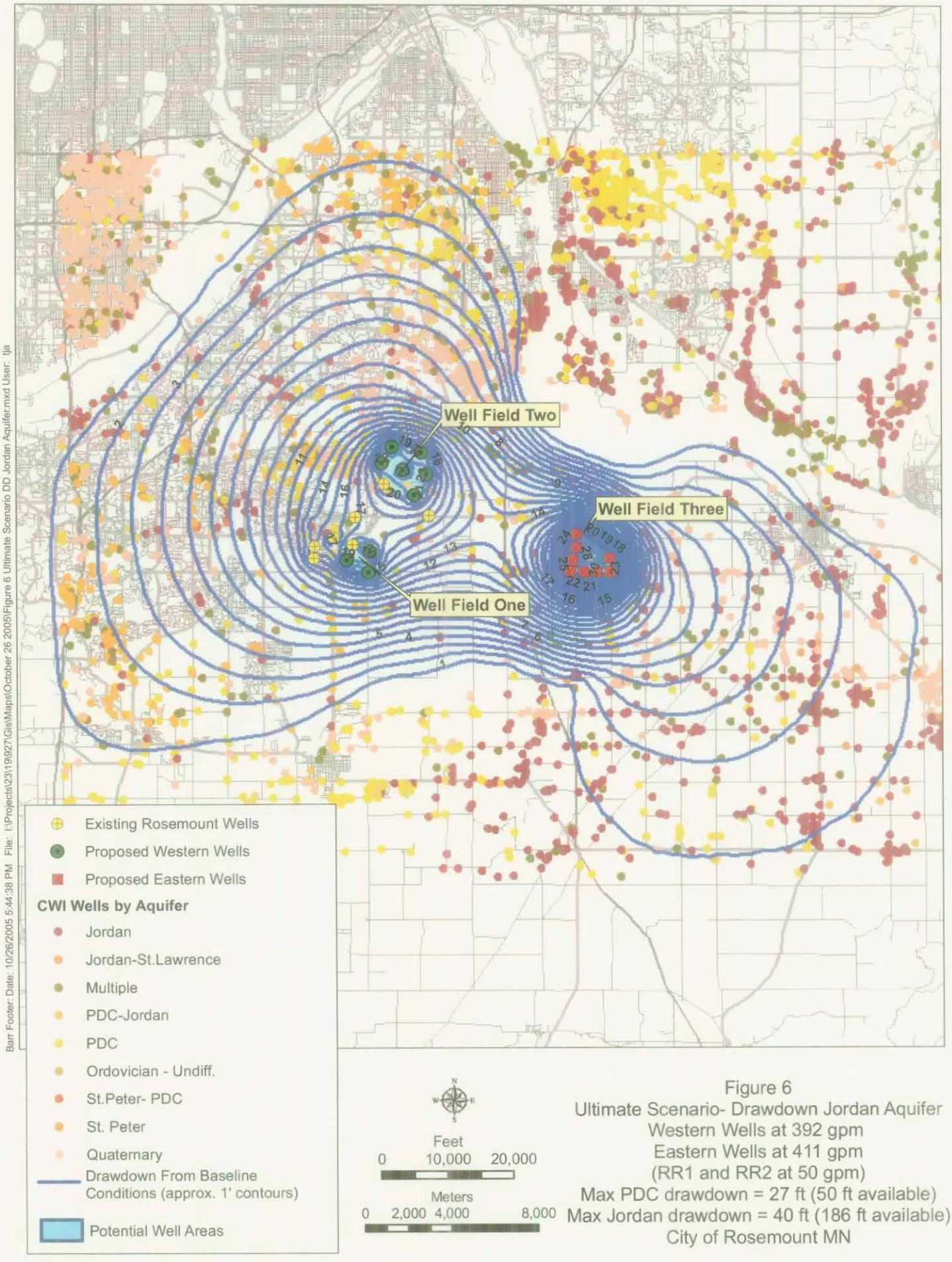


Figure 5
Ultimate Scenario- Drawdown PDC Aquifer
Western Wells at 392 gpm
Eastern Wells at 411 gpm
(RR1 and RR2 at 50 gpm)
Max PDC drawdown = 27 ft (50 ft available)
Max Jordan drawdown = 40 ft (186 ft available)
City of Rosemount MN



Barr Footer: Date: 10/26/2005 5:44:38 PM File: I:\Projects\23\19\927\Gis\Maps\October 26 2005\Figure 6 Ultimate Scenario DD Jordan Aquifer.mxd User: tja

Figure 6
Ultimate Scenario- Drawdown Jordan Aquifer
Western Wells at 392 gpm
Eastern Wells at 411 gpm
(RR1 and RR2 at 50 gpm)
Max PDC drawdown = 27 ft (50 ft available)
Max Jordan drawdown = 40 ft (186 ft available)
City of Rosemount MN

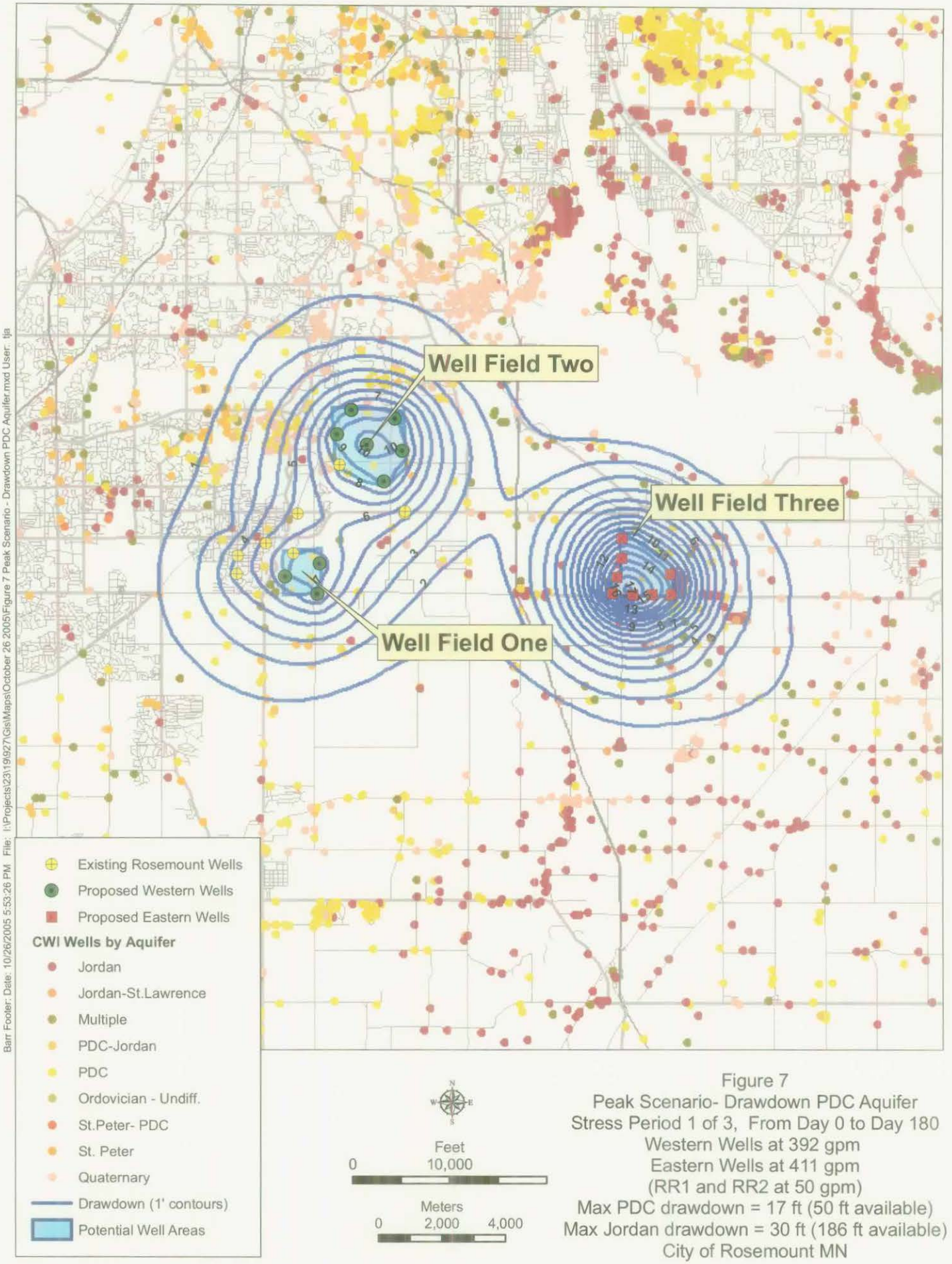


Figure 7
Peak Scenario- Drawdown PDC Aquifer
Stress Period 1 of 3, From Day 0 to Day 180
Western Wells at 392 gpm
Eastern Wells at 411 gpm
(RR1 and RR2 at 50 gpm)
Max PDC drawdown = 17 ft (50 ft available)
Max Jordan drawdown = 30 ft (186 ft available)
City of Rosemount MN

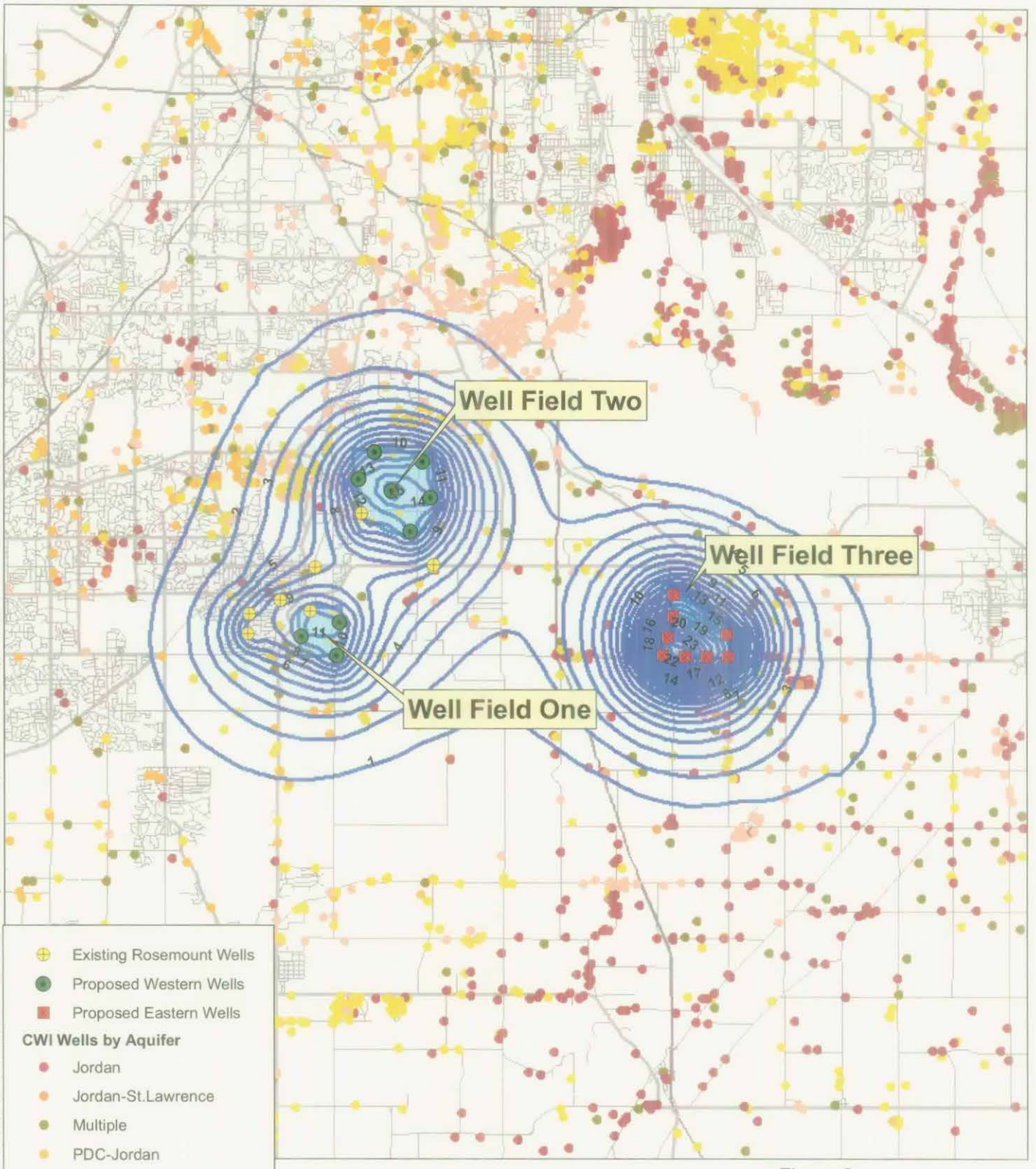
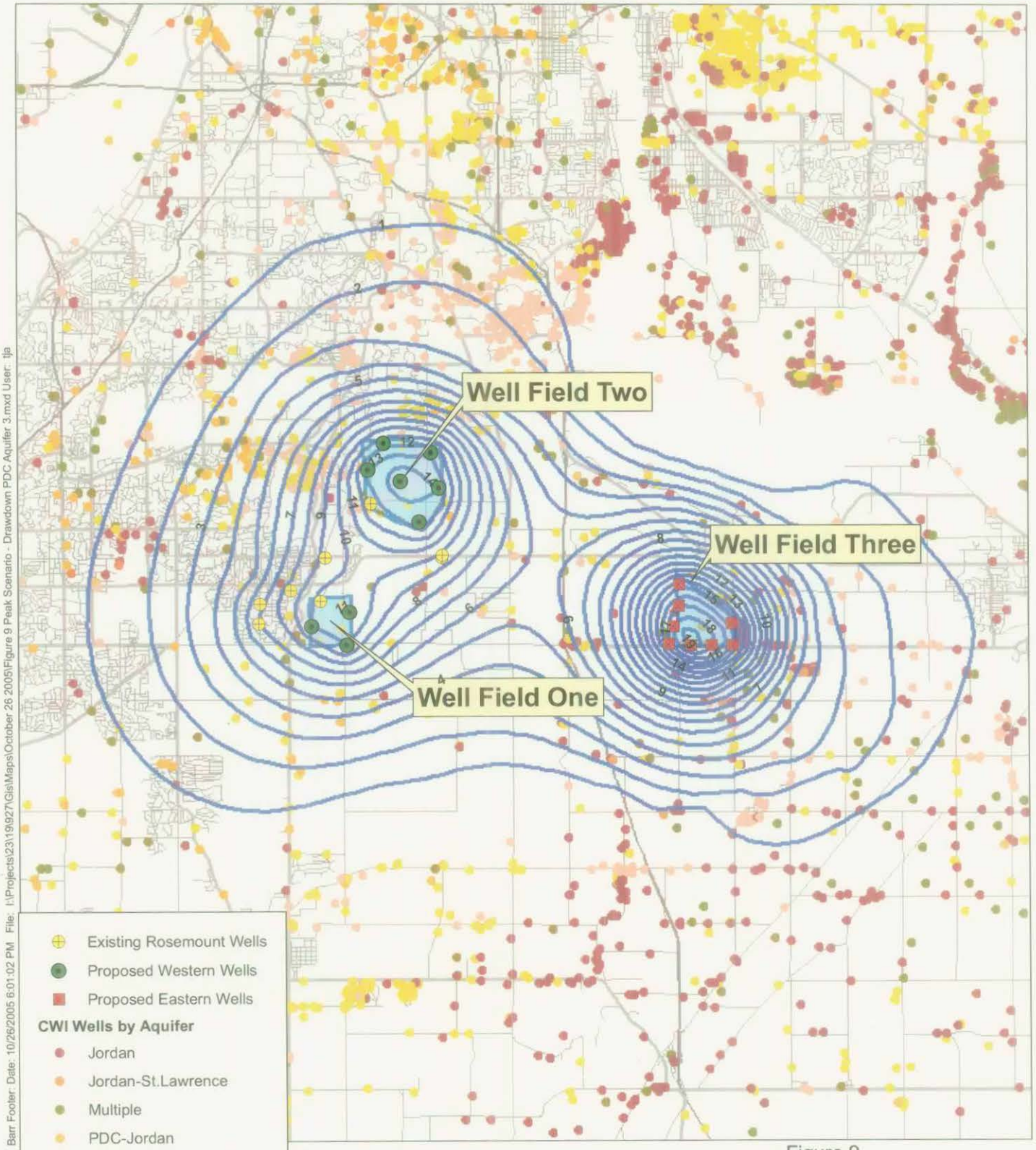
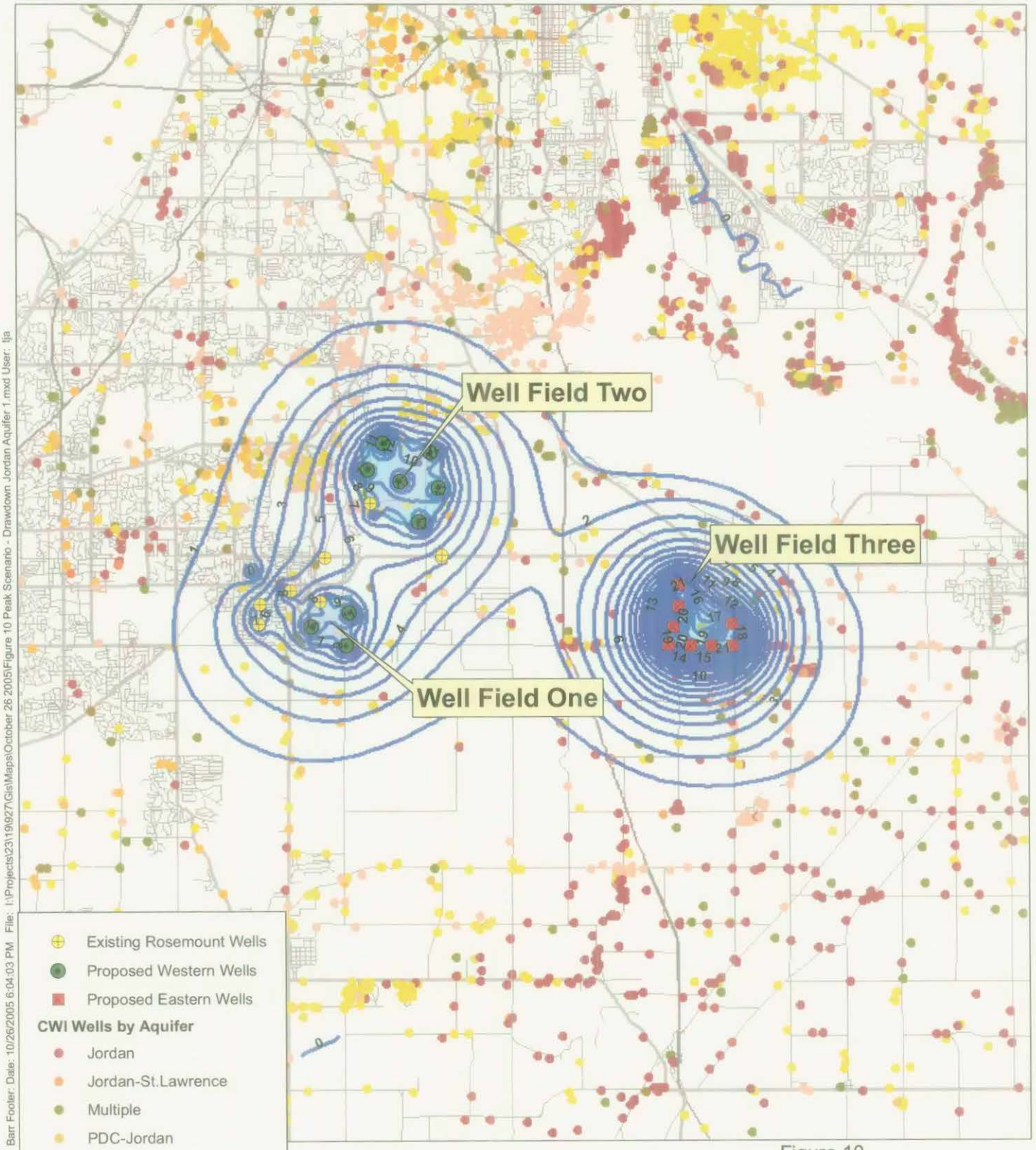


Figure 8
Peak Scenario- Drawdown PDC Aquifer
Stress Period 2 of 3, 18 Days Long
From Day 181 to Day 199
Western Wells at 953 gpm
Eastern Wells at 1027 gpm
(RR1 and RR2 at 50 gpm)
Max PDC drawdown = 26 ft (50 ft available)
Max Jordan drawdown = 58 ft (186 ft available)
City of Rosemount MN



Barr Footer: Date: 10/26/2005 6:01:02 PM File: I:\Projects\23\19.927\Gis\Maps\October 26 2005\Figure 9 Peak Scenario - Drawdown PDC Aquifer 3.mxd User: tja

Figure 9
Peak Scenario- Drawdown PDC Aquifer
Stress Period 3 of 3
From Day 200 to Day 365
Western Wells at 392 gpm
Eastern Wells at 411 gpm
(RR1 and RR2 at 50 gpm)
Max PDC drawdown = 20 ft (50 ft available)
Max Jordan drawdown = 33 ft (186 ft available)
City of Rosemount MN



Barr Footer: Date: 10/26/2005 6:04:03 PM File: I:\Projects\23\19927\Gis\Maps\October 26 2005\Figure 10 Peak Scenario - Drawdown Jordan Aquifer 1.mxd User: tja

Figure 10
Peak Scenario- Drawdown Jordan Aquifer
Stress Period 1 of 3
From Day 0 to Day 180
Western Wells at 392 gpm
Eastern Wells at 411 gpm
(RR1 and RR2 at 50 gpm)
Max PDC drawdown = 17 ft (50 ft available)
Max Jordan drawdown = 30 ft (186 ft available)
City of Rosemount MN

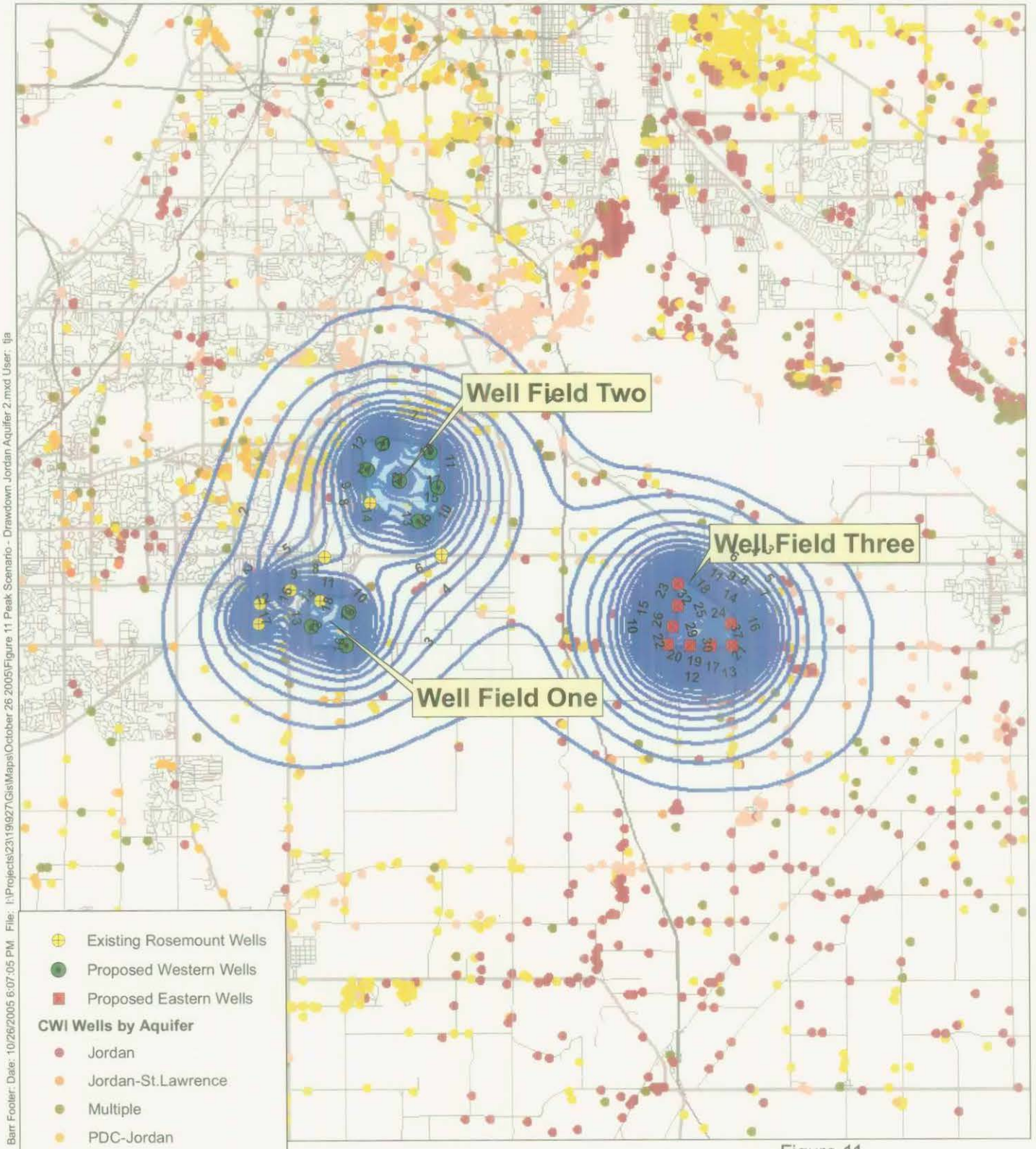
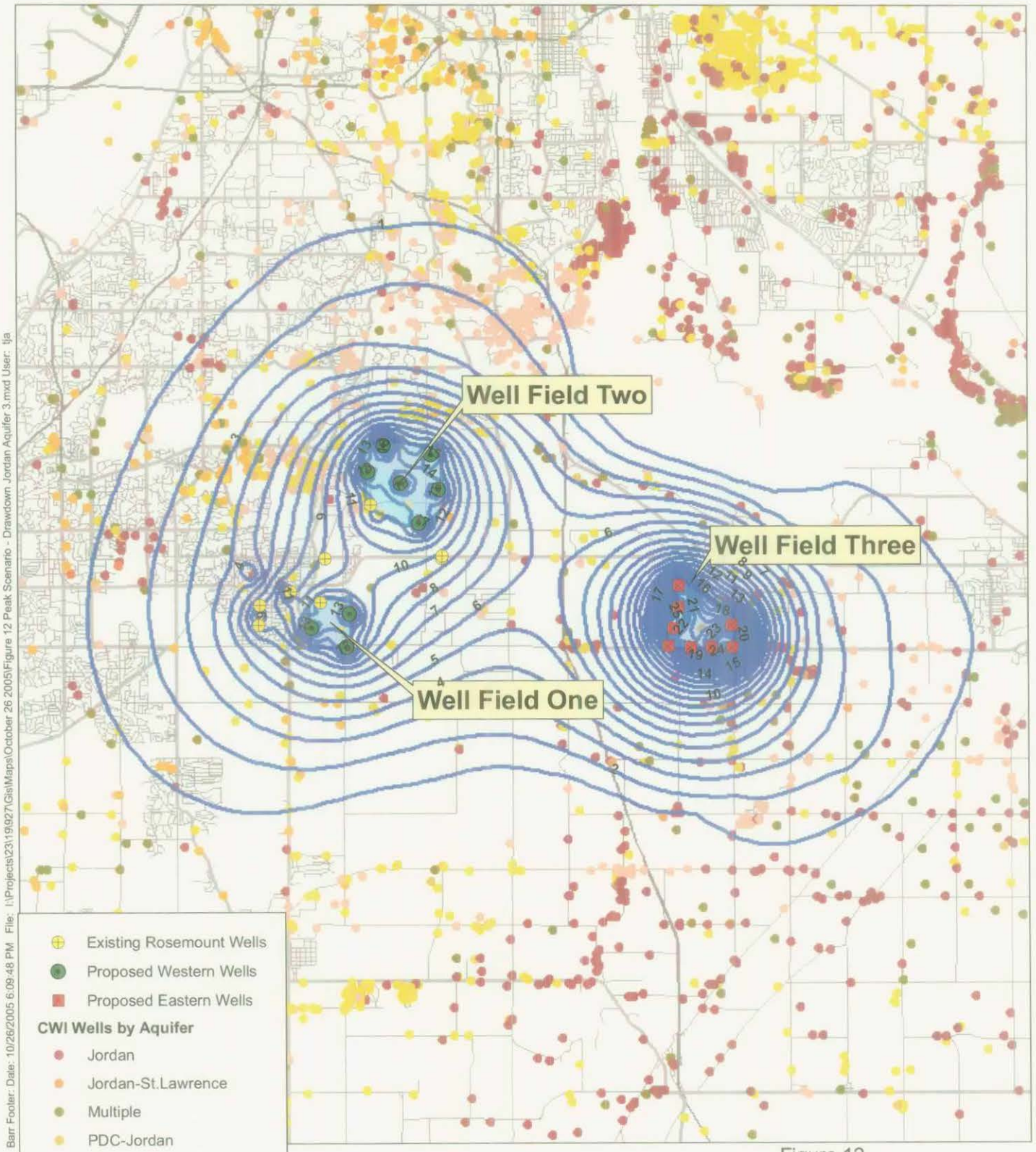
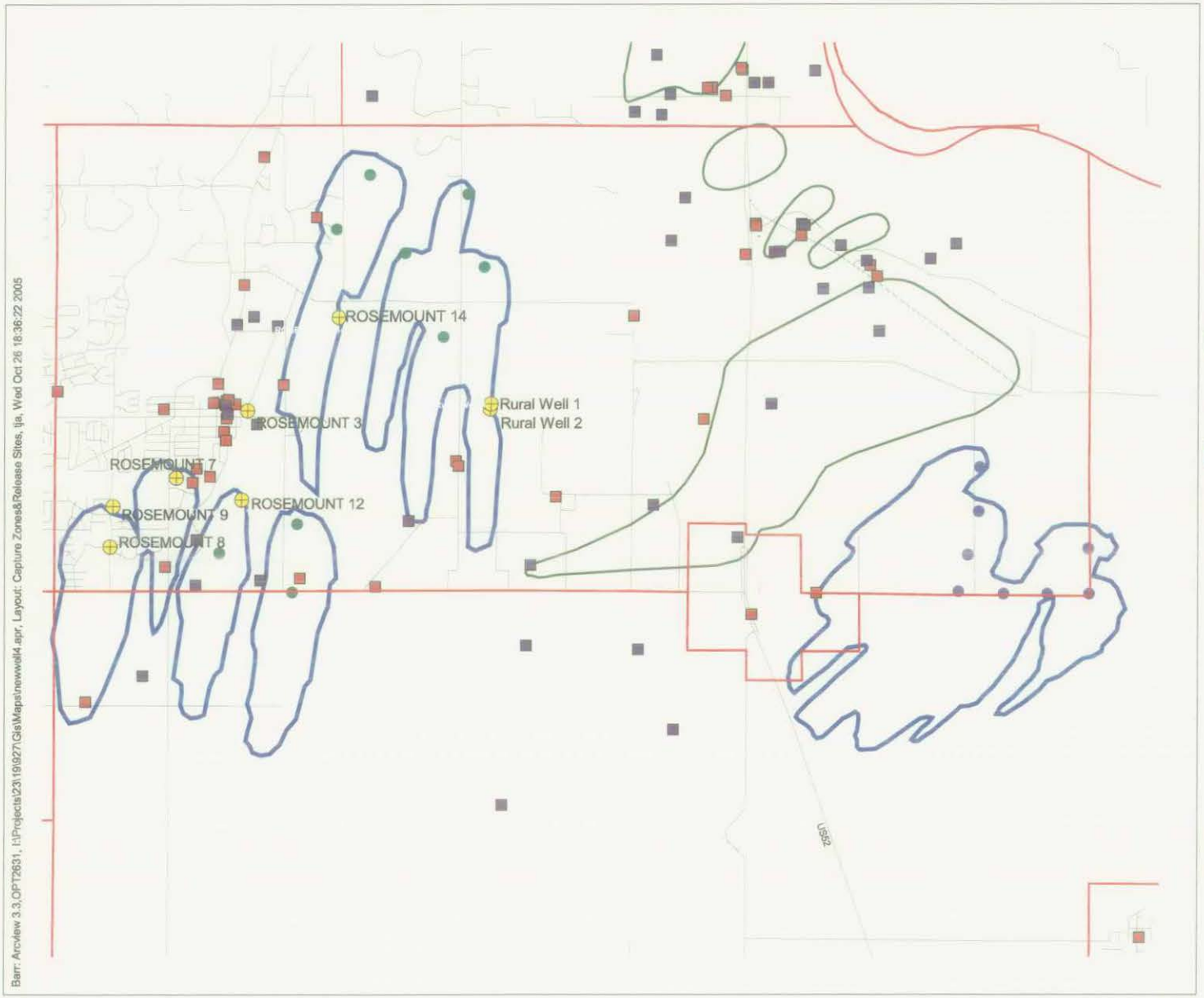


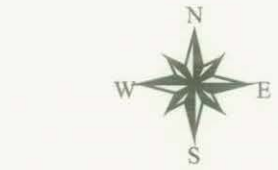
Figure 11
Peak Scenario- Drawdown Jordan Aquifer
Stress Period 2 of 3, 18 Days Long
From Day 181 to Day 199
Western Wells at 953 gpm
Eastern Wells at 1027 gpm
(RR1 and RR2 at 50 gpm)
Max PDC drawdown = 26 ft (50 ft available)
Max Jordan drawdown = 58 ft (186 ft available)
City of Rosemount MN



Barr Footer: Date: 10/26/2005 6:09:48 PM File: I:\Projects\23\19927\Gis\Maps\October 26 2005\Figure 12 Peak Scenario - Drawdown Jordan Aquifer 3.mxd User: tja

Figure 12
Peak Scenario- Drawdown Jordan Aquifer
Stress Period 3 of 3
From Day 200 to Day 365
Western Wells at 392 gpm
Eastern Wells at 411 gpm
(RR1 and RR2 at 50 gpm)
Max PDC drawdown = 20 ft (50 ft available)
Max Jordan drawdown = 33 ft (186 ft available)
City of Rosemount MN





0.5 0 0.5 1 1.5 Miles

- Non-LUST Contaminant Release Site
- LUST Site
- Historical Groundwater Contaminant Plume
- Proposed Eastern Wellfield Well
- Existing Rosemount Municipal Well
- Proposed Western Wellfields Well
- 10-yr Capture Zone: Ultimate Pumping Scenario

Figure 13

ULTIMATE PUMPING SCENARIO 10-YR CAPTURE ZONES AND IDENITIFIED CONTAMINANT RELEASE SITES AND GROUNDWATER CONAMINANT PLUMES
City of Rosemount, Minnesota

BARR