8. WASTEWATER ELEMENT

Section 1: Sanitary Sewer Component:

In 2004 the City of Ramsey completed a Comprehensive Sanitary Sewer Study which was prepared by consulting engineers Bolton & Menk, Inc. and has been reviewed and approved by the Metropolitan Council. This report identified the ultimate sanitary sewer flows for the City. The City of Ramsey is considered by Metropolitan Council to be a "Developing Community" and as such is presently allowed to extend sanitary sewer service anywhere within MWCC Sanitary Sewer District 3 boundary (south of Trott Brook). The current extent of the sewered area is now adjacent to Trott Brook and revised land use plans require its extension to the remaining portion of the City. The City's current wastewater flow allocation is 3.8 million gallons per day (mgd).

The Inflow and Infiltration (I/I) goal established for the City of Ramsey varies based on annual average flow for each connection point to the Metropolitan Disposal System (MDS). The Metropolitan Council's metering program shows that the City's 2004 annual average flow at meter M302 was 0.46 mgd. The current I/I goal for the City of Ramsey at this point is an allowable peak hourly flow of 1.61 mg. The 2004 annual flow at meter M304 was 0.17 mgd. The current I/I goal for Ramsey at this point is an allowable peak hourly flow of 0.66 mgd.
The City continues to monitor the integrity of its Sanitary Sewer infrastructure. One third of the Sanitary Sewer system is cleaned each year while one tenth is televised. The City invested in a new Sewer Vac truck in 2009. The City does not have an ordinance that prohibits the connection of sump pump, rain leaders, or passive drain tile from the sanitary sewer system. The City of Ramsey has adopted the Minnesota State Building Code, which states that drainage systems shall discharge into an approved sewer system or to daylight (§R405.2.3) and storm sewer systems shall not drain into sewers intended for sanitary sewage only (§4715.2700). The City of Ramsey interprets that these systems must drain to daylight only unless storm sewer is available on-site. The City of Ramsey will explore the need for such ordinances if it is determined the City is not meeting the established I/I goal.

The Comprehensive Sanitary Sewer Study completed by Bolton & Menk Inc. is incorporated to this Plan as Appendix B, Comprehensive Sanitary Sewer Plan. Household, population, and employment forecasts can be found on Table 4-2 on page 4-3 and in Chapter 5 on pages 5-34 through 5-39. Revised sanitary sewer flow projections based on the revised Future Land Use Map are included as Exhibit 8:1 of this Chapter. The flow assumptions for calculating sanitary sewer flow are as follows:

Description	**Factor**
Gallons per Person per Day	75.0
Flow Variation Factor	2.5 to 4.0
People per Unit	3.0
Flow per unit	225
Employees per Acre	20
Commercial/Industrial Flow per Acre	1,500

According to the Metropolitan Council, regional capacity for North Trott Brook Sewer District can be provided through the existing Regional Disposal System by system capacity improvements. Therefore, a future Regional waste water treatment plant (WWTP) is not being planned at this time. In addition, the Metropolitan Council has stated that the sewer flow projections in Exhibit 8:1 are approximately 40% higher than those projected by the Metropolitan Council.

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Figure 8-1 Proposed Service Areas Sanitary Sewer Service Plan

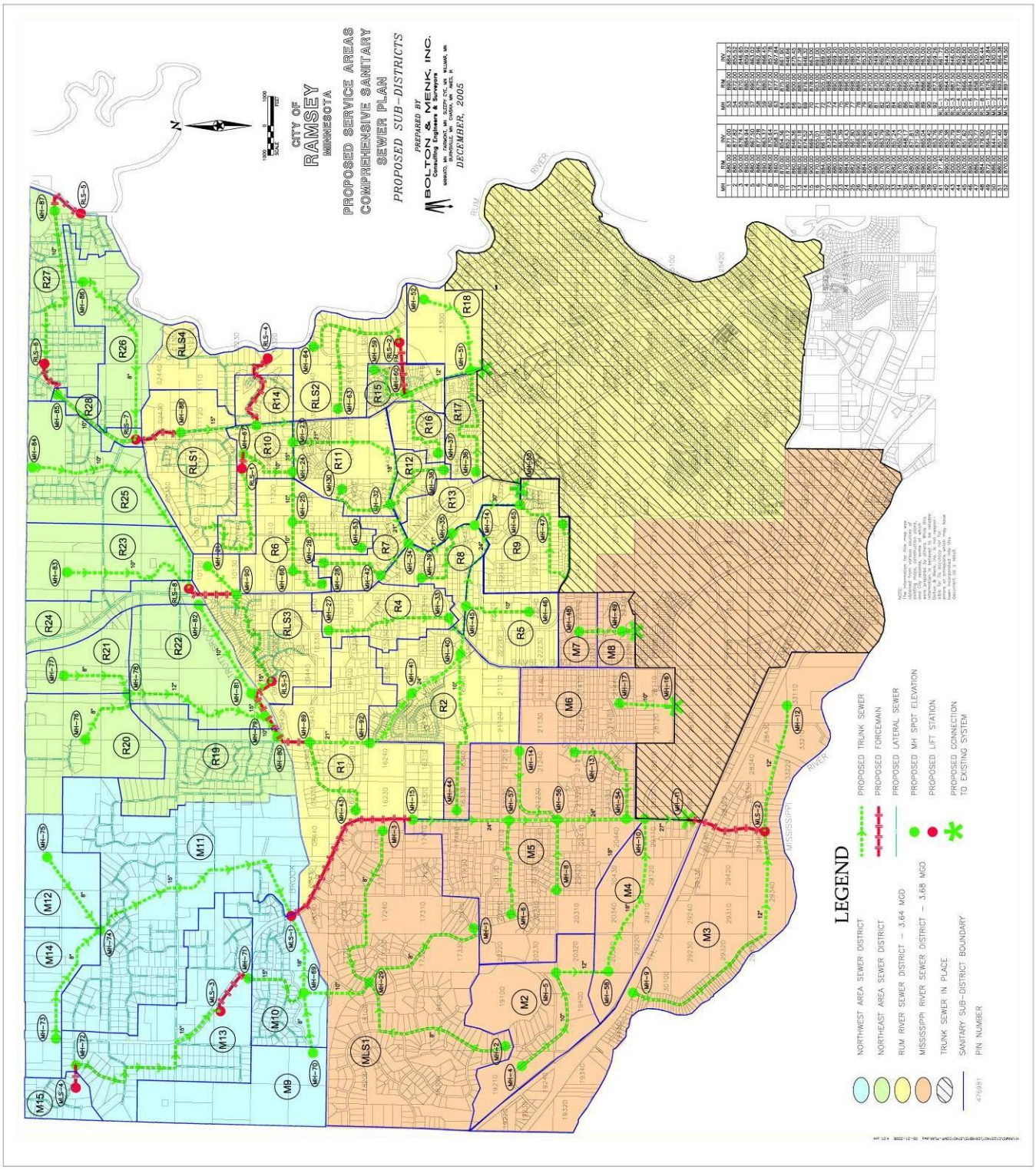

Table 8-1: 2030 Future Land Use Categories by Sanitary Sewer District

Interceptor Service District	2030 Land Use	Total		Inside MUSA		Outside MUSA	
		Gross Acres	Net Acres	Gross Acres	Net Acres	Gross Acres	Net Acres
North Trott Brook Sewer District	Low Density Residential	785	602	785	602	0	0
	Medium Density Residential	20	18	20	18	0	0
	Commercial	5	5	5	5	0	0
	Public/Quasi-Public	23	11	2	1	21	10
	Rural Developing	3,797	2,626	0	0	3,797	2,626
	Park	293	102	0	0	293	102
	Wetlands and Waters		1,557		185		1,372
NTB Subtotal		4,923	4,923	812	812	4,111	4,111
Mississippi River Sewer District	Low Density Residential	515	501	515	501	0	0
	Medium Density Residential	167	157	167	157	0	0
	High Density Residential	82	66	82	66	0	0
	Commercial	321	319	321	319	1	1
	Mixed Use	359	334	359	334	0	0
	Business Park	566	553	558	549	8	4
	Office Park	167	167	167	167	0	0
	Public/Quasi-Public	190	173	190	173	0	0
	Rural Developing	1,968	1,732	0	0	1,968	1,732
	Park	741	587	367	332	374	255
	Wetlands and Waters		486		128		358
MRS Subtotal		5,075	5,075	2,725	2,725	2,351	2,351
Rum River Sewer District	Low Density Residential	2,089	1,752	2,089	1,752	0	0
	Medium Density Residential	187	164	187	164	0	0
	High Density Residential	40	37	40	37	0	0
	Commercial	75	66	59	50	16	16
	Public/Quasi-Public	176	158	158	143	18	14
	Rural Developing	2,896	2,286	0	0	2,896	2,286
	Park	747	492	227	126	519	366
	Wetlands and Waters		1,256		489		767
RR Subtotal		6,210	6,210	2,760	2,760	3,449	3,449
Not in any sewer district	Park	308	170	0	0	308	170
	Wetlands and Waters		138		0		138
	River	568	568			568	568
No District Subtotal		876	876	0	0	876	876
Subtotal (exc. ROW)		17,084	17,084	6,298	6,298	10,787	10,787
ROW		2,044	2,044				
TOTAL		19,128	19,128				

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Section 2: Individual Sewage Treatment Systems (ISTS) Component:

Individual Sewage Treatment Systems are regulated by City Code §8.30 (Sewage Disposal Systems). A copy of the Ramsey City Code can be found on the City's electronic file system located at http://156.142.212.178/weblink7/Browse.aspx.

There are approximately 4125 active systems in the City of Ramsey. City Staff began compiling this data in 2005. Maintenance tracking of septic system is conducted by updating current septic system software. Post cards are sent out as reminders during the first quarter of each year for those systems requiring maintenance or inspection after three years in accordance with MPCA rules, Metropolitan Council policy and City Ordinance. A second reminder notices is sent to property owners that did not have this activity conducted in the prior year. The City does have the ability to issue citations should the property owner choose not to complete the required activity. The City will continue to enhance the City's private septic maintenance program in accordance with MPCA rules, Metropolitan Council policy, and City Ordinance by developing an enforcement procedure for noncompliance. This process will be incorporated into the City's new code enforcement program for City Code violations, implemented in 2007. The City already has the authority under City Code Chapter 2 Article VII (Administrative Enforcement of Ordinance Violations).

There are two distinct types of tanks installed in the City. These tanks can be divided into those installed before or after 1973. Tanks preceding 1973 do not have bottoms. They are knows as block tanks. Those installed after 1973 are precast concrete tanks and have bottoms.

A newly revised pumping permit is being implemented that will coincide with City Ordinance 8.30.02A Maintenance. Depending on water consumption, each tank(s) may not have to pumped in three year increments. It can be inspected by a licensed M.P.C.A. pumper/maintainer and the box indicating maintenance inspection, no pumping can be completed. The contractor must explain why pumping activity did not take place.

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Exhibit 8-1: Sewer Flow Forecasts by Sewer District

Sewer Flow Forecasts for North Trott Brook Sewer District

Year	Households (Sewer)	Flow Projection-MGD	Employment (Sewer)	Flow Projection-MGD	Total Flow
2008	0	0.0	0	0.0	0.0
2010	372	0.1	12	0.0	0.1
2015	745	0.2	24	0.0	0.2
2020	1117	0.2	42	0.0	0.3
2025	1489	0.3	55	0.0	0.3
2030	1862	0.4	80	0.0	0.4

Sewer Flow Forecasts for Mississippi River Sewer District

Year	Households (Sewer)	Flow Projection-MGD	Employment (Sewer)	Flow Projection-MGD	Total Flow
2008	1405	0.4	3901	1.0	1.4
2010	2279	0.6	5457	1.1	1.8
2015	3154	0.9	6115	1.3	2.2
2020	4028	1.1	7911	1.5	2.6
2025	4902	1.3	8680	1.7	3.0
2030	5776	1.6	10872	1.8	3.4

Sewer Flow Forecasts for Rum River Sewer District

Year	Households (Sewer)	Flow Projection-MGD	Employment (Sewer)	Flow Projection-MGD	Total Flow
2008	4555	1.1	464	0.2	1.4
2010	4844	1.2	571	0.3	1.5
2015	5134	1.3	572	0.3	1.6
2020	5423	1.4	669	0.3	1.7
2025	5713	1.5	669	0.3	1.8
2030	6002	1.6	771	0.3	1.9

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