Menomonie
Urban Sewer Service
Area Plan for 2015

Prepared by:

West Central Wisconsin Regional Planning Commission
Dunn County Strategic Planning Task Force

Approved by:

Dunn County Strategic Planning Task Force
_____, 1995

Wisconsin Department of Natural Resources
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Table of Contents

Tables

Figures

Maps

CHAPTER ONE

INTRODUCTION

1.1 Introduction

In the nine years since the preparation of a 1985 City of Menomonie Comprehensive Plan Update, the significance and impact of planning for orderly development have changed dramatically. A recently completed 1993 Comprehensive Plan Update reflected the changing conditions impacting the City of Menomonie since earlier plan updates. However, in Wisconsin, the comprehensive plan is augmented by other planning mechanisms that relate to specific regulatory functions.

Sewer service area plans have become a formal element of state areawide water quality management plans (basin plans) which are part of state administrative rules. Being grounded in state law, agency actions on local development proposals must be consistent with sewer service area plans. In addition, urban areas are now more aware of sewer service areas because of their common use in development planning. Communities now must consider sewer service area plans in development decisions where state approvals and permits are needed. Sewer service area plans are prepared by local or regional planning agencies, under contract with the Wisconsin Department of Natural Resources, for communities with a population over 10,000. The City of Menomonie, and its surrounding communities, began its sewer service area planning in 1993.

1.2 Purpose

Sewer service area plans serve as a basis for Wisconsin Department of Natural Resources (WisDNR) approval of state and federal grants for the planning and construction of wastewater treatment and sewerage facilities. They also serve as a basis for WisDNR approval of locally proposed sanitary sewer extensions and Department of Industry, Labor and Human Relations (DILHR) approval of private sewer laterals. In addition, because the service area plans identify environmentally sensitive areas, they serve as a guide for environmental permit decisions by federal and state agencies.

The urban sewer service area plan is intended to be an important planning and development guide for local communities. The plan will serve the following purposes:

1. It projects future needs for sewer service and establishes the geographic extent of the sewer service area for a twenty-year planning period to the year 2015.

2. It provides technical data for designing cost-effective and environmentally sound sewage treatment configurations for the planning area.

3. It defines the procedures for reviewing boundary and plan amendments.

4. It identifies sensitive environmental areas as environmental corridors which will be protected from sewer development.

5. It serves as a guideline for government interaction and will be useful in the development of community plans.

6. It provides a basis for community officials to direct community growth and protect environmental, social and economic concerns.

7. The plan will become a component of the Lower Chippewa River Basin Plan, an Areawide Water Quality Management Plan (see 1.3 Background).

The approved urban sewer service area plan is required to be updated every five years to reflect changes in statutes and policies, and to review data, such as population projections and housing densities.

1.3 Background

The passage of the Federal Water Pollution Control Act Amendment (P.L. 92-500) in 1972 marked the beginning of a new approach to the planning, design and construction of municipal wastewater collection and treatment facilities. This law established Areawide Water Quality Management Planning under Section 208, and also the Facility Planning Grant Program under Section 201.

One of the principal purposes of areawide plans is to identify cost-effective solutions to wastewater collection and treatment problems on a regional basis. To accomplish this objective, areawide plans are required to include "the identification of treatment works necessary to meet the anticipated municipal and industrial waste treatment needs of the area over a twenty year period", and a program to "regulate the location, modification and construction of any facilities within such area which may result in any discharge in such area" (Public Law 92-500, Section 208(b)(2)(A)). The planning tool used to address these requirements in the City of Menomonie area is the urban sewer service area plan.

The Section 201 Facility Planning Grant Program was developed to provide uniform guidelines for the planning, design and construction of municipal wastewater facilities and to provide financial assistance to communities with inadequate wastewater collection and treatment systems. Facility plans prepared under Section 201 must be consistent with the broader framework of the areawide plans prepared under Section 208.

In recent years, the State of Wisconsin has embodied many of the Federal areawide and facility planning requirements in the Wisconsin Administrative Code. These administrative rules set forth clear procedures and standards regarding the preparation of these plans and their implementation. Specific sections of the code directly pertaining to these activities are NR121, concerning areawide waste treatment management planning; and NR110, concerning facility planning and sanitary sewer extensions. Chapter NR121, Areawide Water Quality Management Plans, requires urban sewer service area plans to be components of Areawide Water Quality Management Plans. The Menomonie Urban Sewer Service Area lies entirely within the Lower Chippewa River Basin Water Quality Management Area. Hence, when it is completed, the Menomonie Urban Sewer Service Area Plan will be amended to the Lower Chippewa River Basin Plan, the Areawide Water Quality Management Plan.

NR121, supplemented by WisDNR planning guidance (Appendix A), largely sets forth the requirements for sewer service area planning. Specifically, NR121 requires that the

following major elements be included in the areawide plans: (1) population forecasts for 20 years in five year increments (NR121.05(2)(c)3); (2) existing and projected land use patterns including the delineation of sewer service areas(NR121.05(2)(c)4); and (3) an identification of sewage collection system needs through the delineation of sewer service areas for existing and proposed treatment systems for the 20 year planning period (NR121.05(2)(g)). Sewer service area plans prepared under NR121 must meet the following specific standards and criteria:

- The sewer service area is determined in such a fashion as to promote cost-effective and environmentally sound waste collection and treatment;
- The sewer service areas are delineated based on a 20 year population forecast, and municipally approved population density standards;
- Areas unsuitable for the installation of waste treatment systems because of physical or environmental constraints are to be excluded from the sewer service area. Areas to be considered for exclusion from the sewer service area because of the potential for adverse impacts on the state's water quality from both point and non-point sources of pollution include, but are not limited to, wetlands, shorelands, floodways and floodplains, steep slopes, highly erodible and other limiting soil types, groundwater recharge areas, and other such physical constraints.
- The plan shall include criteria for the construction of future treatment systems within the areawide planning area (NR110.08(5)).

Upon approval by the state, the Lower Chippewa River Basin Plan, and more specifically the sewer service area element, establishes the framework within which facility plans are developed and sewer extensions are reviewed under NR110. NR110 establishes an extensive series of regulations covering all phases of design and construction of sewerage systems. Perhaps the most significant requirement of NR110 in terms of sewer service area planning is found in NR110.08(4) and NR110.08(5)(e) requiring facilities plans for all projects subject to review for conformance with the areawide plans. These requirements serve to elevate sewer service areas from a purely advisory planning guideline to a functional mechanism for directing growth and development. It is important to recognize that regulatory aspects of the sewer service area rest with the State of Wisconsin. The West Central Wisconsin Regional Planning Commission's and the Dunn County Land Conservation Department's role remains advisory to the communities and the Department of Natural Resources.

1.4 Planning Committee Composition

In June, 1993, the WCWRPC finalized a contract with the Department of Natural Resources to prepare the Menomonie Urban Sewer Service Area Plan, the municipal point source element of the State's Water Quality Management Plan for the Menomonie urban area.

Section NR121 requires a local policy committee be established, or an existing one be used, to assist the DNR in the preparation of the plan and act as an advisor in matters concerning implementation. The Dunn County Strategic Planning Task Force consented to act as the

local policy committee. Consequently, the WCWRPC worked under the direction of the Dunn County Strategic Planning Task Force, which was comprised of representatives of the City of Menomonie and its consulting engineer, Cedar Corporation; the County of Dunn; the Towns of Tainter, Sherman, Menomonie, and Red Cedar; and community groups and interested parties, such as the Tainter Lake Association and Dunn County Taxpayers Association. In addition, representatives from the Menomonie real estate development community were invited to participate. Through this institutional arrangement, local input and participation in the development of the plan was maximized. The Dunn County Land Conservation Department will review proposed sewer extensions for plan conformance, and requests for amending the sewer service area boundary. These reviews will be conducted according to the plan review and amendment policies and procedures in Chapter 5 of this plan. The amendment policy is designed to provide a mechanism whereby the sewer service area boundary can be altered in response to changes in both the rate and direction of development. The amendment process provides the flexibility to adjust to short-term changes in development trends and thus provides a means of accommodating changing development trends between the five-year updates.

It should be reiterated that the urban sewer service plan is grounded in laws, regulations, and criteria emanating from both the federal and state levels and, that the role of the West Central Wisconsin Regional Planning Commission is to assist the local governments in the Menomonie area in preparing a plan to promote the cost-effective and environmentally sound development of the area.

1.5 Planning Area

The establishment of a planning area assists in focusing sewer service area study efforts to a well defined geographic area and facilitates a comprehensive examination of data needed in the planning effort. The criteria used in delineating the planning area included:

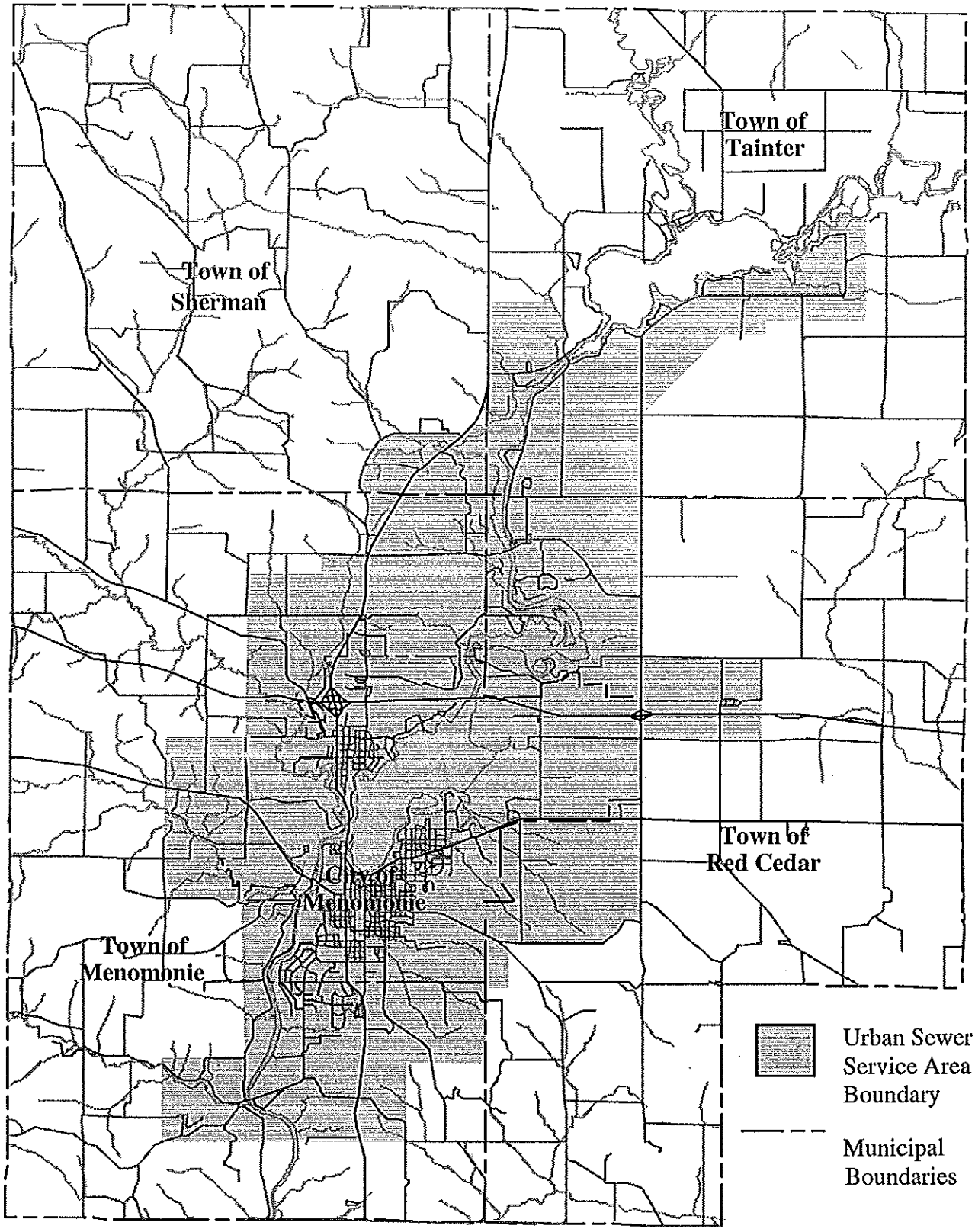
1. The recognition of areawide land use trends and patterns;

2. The recognition that water quality and growth problems are areawide concerns; and,

3. The delineation of planning areas in previous planning efforts.

Based on these criteria the Dunn County Strategic Planning Task Force established a planning area which includes the City of Menomonie, and the Towns of Tainter, Sherman, Menomonie and Red Cedar. The Planning Area encompasses approximately 107,948 acres. Map 1 outlines the Planning Area boundary, the Urban Sewer Service Area - 2015 boundary, and the municipality boundaries.

MAP 1 Planning Area, Urban Sewer Service Area Boundary - 2015, Municipal Boundaries



Notice: Locations of boundaries are approximate

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CHAPTER TWO

GROWTH AND DEVELOPMENT TRENDS

2.1 Characteristics of the Planning Area

The City of Menomonie experienced moderate growth from 1970 to 1993, growing twice as fast in the 1970s than in the 1980s. The townships surrounding Menomonie saw faster growth during the 1980s, with three townships growing by more than a third of their 1970 population. The Town of Tainter experienced the greatest growth, increasing its population by seventy-five percent between 1970 and 1990. In general, the population of the townships surrounding Menomonie has been growing about twice as fast as that of Menomonie. Employment in the area has steadily risen in the past decades, even during the recessional early 1980s. The growth of the area's population and employment can be attributed to several factors: an aggressive economic development program; a high quality of life; and proximity to transportation infrastructure and natural resources. To provide the urban area with a cost-effective, environmentally sound sewage treatment configuration, the sewer service plan should guide and/or control urban growth.

In order to obtain an understanding of growth and development trends in the City of Menomonie Urban Sewer Service Area, factors which form these trends must be examined. An analysis of past population and land use along with development trends will give an indication of growth areas, the acreage needed for future development and the amount of sewage treatment capacity required for this development.

2.2 Population and Employment

Population trends and projections play an important role in most planning decisions. There are three major factors determining population change over time: births; deaths; and migration. In addition, annexation of areas by a city may increase the population of the city, but decrease the population of the town it acquired the land from. Economic and social conditions will greatly affect population changes; thus, the population projections should be revised if growth patterns change from the historic norm.

2.2.1 Population Trends

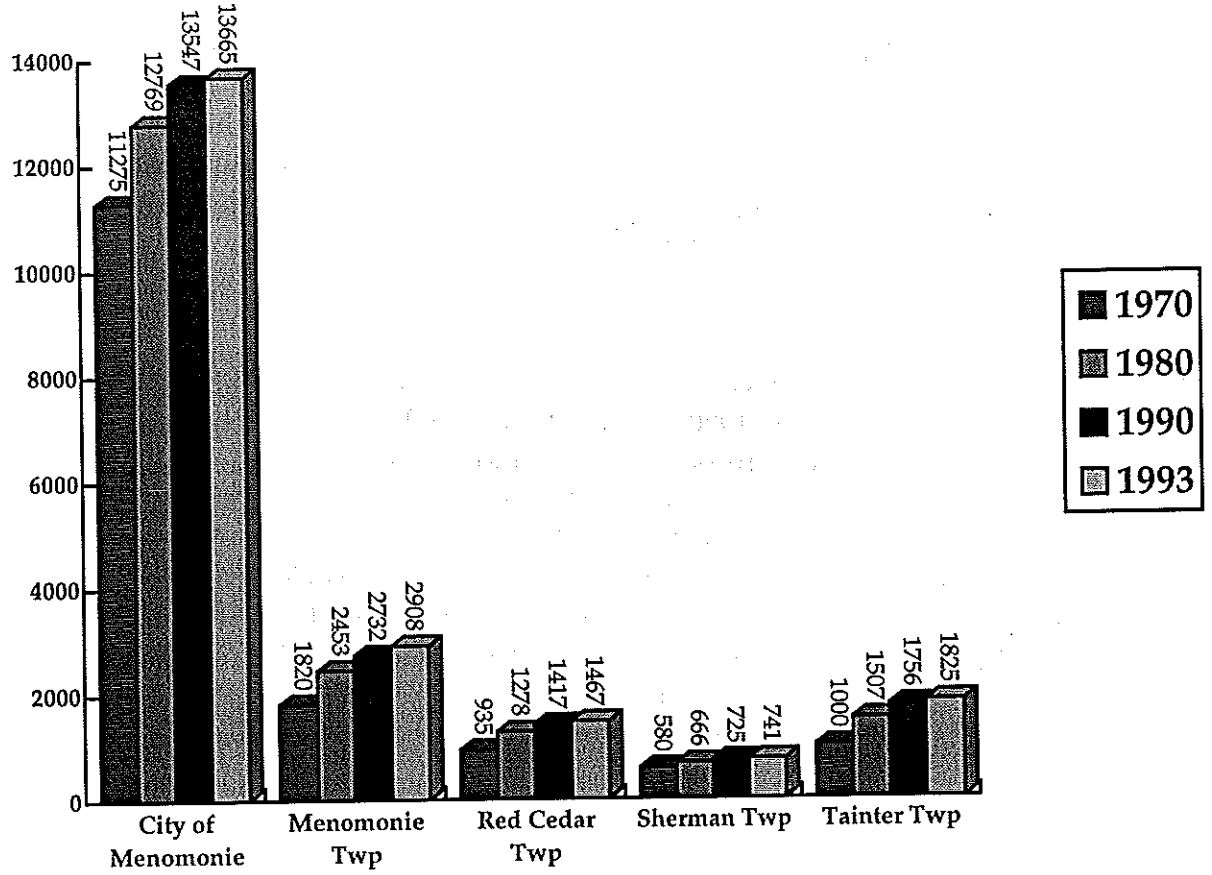
For the purpose of this sewer service area plan, the population trends between 1970 and 1993 will be analyzed. During the 1970s, for the first time the country's metropolitan areas grew at a slower rate than non-metropolitan areas and the population decline experienced in the 1960s in many rural areas had transposed into slow growth. Dunn County is non-metropolitan, as defined by the Census Bureau, having a "central" city (Menomonie) and/or county population smaller than 50,000, and insufficient socio-economic ties to a close-by metropolitan area. Historic population figures from the 1970, 1980 and 1990 Censuses, and 1993 estimates from the Wisconsin Department of Administration were gathered to display the population growth of the Planning Area since 1970. Table 1 and Figure 1 display the growth in area communities from 1970 to 1980, and 1980 to 1990.

TABLE 1 Historic Population, 1970-1993; County, Planning Area Municipalities

					1970-1980 Change		1980-1990 Change	
Community	1970	1980	1990	1993	Number	Percent	Number	Percent
City of Menomonie	11,275	12,769	13,547	13,665	1,494	13.3	778	6.1
Menomonie Twp	1,820	2,453	2,732	2,908	633	34.8	279	11.4
Red Cedar Twp	935	1,278	1,417	1,467	343	36.7	139	10.9
Sherman Twp	580	666	725	741	86	14.8	59	8.9
Tainter Twp	1,000	1,507	1,756	1,825	507	50.7	249	16.5
Unincorporated	4,335	5,904	6,630	6,941	1,569	36.2	726	12.3
Planning Area	15,610	18,673	20,177	20,606	3,063	19.6	1,504	8.1
Dunn County	29,154	34,314	35,909	36,458	5,160	17.7	1,595	4.6

Source: U.S Census Bureau, Wisconsin Demographic Services

FIGURE 1 Historical Population, 1970-1993



Source: U.S. Census, Wisconsin Demographic Services

2.2.2 Employment Trends

The employment trends compiled for the Planning Area are from Wisconsin Department of Industry, Labor and Human Relations (DILHR), and the U.S. Census Bureau. U.S. Census occupation and employment figures are "place of residence" and indicate the occupation or employment of people who live in a certain area or municipality, not where they work. Hence, in the Census someone living in Town of Menomonie, for example, is listed under the Town of Menomonie as working in manufacturing, but there is no indication they actually work in the City of Menomonie. In contrast, the DILHR information lists jobs by "place of work" and reflects the employment of firms within an area or municipality. The manufacturing jobs in the City of Menomonie held by the Town of Menomonie residents will be listed under the City of Menomonie employment figures from DILHR. Table 2 displays the U.S. Census 1980 and 1990 employment for the Planning Area. Summaries of the DILHR 1982 and 1992 employment information in Table 3 are used in the following section to describe employment changes for the Planning Area.

TABLE 2 Historic Employment, 1980-1990; Planning Area Municipalities

Historic Employment Place of Residence	City of Menomonie		Town of Menomonie		Town of Red Cedar		Town of Sherman		Town of Tainter		Planning Area	
SIC Code	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990
0-1499 Agricultural Services, Forestry & Mining	98	97	168	126	168	128	135	103	74	69	643	523
1500-1999 Construction	137	176	62	54	18	29	17	22	43	40	277	321
2000-3999 Manufacturing	433	1004	127	223	87	136	29	62	101	166	777	1591
4000-4999 Trans., Utilities & Communication	195	210	54	57	41	40	4	22	20	46	314	375
5000-5199 Wholesale Trade	120	100	42	47	19	31	2	18	31	42	214	238
5200-5999 Retail Trade	1310	1762	187	208	67	112	31	68	126	151	1721	2301
6000-6999 Finance, Insurance & Real Estate	211	276	37	69	11	33	11	3	26	38	296	419
7000-8999 Services	2324	2463	455	547	136	196	76	92	238	315	3229	3613
9000+ Government	2050	1943	346	293	107	151	70	58	197	196	2770	2641
TOTAL	6878	8031	1478	1624	654	856	375	448	856	1063	10241	12022

Source: U.S. Census Bureau (These data are based on sampling and subject to variability)

TABLE 3 Historic Employment, 1982-1992; Planning Area

Historic Employment Place of Work		City of Menomonie		Unincorporated Area		Planning Area	
SIC Code		1982	1992	1982	1992	1982	1992
0-1499	Agricultural Services, Forestry & Mining	41	143	7	39	48	182
1500-1999	Construction	109	235	20	33	129	268
2000-3999	Manufacturing	906	1,450	25	5	931	1,455
4000-4999	Trans., Utilities & Communication	156	219	5	3	161	222
5000-5199	Wholesale Trade	264	320	31	40	295	360
5200-5999	Retail Trade	1,321	1,794	54	100	1,375	1,894
6000-6999	Finance, Insurance & Real Estate	197	286	0	6	197	292
7000-8999	Services	828	1,535	23	42	851	1,577
9000+	Government	3,316	3,427	31	28	3,347	3,455
TOTAL		7,138	9,409	196	296	7,334	9,705

Source: DILHR

2.2.3 Dunn County and the Planning Area

The City of Menomonie Sewer Service Planning Area consists of the City of Menomonie, and the Towns of Menomonie, Red Cedar, Sherman and Tainter, all within Dunn County.

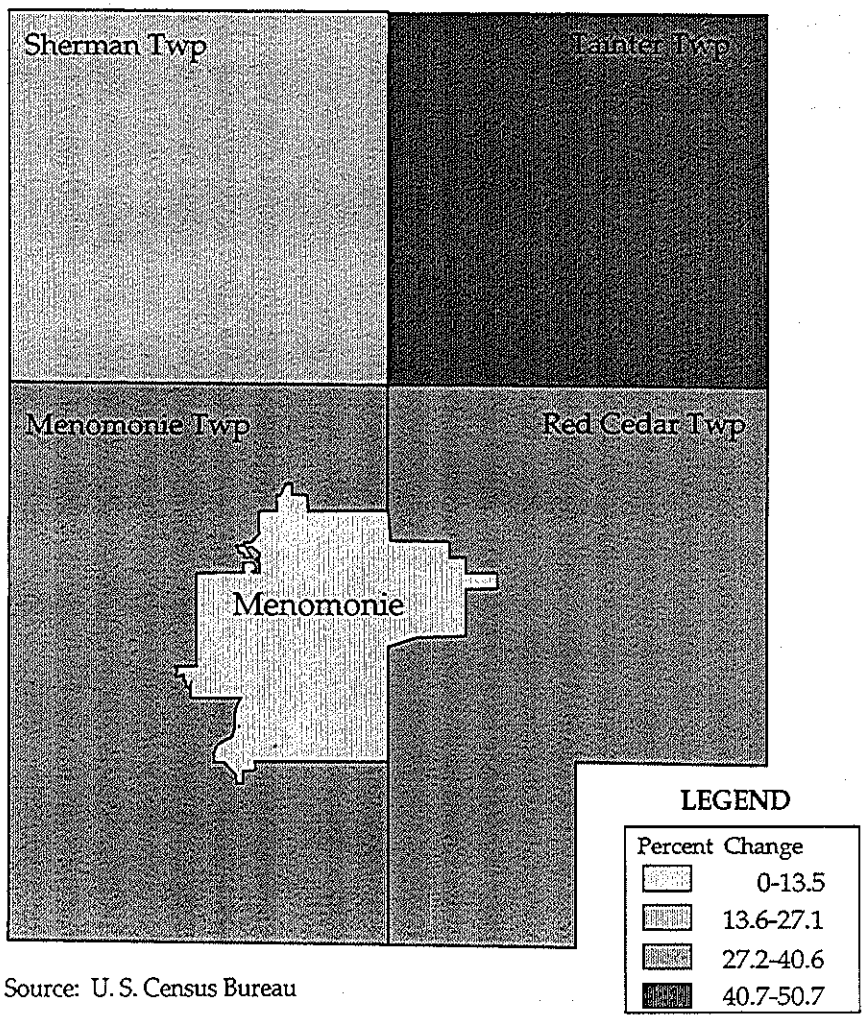
After a decline in the 1950s, the population of Dunn County has grown steadily since 1960. The county has grown from a 1960 population of 26,156 to a 1993 estimate of 36,458. This growth of 10,302 (39.4% or 1.2%/yr) mostly occurred in the City of Menomonie and its surrounding townships. Menomonie increased its population by 5041 (58.4% or 1.7%/yr) between 1960 and 1993, from 8,624 in 1960 to 13,665 in 1993. From 1960 to 1993 the four townships surrounding Menomonie increased their combined population by 3,355 (93.5% or 2.8%/yr), from 3,586 in 1960 to 6,941 in 1993. These figures indicate the significance of the Menomonie area in the growth of Dunn County. Over half of Dunn County's population growth from this period occurred in Menomonie, and almost eighty-two percent within the Planning Area.

The population trends apparent in Dunn County were in large part a reflection of the growth in the Planning Area. This growth has a significant impact on the requirements for urban infrastructure, including sanitary sewer.

The Planning Area experienced a strong population growth of 3,063 (19.6% or almost 2%/yr) people between 1970 and 1980, and a moderate increase of 1,504 (8.1% or 0.8%/yr) residents between 1980 and 1990. Between 1990 and 1993 the Planning Area population grew by about 2%. Maps 2 and 3 graphically display the 1970 to 1980 and 1980 to 1990 population changes in the Planning Area.

MAP 2

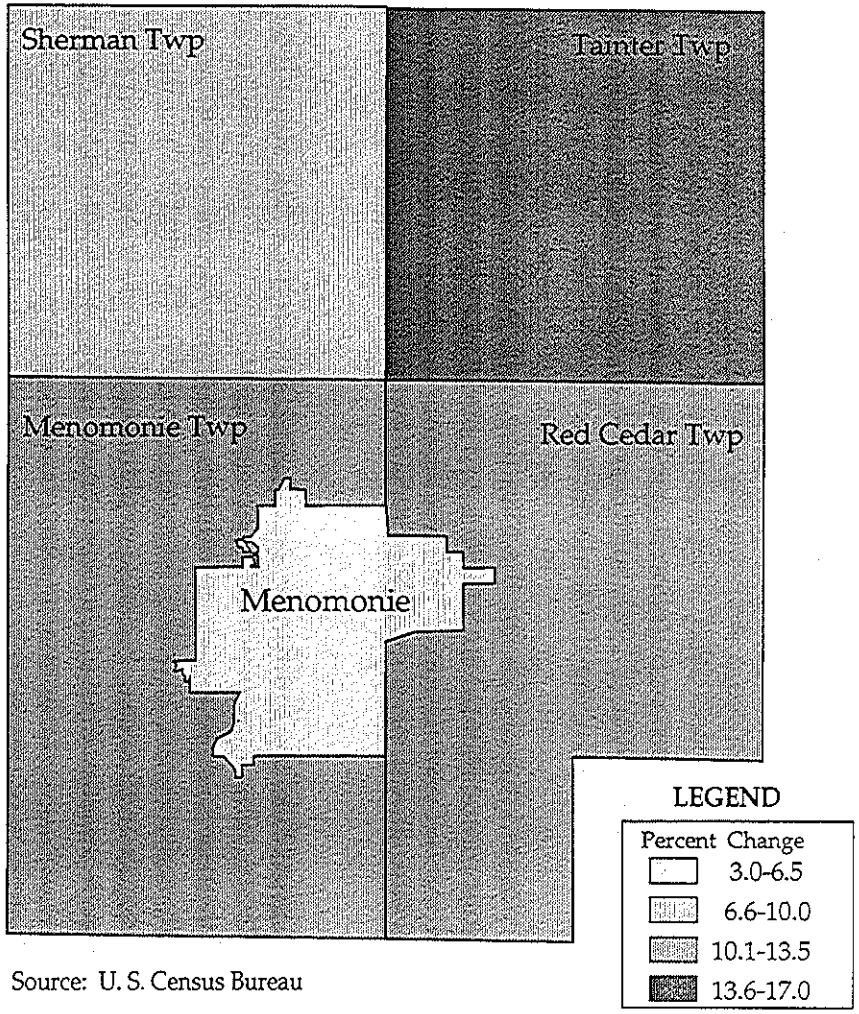
1970 - 1980 POPULATION CHANGE



Source: U. S. Census Bureau

MAP 3

1980 - 1990 POPULATION CHANGE



Source: U. S. Census Bureau

The City of Menomonie population comprises most of the total Planning Area population. In 1970, 1980 and 1990 Menomonie's population consisted of 72.2%, 68.4% and 67.1% of the total Planning Area population, respectively, and approximately 66.3% of the total Planning Area population in 1993. This decrease in the Menomonie population percent share of the Planning Area population is due to a 21.2% (0.9%/yr) incorporated population growth rate between 1970 and 1993, compared to an unincorporated population growth rate of 60.1% (2.6%/yr) during the same period.

The unincorporated population for the Planning Area between 1970 and 1980 shows the Towns of Menomonie (633), Tainter (507), and Red Cedar (343) gaining the most people. The unincorporated population within the Planning Area grew by 1,569 (36.2% or 3.6%/yr) people. The very strong growth of the 1970s subsided to continued strong growth in the 1980s.

The "boom" growth of the unincorporated population in the 1970s subsided considerably during the 1980s. The unincorporated population within the Planning Area grew from a 1980 population of 5,904 to a 1990 population of 6,630, or an increase of 726 (12.3% or 1.2%/yr). Once again, the Towns of Menomonie (279), Tainter (249), and Red Cedar (139) were the major growth areas. Possible explanations for slowing growth in the 1980s are: growth the non-metropolitan areas experienced in the 1970s across the country slowed in the 1980s; the country was in an economic recession early in the decade; and, the City of Menomonie may have annexed some of the high growth areas within the towns.

In the 1980s the growth in the Menomonie area population was eclipsed by increases in area employment. From 1982 to 1992 there was an increase of total employment in the Planning Area of 2,372 jobs (32.3% increase or 3.2%/yr), from 7,334 to 9,706 (DILHR). The Towns of Sherman and Tainter lost total employment from 1982 to 1992, but the City of Menomonie, and the Towns of Menomonie and Red Cedar experienced strong employment growth. City of Menomonie total employment grew by almost 32 percent between 1982 and 1992, with the largest increases coming in the agricultural services, forestry and mining (233% or 23.3%/yr), construction (115% or 11.5%/yr), services (85.4% or 8.5%/yr), and manufacturing (60% or 6%/yr) sectors. The largest numbers of job increases in the City of Menomonie from 1982 to 1992 were in services (707), manufacturing (544) and retail trade (473) employment. The Town of Red Cedar increased total employment by 166.7% or 16.7%/yr between 1982 and 1992, resulting from new retail jobs. From 1982 to 1992 the Town of Menomonie saw an increase in total employment of 36.4%, gaining jobs in all sectors except transportation, utilities and communication, manufacturing , and retail trade.

In early 1993, the Walmart Distribution Center opened in Menomonie with over 500 employees, while a few months later the Cardinal F/G glass factory opened employing about 250 people. In addition to these major employers there has been new employment provided by a lumber kiln company and a potato chip maker, as well as, several expansions of existing businesses. Menomonie continues to be a draw for large and small employers because of the facilities and location of their industrial park, and its standing as a retail center for Dunn County.

The growth of Menomonie area employment exceeded its population growth during the 1980s, indicating an expanding commuter shed. This means the employment opportunities created in Menomonie and its neighboring townships are probably attracting more workers from outlying communities and other counties. An aggressive economic development program, an excellent industrial park, and agglomeration and other market forces will probably lead to future employment growth in the Menomonie area. Increasing population and employment will place additional development pressures in, and especially around the City of Menomonie.

2.3 Land Use

An examination of generalized land use in the Sewer Service Planning Area is intended to provide an understanding of past and present land uses and an outlook for future uses. A land use analysis of both urban and rural areas will lead to identification of their inter-related problems, primarily urban sprawl. This sprawl may eventually lead to random, rural development which places a burden on the provision of services and infrastructure, unless proper land use plans and zoning ordinances are in place. Over time, a cooperative effort between the county, the City of Menomonie and towns to standardize land use plans and synchronize development will enable the community to operate an efficient, cost-effective sewer system.

The land use analysis for this plan is an inventory of major uses - residential, commercial, industrial, and vacant. The information used in this analysis comes from various sources. The 1973 Land Use Inventory by WCWRPC, the 1993 City of Menomonie Comprehensive Plan Update, and a 1993 unincorporated Planning Area land use inventory were used in this exercise. It should be noted, that the land use figures in this analysis are estimates based on an inventory of generalized land use. There may be variations of uses within each mapped category, but the predominant use is categorized. The results of the land use analysis are summarized in Table 4 and depicted in Map 4 (found inside the back cover).

A definition of the land use categories in this analysis are:

Residential - all residential lands.
Commercial - all commercial and office lands.
Industrial - all industrial and warehouse lands.
Vacant - all urban lands undeveloped (no structures), but considered developable.

TABLE 4 Land Use, 1973-1992/1993; Planning Area

	YEAR*	Residential	Commercial	Industrial	Vacant Urban
City of Menomonie	1973	772	117	77	3,484
	1992	932	198	346	4,402
Unincorporated Area	1973	3,296	70	65	-------
	1993	3,442	85	92	-------
Planning Area (Total)	1973	4,068	187	142	3,484
	1992/1993	4374	283	438	4,402

Source: WCWRPC, *City of Menomonie 1973 and 1992, unincorporated 1973 and 1993

2.3.1 Incorporated Land Use

City of Menomonie Land Use Analysis

The City of Menomonie consists of approximately 8,805 acres (1992), this is an increase of 1,793 acres (25.6%) from the 1973 figure of 7,012 acres. Residential lands in 1992 totaled about 932 acres or 10.6% of the total land. In 1973, there were 772 residential acres, which constituted 11.0% of the total. Menomonie has maintained the residential percentage of its total land area over nineteen years. However, the increase of 160 residential acres occurred mostly during the 1980s when there was an 64.6% increase in multiple family dwellings. Therefore, the city experienced greater housing densities during this time. The 1992 commercial acreage estimate is 198 acres or 2.2% of the total acreage. 1973 figures for commercial use were 1.7% of the total or 117 acres. The most significant land use trend in Menomonie is the addition of 269 acres to the 77 industrial acres present in 1973. The development of the city's industrial park accounts for a large portion of this growth. In 1973 industrial acreage accounted for one percent of the land total; whereas, the 346 present acres makeup 3.9% of the land in Menomonie. The City of Menomonie has recently experienced increases in industrial park development not reflected in the 1992 figures. The Walmart Distribution Center and the Cardinal F/G glass plant are major contributors to this industrial growth. The facilities and location of Menomonie's industrial park will most likely continue to draw industry and commerce. Finally, Menomonie has increased its vacant lands from 3,484 acres (49.7%) in 1973 to an estimated 4,402 acres (49.9%) in 1992.

In summary, it appears Menomonie has expanded its vacant lands for development. By maintaining vacant lands, they have broadened their ability to attract commercial and industrial uses, and direct residential growth to existing vacant areas within the corporate limits. Providing there is planned, orderly development, this should increase the development density of the city and make it more efficient to provide city services to new homes, businesses, and industry.

2.3.2 Unincorporated Land Use

The unincorporated land use analysis consists of the same inventory of major uses - residential, commercial, industrial, and vacant. The 1973 Land Use Inventory by WCWRPC, and a 1993 land use inventory of the unincorporated portion of the Planning Area were used. A definition of the land use categories are the same as mentioned above.

Unincorporated Planning Area Land Use Analysis

The unincorporated Planning Area consists of approximately 99,143 acres (1993). Unincorporated residential lands in 1993 totaled about 3,442 acres or 3.6% of the total unincorporated land. In 1973, there were 3296 unincorporated residential acres, which constituted 3.3% of the Planning Area unincorporated total. The unincorporated area has slightly increased the residential percentage of its total land area over twenty years. However, the increase of 146 residential acres during this time occurred when the unincorporated area was losing residential land to the City of Menomonie. Hence, the net increase of residential lands in the original unincorporated area, considering growth in

areas lost to incorporation, is about 325 acres. This adjusted residential growth in the unincorporated area was about 10.4% over the twenty years from 1973 to 1993. The adjusted unincorporated residential growth analysis is provided only to demonstrate the growth which occurred in the area that was unincorporated in 1973, and should not be compared to any other residential growth figures.

The 1993 commercial acreage estimate is 85 acres, while in 1973 figures for commercial use were 70 acres. This is a 21.4% increase in commercial land in the unincorporated area, a little over one percent per year. The 1993 unincorporated industrial acreage estimate is 92 acres, while in 1973 there were 65 acres in industrial use. Over twenty years this was a 41.5% increase in industrial land in the unincorporated area, a little over two percent per year.

The major land uses in the unincorporated area are agriculture and forest. Since 1970 the amount of agricultural lands has declined, while forested land has probably increased slightly due to the Conservation Reserve Program. Rural residential development is the greatest contributor to the displacement of these uses.

A sampling of new sanitary sewer permits from 1980 to 1993 were gathered from the county zoning records for the unincorporated area. These data will show where the clusters of new septic systems are, and thus identify the areas that may need to be sewered should the septic systems fail. Map 7 shows a representative distribution of new building/septic system permits since 1980.

The major clusters of residential development in the unincorporated area are: in and around the Woodland Terrace, Birch Creek, and River Heights subdivisions, Eagle Point, River Ridge, Irvington, Rusk, north of Menomonie along the Red Cedar River, Rolling Meadows, Olso Acres, the lower Hay River, around Tainter Lake, and Cedar Falls.

The higher density development in these areas may result in ground and surface water problems due to nitrate and phosphorous contamination from septic systems. History shows, high concentrations of septic systems will inevitably bring about their own demise, unless strict precautions are implemented. Some precautions may include: careful review of sizing and siting requirements for drainfields and wells in relation to each other, and the number of occupants; alternate site for drainfields or wells; restricted site location of septic systems in relation to valuable surface waters, wetlands, steep slopes, areas of high groundwater, etc.; and monitoring systems to assure compliance with maintenance requirements.

In summary, in the Planning Area it appears the unincorporated area has experienced steady residential development. Commercial and industrial uses grew faster than residential land use as the percentage change over twenty years, but constituted a much smaller land area in absolute terms.

2.3.3 Current Policies

Up to this point, land use policies in Dunn County are those found in the Dunn County Comprehensive Zoning Ordinance. The purpose of the ordinance is to establish the regulation of the use of lands and structures through the adherence to physical standards and the creation of separate zoning districts. Thus, land use regulations for Dunn County are established in the ordinance. Some of the recommendations to guide development in the ordinance include:

- Identify areas where predominately residential development has occurred, or is likely to occur, and community and recreational uses serve those residents
- Minimum lot size of one acre where there is no established zoning district
- Preserve those areas best suited for farming or agricultural uses
- Protect the agricultural economic base of the county
- Minimize urban sprawl and its associated public expense
- Minimize land use conflicts between farms and non-farms
- Allow suburban large-lot development in some of the predominately rural areas
- Subdivision regulation to promote the public health, safety, and general welfare; to encourage the most appropriate use of land; to provide the best possible environment for human habitation; and to conserve the value of buildings placed upon the land
- Prohibition against subdividing lands of high agricultural value
- Prohibition of large lot, unsewered developments in areas which have potential for sanitary sewer service

The City of Menomonie has adopted a comprehensive plan which was updated in February 1993. Some of the recommendations in this plan are:

- Promote urban infill or encourage future residential development in areas where urban services are already in place, with adequate capacity, or are planned for in the near future
- Evaluate proposed residential developments in terms of the availability of urban services, especially sanitary sewer, water lines, storm sewers, fire protection, and schools, and require that such urban services be available economically
- Avoid proliferation of strip commercial development
- Promote industrial development, but place it in designated areas in order to minimize adverse impacts upon other land uses
- Urban development should be discouraged in areas where environmental factors pose severe limitations including, poor soils, steep topography, shallow bedrock, wetlands, and natural drainageways
- "Leap frog" development should be discouraged, as it allows parcels of land to be bypassed and left vacant while land parcels are developed in dispersed locations, and it is costly and uneconomical in terms of public service and facilities extension

CHAPTER THREE

GOALS, OBJECTIVES AND POLICIES

3.1 GOALS, OBJECTIVES AND POLICIES

Goal : A long-term end toward which programs or activities are ultimately directed, but might never be attained. It represents a general statement which outlines the most preferable situation which could possibly be achieved if all the objectives and policies were developed to their fullest degree.

Objective : A specific, measurable, intermediate end that is achievable and marks progress toward a goal.

Policies : The way in which programs and activities are conducted to achieve an identified objective and goal. They are courses of action selected to guide and determine present and future decisions.

The policies stated in this plan represent an effort to improve the quality of life in and around the City of Menomonie through the protection of surface water quality, while recognizing the diversity in character and resources of the area's communities. Those policies that direct action using the words "will" or "shall" are mandatory and regulatory aspects of the Menomonie Urban Sewer Service Area Plan. In contrast, those policies that direct action using the word "should" are advisory and serve as guides, reflecting a common vision of the communities within the Planning Area. These communities are strongly encouraged to pursue these policies toward their preceding stated objectives and goals. Communities can effect these policies by implementing the regulatory tools they are authorized to use, such as, planning, zoning, subdivision controls, impact fees, and site plan review.

Goal 1

To create an orderly and planned pattern of community growth and development that will provide a high quality living environment.

Objective 1.1

By guiding future growth within the defined urban service area in an efficient and orderly manner to promote contiguous and compact development.

Policy 1.1.1 Community plans should be updated every five years to reflect changing economic and physical conditions.

Policy 1.1.2 Urban development should be encouraged to "infill" vacant developable lands within city boundaries, then be staged outward according to local plans.

Policy 1.1.3 Sewer extensions that reflect the contiguous and compact pattern of development should receive priority over extensions which will contribute to "leapfrog" development or urban sprawl.

Policy 1.1.4 The supply of land dedicated to urban development should approximate current and future needs as determined from population, employment and land use projections, and be based on a locally determined density standard.

Policy 1.1.5 Future commercial and industrial development should expand upon existing areas and be readily accessible to major transportation systems.

Policy 1.1.6 Future residential development should occur adjacent to existing development to contain costs of public service provisions, and reflect compact and orderly development.

Policy 1.1.7 Through negotiations with affected communities and land owners, the City of Menomonie will determine whether extensions of sanitary sewer service beyond its corporate limits will involve annexation or the creation of sanitary districts.

Policy 1.1.8 Sewer extensions will not be made beyond the 20 year urban sewer service area, unless the plan is amended.

Objective 1.2

By guiding future rural development in an efficient, orderly and compatible manner to maintain a rural character.

Policy 1.2.1 Rural development should take place adjacent to existing development to prevent further scattered development.

Policy 1.2.2 Future residential development should be directed to existing platted subdivisions.

Policy 1.2.3 Commercial and industrial development should be clustered around existing development to prevent scattered or strip development.

Policy 1.2.4 Development into areas identified as prime agricultural land will be discouraged according to county farmland preservation plans.

Goal 2

To protect water quality, natural resources and sensitive natural areas from the encroachment of development.

Objective 2.1

By delineating environmental corridors and discouraging development in areas environmentally unsuitable for development.

Policy 2.1.1 Environmental corridors should include regulated wetlands, highly erodible soils, floodplains, steep slopes, areas of high bedrock and groundwater, wildlife habitats, unique scientific areas, and archaeological sites.

Policy 2.1.2 Local land use plans and ordinances should be used to guide development away from environmental corridors.

Policy 2.1.3 Sewer extensions shall not be permitted into areas identified as environmental corridors unless the extension is to serve compatible uses such as public parks and outdoor recreation facilities.

Policy 2.1.4 Sewer extensions into physical or cultural resource areas not included in environmental corridors shall conform to applicable rules and regulations, and shall be reviewed on a case-by-case basis.

Policy 2.1.5 Rural development should be discouraged where soils are unsuitable for conventional on-site disposal systems.

Policy 2.1.6 Developers of unsewered subdivisions should demonstrate that the immediate groundwater supply is safe and will be protected through site plans for the proper placement of wells and septic systems.

Policy 2.1.7 Erosion and sediment control practices should be used when clearing or developing land and constructing sanitary sewer systems, where the potential for erosion is high.

Goal 3

To provide and maintain a full range of community facilities and services which are efficient, economical, and environmentally sound.

Objective 3.1

To provide sanitary sewer systems which will effectively and economically serve urban development.

Policy 3.1.1 Sanitary sewer extensions should occur consistent with the timing or provision of other public facilities and services.

Policy 3.1.2 Sewer extensions should occur contiguous to existing systems, according to local staging plans, where facilities can accommodate them.

Policy 3.1.3 Sanitary sewer systems should be provided for existing development whenever they are the most cost-effective alternative for addressing failing on-site disposal systems.

Policy 3.1.4 Sanitary sewer system construction and sizing should be staged to encourage lower capital investment and flexibility.

Policy 3.1.5 Existing capacity in sanitary sewer systems should be used before making substantial expansions or extensions.

Policy 3.1.6 The number of waste treatment plants should be minimized to avoid duplication of facilities, institute economies of scale and lessen environmental degradation.

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CHAPTER FOUR

SEWER SERVICE AREA DELINEATION

4.1 Planning Process

The delineation of the sewer service area boundary will incorporate environmentally sensitive areas, existing sewer systems, land use patterns and urban development areas, and projected growth data. This comprehensive look at the Menomonie Planning Area will form the basis for the determination of the sewer service boundary. By excluding environmental corridors from development, our natural resources will be protected for future generations to enjoy. An inventory of the existing sanitary sewer systems will determine the effect future development will have on the sewage capacities and possible regional treatment alternatives. Identification of urban development areas will aid in determining what in-fill and/or expansion alternatives should be used in delineating the sewer service area. In addition, projected growth data will estimate the acreages needed for future development within the sewer service area.

4.2 Environmentally Sensitive Areas

The purpose of using environmental features to determine a sewer service area is to help preserve and protect valuable areas from urban development. To do this, environmental corridors are delineated and urban growth is prohibited from occurring in these areas. The following environmentally sensitive areas will be considered for inclusion as part of the environmental corridors: wetlands; shorelands; floodplains; steep slopes; natural areas; prime farmland; and historical areas. The Sewer Service Plan prohibits development in environmental corridors and acknowledges the preservation of environmentally sensitive areas. The features found in the Planning Area are described in the following sections.

4.2.1 Wetlands

A wetland is any area which water is at, near, or above the surface long enough to support hydric vegetation or water-loving plants. Wetlands may be seasonal or permanent and are commonly referred to as swamps, marshes, or bogs. These areas serve as groundwater recharge zones and also as a habitat for a variety of plants and animals. Wetlands act like a sieve, filtering out silts before they can enter streams and lakes. Particular attention must be given wetlands within shorelands to assure protection from development.

Wisconsin Wetland Inventory maps and 1"=400' scale aerial photographs were used to delineate all regulated wetlands within the Planning Area. Major wetlands within the Sewer Service Planning Area are located in the Towns of Red Cedar, Sherman and Tainter. The large wetlands along Lambs and Little Lambs Creeks in Sherman and Tainter are quite extensive and major portions of these areas are owned or leased by the State of Wisconsin. This significant environmental corridor has recently experienced surrounding residential development. The large wetland in Red Cedar is located along Muddy Creek and a tributary of it, where little residential development is occurring. Blakely Lake, just off County Highway B and south of Interstate 94, is a significant wetland that is in an area that will experience heavy development pressure.

4.2.2 Shorelands and Floodplains

Lands within 1,000 feet of the ordinary high water mark of a lake or pond and 300 feet past the ordinary high water mark or landward edge of the floodplain, which ever is greater, of a river or stream are designated shorelands. Shorelands are usually considered prime residential building areas because of their scenic beauty. However, shorelands provide valuable habitat for both aquatic and terrestrial animals and vegetation. Shorelands also act as buffers and thus serve to protect water quality. Wisconsin requires counties to protect and prevent the loss and erosion of these valuable resources by adopting and enforcing a shoreland ordinance. The authority to enact and enforce this provision comes from Chapter 59.97 of the Wisconsin Statutes. Wisconsin Administrative Code NR115 dictates the shoreland management program. County ordinances can be more, but not less, stringent than NR115.

Floodplain zoning is required to be implemented by counties, cities and villages by Wisconsin Statute 87.30(1). The purpose of Wisconsin Administrative Code NR116, Floodplain Management Program, is the protection of property and public investments from the effects of flooding. Federal Emergency Management Agency 100 year floodplain maps were used to delineate flood hazard areas within the Planning Area. Flood hazard areas are prevalent throughout the Planning Area. Variations in the width of the flood hazard zones is due to topography and water volumes. In the Sewer Service Planning Area there is considerable development within the 100 year floodplain. Enforcement of local floodplain zoning ordinances should be reviewed. The Dunn County Comprehensive Zoning Ordinance has provisions for the protection of wetlands, shorelands and floodplains.

The shorelands within the Sewer Service Planning Area consist of the areas adjacent to the Red Cedar and Hay Rivers, numerous streams, and surrounding three major lakes (Tainter, Little Tainter and Menomin). The Red Cedar river and some of the streams have encountered considerable development. As well, Tainter Lake has also been extensively developed, leaving only a few undeveloped shores. The City of Menomonie abuts the southern 1/2 of Lake Menomin, although the north end has public parks and recreation areas within its shorelands.

4.2.3 Steep Slopes

Steep slopes are considered, in this plan and by the WisDNR, to be any area of 12% or greater slope and consisting of any soil type. Any development on these slopes could result in high construction costs and severe erosion with resultant negative impacts to surface waters. Therefore, development on steep slopes is be prohibited. Any amendments to allow development must consider direct runoff into streams or rivers and must follow locally approved construction erosion control ordinances and the institution of best management practices to control on-site runoff.

The steep slopes within the Planning Area represent slopes classified as having a severe or very severe erosion hazard potential (category D through F) by the Soil Conservation Service. In addition, the 7.5 minute quadrangles of the Planning Area were used to cross-reference steep sloped areas. The majority of the steep slopes are along, and to the west of,

the Red Cedar River and Lake Menomin. However, others can be found throughout the Planning area, particularly in the bluff areas in the Towns of Red Cedar and Tainter.

4.2.4 Natural Areas

The WisDNR, Bureau of Endangered Resources conducts data searches for natural areas, and endangered plants and animals. The Bureau urges special notice be taken to protect any and all endangered resources from development. The exact locations of the endangered resources can only be used for analysis and review purposes; therefore, only the natural areas will be identified and included as environmentally sensitive areas. Several fish and invertebrates of significance have been identified in the Planning Area, along with some natural areas.

WisDNR undesignated natural areas of local significance within the Planning Area are: Wilson Creek Gorge and Tainter Lake Wetland.

4.2.5 Prime Farmland

Consideration of new development within prime farmland areas must be developed in accordance with the Dunn County Land Conservation Department Farmland Preservation Standards, Dunn County Comprehensive Zoning Ordinance, and Dunn County Erosion Control Plan of Dunn County. These documents have implemented procedures to direct non-farm development away from prime farmland. Soils that fall into classes I, II, and III of the Soil Conservation Services capability unit classification system are usually considered prime agricultural lands. The Dunn County Comprehensive Zoning Ordinance makes provisions to protect prime agricultural lands from development through the Exclusive Agricultural District and the facilitation of the Wisconsin Farmland Preservation Program.

Any development requesting sewer hookups or extensions should consult the appropriate farmland preservation instruments to determine if the proposal is in accordance with current regulations.

Prime agricultural lands are scarce within the City of Menomonie, although, the Towns of Red Cedar and Tainter have considerable tracts which could be considered for protection. There are 1,102 acres of agricultural lands in 9 tracts within the Urban Sewer Service Area that are presently under the Wisconsin Farmland Preservation Program.

4.2.6 Historical Sites

Historic sites are of great importance to our society, as they are reminders of the past and also of the progress which has taken place since. Therefore, this plan addresses these significant areas and how development may affect them.

A record search by the State Historical Society of Wisconsin revealed a significant presence of architectural, historical, and archeological properties in the Planning Area. They are also certain there are many undiscovered prehistoric and early historic sites present. A listing of these sites and their location are not provided so as to protect them from disturbance.

However, any development requiring extensions to the sanitary sewer must be reviewed, pursuant to Wisconsin Statute 44.40 (1989), against the historical resource list to determine whether historic properties within the project area will be affected. The Historical Society must be contacted for a determination of possible impacts on these resources from the development.

The Historical Society strongly recommends that all development alternatives be surveyed by a qualified archeologist to identify any sites. Also, if the removal or alteration of any building or structure over 50 years old is proposed, the Historical Society should be contacted so they may assist in evaluating any historical significance. Cooperation of all developers, public and private, will assure preservation of these valuable resources of our community.

4.3 Delineation of Environmental Corridors

WisDNR recommends lands delineated as environmental corridors not be developed for intensive urban use. NR121.05 (g) (2) (c), Wisconsin Administrative Code, describes the areas which should be excluded from sanitary sewer development as: wetlands; shorelands; floodplains; steep slopes; and other limiting physical features. The WisDNR guidelines for defining environmental corridors is in Appendix A.

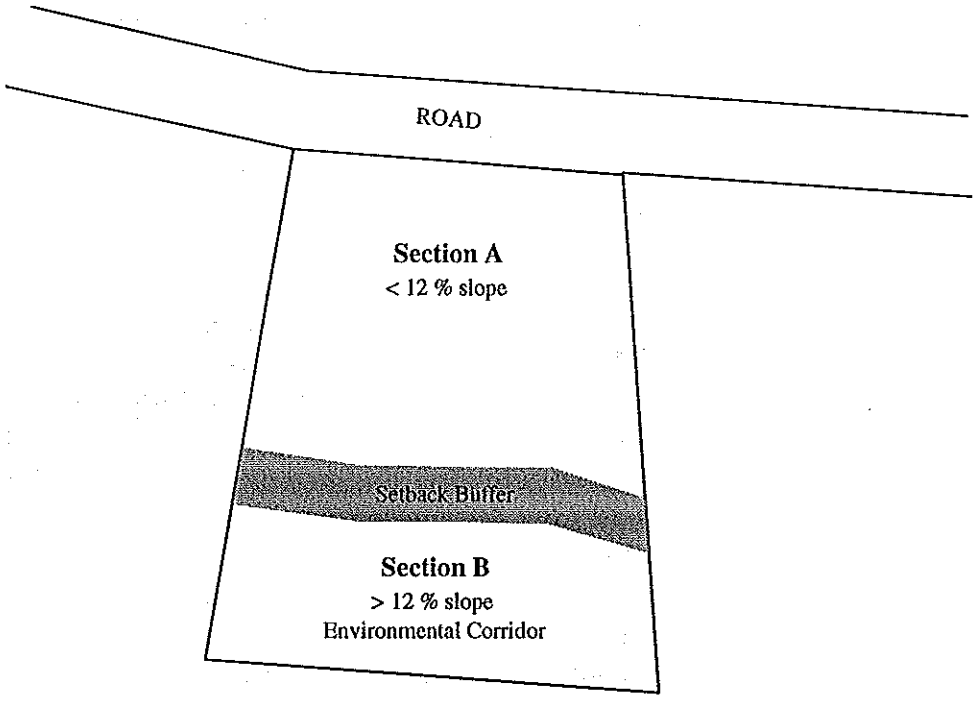
The identification of environmental corridors is intended to: reduce runoff and erosion damage around lakes and rivers; preserve the quality of surface and ground water; guide development to protect environmentally sensitive areas; prevent excessive non-point source pollution; provide long term protection of wildlife habitats and recreation areas; and reduce public utility costs. Prohibiting development of environmental corridors is an effort to become more critical of the degrading effects development can have on our environment. Directing sewered development into areas with minimal environmental impact is the goal of this plan.

After several meetings of discussions on environmental corridors, the Dunn County Strategic Planning Task Force recommended that all regulated wetlands, 100 year floodplain and areas of 12% or greater slope be designated environmental corridors. Wetlands and 100 year floodplains currently have state and federal restrictions, whereas, the steep sloped areas do not. Shorelands were not included in the sewer extension/hookup review process of this plan, as shoreland development is regulated by state and local zoning. Implementation of this plan will restrict the extension or hookup of sewer service to new structures located within environmental corridors.

Areas of 12% or greater slope were considered as part of the environmental corridor delineation because the Soil Conservation Service classifies these slopes as having a severe or very severe erosion hazard potential. The City of Menomonie Comprehensive Plan Update, 1993 identifies areas having slopes 12 percent and greater, and suggests that these slopes be limited to low density development which are carefully planned to mitigate or avoid potential problems. In an effort to preserve water quality, and reduce the runoff and erosion damage of these areas, the Dunn County Strategic Planning Task Force recommended these areas be included in the environmental corridors.

The plan does allow sewer extensions or hookups to buildings on lots which are partially within an environmental corridor if the actual construction is not on that portion of the lot affected by any one of the three criteria (>12% slope, wetlands, floodplains). In addition, there must be sufficient setbacks and erosion control measures taken, as determined by local zoning or land development controls. An example of this may be a residential subdivision lot, of which, only a portion is greater than 12% slope, as depicted in Figure 2. Section B has a slope greater than 12%, which defines it as an environmental corridor. Section A is the portion of the lot with less than 12% slope and thus, with locally acceptable setbacks and erosion control measures, would be permitted extension of sewer service by the local municipality without a plan amendment. **Any alteration of wetlands or slopes greater than 12% to remove these areas from an environmental corridor, and hence make them available for sewered development, is prohibited.** Requests for sewer extensions and hookups which cause encroachment upon 12 to 20 percent slope can be permitted only after the establishment of erosion control measures as specified in Section 5.2 and 5.3. Any change to the environmental corridor delineation requires WisDNR approval and a plan amendment (see Section 5.4).

FIGURE 2 Environmental Corridor Setbacks



While this sewer service plan emphasizes preservation of environmental corridors, it also recognizes the possibility of a conflict between environmental preservation and legitimate local and regional development. An example may be, the need to cross an environmental corridor to service on outdoor recreation facility with sanitary sewer lines. When such a conflict occurs, the problem should be resolved with utmost care taken to minimize damage to the environment. Again, any changes to the environmental corridor delineation requires WisDNR approval and a plan amendment (see Section 5.4).

This Sewer Service Plan defines the environmental corridors as being:

- All regulated wetlands.
- All areas within the Federal Emergency Management Agency 100 year flood hazard zones.
- All areas of 12% or greater slope.

The environmental corridors are depicted on Map 5 (found inside the back cover). It should be noted, maps delineating the environmental corridors will be used for review of proposed sewer extensions and hookups, however, due to the accuracy limitations of these maps, the above criteria compared with actual site specific data will be used for determination of plan conformance.

4.4 Existing Sewer Conditions

The City of Menomonie is served by one secondary treatment facility -- the Menomonie Southside Sewage Treatment Plant, and thus the City of Menomonie is the designated facility management agency for the area. The Menomonie plant, which accepts domestic and industrial wastes, serves the City of Menomonie, and the Homer mobile home area, a sanitary district.

According to the 1979 Facility Plan for Wastewater Treatment, the Southside plant was originally constructed in 1941 as a Works Progress Administration project. The plant was initially a primary plant using settling of solids to reduce the sewage strength. In 1958 the plant was converted to a secondary treatment facility using a trickling filter and settling tanks. In 1973 automatic sampling equipment was installed at the facility for raw influent, and primary and final effluent, as well as, two primary settling tanks, two final settling tanks, a chlorine contact tank, an air blower building, an aerobic digestor, an anaerobic digestor, a small sludge storage tank, sludge drying beds, activated sludge tanks, and the necessary motors, pumps, piping, and equipment. A lift station was constructed in 1975 to pump effluent from the tricking filter to an activated sludge tank. In 1977, another lift station was added to pump supernatant from the ammonia assimulation and final settling to the primary treatment rather than the head of the plant. In 1983, a headworks addition consisted of automatic grit and rag removal by hydraulic bar screen, comminuter, and Pista® Grit. An equalization tank, dissolved air floatation thickener, and lab and office space were also added. A sludge concentrator was added in 1986, automatic controls for the equalization tank in 1988, and two sludge storage tanks for farmland spreading in 1990.

The existing wastewater treatment facility generally consists of: the control building which contains the sewage pump room, an aerated grit chamber, a wet well, trickling filter pumps, raw sewage pumps, chlorination equipment, and the office and lab; other facilities including, a comminutor pit, two primary settling tanks, two final settling tanks, a chlorine contact tank, an air blower building, an anaerobic digestor, sludge drying beds, activated sludge tanks, a dissolved air floatation (DAF) thickener, a sludge concentrator, and a new preliminary treatment system; and the necessary motors, pumps, piping, and equipment for the previously mentioned apparatus.

The current average daily flow through the Menomonie sewage treatment plant is 1.45 million gallons per day (mgd). The plant is capable of treating an average of 2.88 mgd. The treatment plant capacity is adequate at present. The treatment plant currently uses local farm land for sludge disposal. Winter sludge disposal problems have been alleviated by the recent 1990 addition of a 1,000,000 gallon sludge storage facility located in the Northeast Industrial Park.

The City of Menomonie has maintained an active improvement program for their sewage treatment plant, ensuring necessary equipment replacements and facility modifications are addressed in a timely manner. New environmental regulations concerning ammonia and phosphorous discharges required additional adjustments to plant operations. The exact extent and cost of these modifications are currently being assessed and the city has begun budgeting for these expenses in preparation for their implementation requirements. The capital improvements program lists a 1994 priority for implementing a trickling filter clarifier, trickling filter cover and modifications, a cover and modifications to the ammonia tank, and an odor and air pollution control-trickler, DAF; and a 1999 priority for an additional digester. The existing Sanitary Sewer Plan 1995-2015 from the City of Menomonie Comprehensive Plan 1993 update is depicted in Map 6.

4.4.1 Current Levels - Capacities

In addition to the delineation of the 20 year sewer service boundary, one objective of this plan is to provide effective, and economical sewer service to the area. An evaluation of current conditions of the system will determine if the facility is accomplishing this objective. For the purpose of the plan, the 1992 Compliance Maintenance Annual Reports (CMARS) was used to give an insight to current levels and capacities of the Menomonie treatment facility.

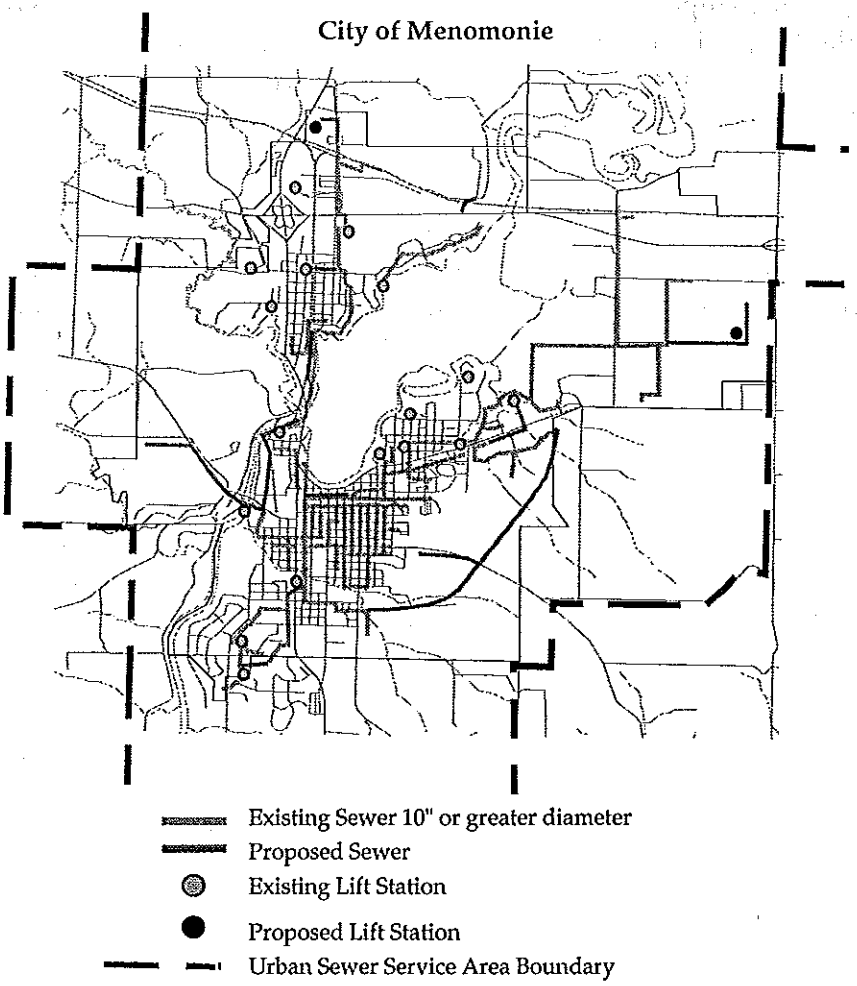
Table 5 displays the design projections and 1991 system levels for the plant. The facility has a design year of 1995; with the average daily flow slightly above 50% in 1991, it will effectively serve the community to the year 1995, and will probably serve adequately to the year 2000.

4.4.2 Regional Treatment Alternatives

A Wastewater Facilities Plan for the City of Menomonie is being prepared by Rust Environmental concurrently with this Sewer Service Area Plan. The previous plan was prepared by Cedar Corporation in 1979. The urban sewer service area and the population projections for the area are being considered in the development of the current facility plan. The feasibility of various regional treatment alternatives in this plan was based on practical application (financial and regulatory), comparing a single regional facility (expand the Menomonie plant), and two facilities (a new facility to serve the Lake Tainter area).

Considering the Department of Natural Resources' policy of non-proliferation of wastewater treatment facilities, and the cost of establishing a new facility, it is evident that

MAP 6 Sanitary Sewer Plan 1995-2015



Source: Menomonie Comprehensive Plan Update 1993

TABLE 5 Current Sewer Levels and Capacities, 1991

Southside Treatment Facility		
Design Year	1995	
Design Flow (Daily Avg.)	2.88 mgd	
Biological Oxygen Demand - 5 Day (BOD5)	6,180 lbs/day	
1991 Monthly Avg. Flow (mgd)	1.453	Average
	1.599	High
	1.304	Low
1991 Monthly Avg. BOD5 - Loading (lbs/day)	3,565	High
	2,743	Low
1991 Monthly Avg. Effluent BOD5 Concentration (limit - 25 mg/l)	15 mg/l	High
	3 mg/l	Low
1991 Monthly Avg. Suspended Solids (limit - 30 mg/l)	17 mg/l	High
	5 mg/l	Low

Source: 1992 DNR Compliance Maintenance Annual Report for Menomonie

using the existing Menomonie site and facilities is the only practical method of the two alternatives. The 1979 facility plan anticipated the Menomonie facility would adequately serve capacity requirements to the year 2000. The current facility plan will not be completed until after this plan and thus this plan does not totally reflect the existing and planned wastewater systems or facilities. It is recommended that the facility plan be updated to consider the changes which have occurred since 1979, including the potential necessity to address various unsewered subdivisions, the residential development north along the Red Cedar River, and the Lake Tainter area as sanitary districts.

In addition to the facility alternatives, several cost choices for on-site disposal systems are presented in Table 6. On-site wastewater systems are those which store, treat, and/or dispose of wastewater on the site at which the wastewater is generated. These on-site systems consist of septic tank/absorption field, holding tanks, or mound systems. A summary of these systems and their approximate costs follows. The costs for sanitary sewer service are also presented.

TABLE 6 Wastewater Cost Estimates for a Single-Family Dwelling

Septic Tank/Soil Absorption System:	$2,500/unit
excluding tank:	$2,000/unit
annual pumping costs:	$ 30/yr.
Holding Tank System (2,000 gallons):	$2,300/unit
annual pumping costs:	$ 800/yr.
Individual Mound System:	$6,200/unit
excluding tank:	$5,100/unit
annual pumping costs:	$ 30/yr.
Sanitary Sewer Service:	$10.00/800 cu. ft. minimum and $.95/1000 cu. ft. thereafter, or approximately $.82/1000 gallons on average
sewer extension costs:	$30.00/foot
lateral hookup costs:	$11.50/foot

Source:WCWRPC

It should be noted, the costs as presented are estimates of average costs and actual costs for disposal systems may vary.

4.4.3 Urban Development Areas

Since the treatment facility has the capability of handling sewage from future development to the year 2000, and a facilities plan is underway to address the conditions of the year 2015, the next step is to look at where development can and should occur within the urban area. A stated policy of this plan is to encourage development of vacant developable lands within the corporate limits -- or infill. The purpose of this portion of the plan is to address the infill policy by identifying the areas within Menomonie available for development.

Also, this plan encourages compact and orderly development to occur adjacent to existing development to contain the costs of public service provision and prevent scattered or sprawling development. In addition, unsewered-developed and sewered-undeveloped areas are be identified, because these areas will eventually have an impact on the sewer capacities.

As earlier stated in the Land Use section of this plan, the inventory of land use data available for the City of Menomonie derived an estimate of its undeveloped lands. This analysis was concerned more with general areas instead of being site (or acre) specific, because of the data limitations. These undeveloped areas should be given priority for development before the City expands its limits to accommodate growth. Specifically, the northwest, northeast, and southeast edges of Menomonie should be given strong consideration for development.

Using sewer system maps from the City of Menomonie, and the estimates of developed areas in the City, the unsewered-developed areas could be identified. The areas identified are not only filling with residential housing, but some have existing houses with failing septic systems and will need to be sewered sometime in the future. The sewering of these areas will have a significant impact on the Menomonie sanitary sewer system. Both plant facility and sewer line expansion should be planned accordingly.

The unsewered-developed areas in the unincorporated area were identified by the land use inventory and the sampling of septic system permits represented in Map 7. The most significant of these areas are the land north of Menomonie along the Red Cedar River to, and around, Tainter Lake, and various subdivisions south of the City. These areas may have to be served in the near future because of failing septic systems, or surface and ground water degradation.

In addition to identifying the unsewered-developed areas, the sewered-undeveloped areas are also defined. These areas are of importance because at sometime they will be developed and additional loadings from them will add to the wastewater treatment flow. The significant sewered-undeveloped areas identified were the vacant lots in the industrial park of the City of Menomonie. This area, once developed, will put additional strain on the existing wastewater treatment systems, and is being planned for accordingly.

4.5 Forecast of Urban Growth

4.5.1 Population Projections

Population projections are a key component in determining future sewer service needs in the Menomonie Sewer Service Planning Area. Although the future cannot be predicted with certainty, accepted methods of projecting populations will yield information for sound decisions. The population projections, anticipated land use patterns, and household size and density of development, will be used to calculate the estimated acreage needed for future growth. This will assist in the selection of the type and size of a wastewater treatment facility needed to efficiently serve the urban sewer service area.

TABLE 7 Population Projections, 1995-2015; Planning Area Municipalities

						1995-2015 Change		1995-2015 Change
Community	1995	2000	2005	2010	2015	Number	Percent	10 yr. growth rate
City of Menomonie	14,084	14,621	15,244	15,867	16,543	2,459	17.5	8.7
Menomonie Twp	2,913	3,110	3,306	3,450	3,622	709	24.3	12.1
Red Cedar Twp	1,514	1,619	1,723	1,800	1,892	378	25.0	12.5
Sherman Twp	760	799	838	865	897	137	18.0	9.0
Tainter Twp	1,872	2,007	2,141	2,241	2,360	488	26.1	13.0
Unincorporated	7,059	7,535	8,008	8,356	8,771	1,712	24.3	12.1
Planning Area	21,143	22,156	23,252	24,223	25,314	4,171	19.7	9.8

Source: City of Menomonie - *City of Menomonie Comprehensive Plan Update*, Menomonie Plan Commission, 1993
Unincorporated Areas - *Official Municipal Population Projections 1990-2015*, Wisconsin Department of Administration, 1993

TABLE 8 Population Projections, 1995-2015; Sewer Service Area

Population within the Menomonie Urban Sewer Service Area, 1990-2015							
Community	**1990**	**1995**	**2000**	**2005**	**2010**	**2015**	**1995-2015 change**
City of Menomonie	13,547	14,084	14,621	15,244	15,867	16,543	2,459
Menomonie Twp	2,224	2,371	2,531	2,691	2,808	2,949	578
Red Cedar Twp	818	874	935	995	1,039	1,092	218
Sherman Twp	121	127	134	141	146	150	23
Tainter Twp	1,481	1,587	1,701	1,815	1,900	1,990	403
Unincorporated	4,644	4,959	5,301	5,642	5,893	6,181	1,222
Sewer Service Area	18,191	19,043	19,922	20,886	21,760	22,724	3,681

Source: 1990 population from Census Block Statistics, U.S. Census Bureau; Projections derived from: City of Menomonie - *City of Menomonie Comprehensive Plan Update*, Menomonie Plan Commission, 1993; Unincorporated Areas - *Official Municipal Population Projections 1990-2015*, Wisconsin Department of Administration, 1993. Percent change for each period applied to populations within the Menomonie Urban Sewer Service Area.

The population projections for the unincorporated Planning Area in Table 7 are from the Wisconsin Department of Administration (WDOA), Demographic Services. For the City of Menomonie a more realistic projection based on local factors was used from the City of Menomonie Comprehensive Plan Update. Refer to the appropriate agency report for a detailed description of the methodology used for determining these projections.

The WCWRPC projections for the Planning Area envision the population to grow from 21,143 in 1995 to 25,314 in 2015, an increase of 4,171 people or a 19.7% increase. The population of the City of Menomonie is projected to increase by 17.5% over twenty years, whereas, the population of the unincorporated area is projected to rise at a 24.3% rate.

For the purposes of allocating future residential acres, the projections derived for the Menomonie Urban Sewer Service Area in Table 8 will be used. These sewer service area specific projections were derived by applying rates of change for communities in Table 7 to population figures from census block statistics corresponding to the sewer service area.

4.5.2 Residential Development

The City of Menomonie Generalized Land Use Plan Year 2015 depicts the projected land use patterns of the City in the year 2015. Major residential land use expansion within the current city limits is anticipated in four areas of the city: the southeastern area of the city, south of the Stout Technology Park and north of a line between 21st Avenue and Rifle Range Road, and on both sides of County J; the western area of the city, in and around Midway Road and Meadow Hill Road; the northern area of the city, north of Cedar Falls Road between Highway BB and the Red Cedar River; and the eastern side of the Lake Menomin, north of Highways 12 and 29, surrounding the Dunn County Health Care Center. Map 8 depicts these growth areas.

To identify the residential growth areas outside of Menomonie, a sampling of sanitary sewer permits from 1980 to 1993 were analyzed. In Map 7, permit data was gathered by town-range, quarter-section, then displayed using a dot map (NOTE: the dots are not placed site specific, only generally by quarter-section). In addition, a comparison of the 1973 and 1993 land use information revealed changes in residential land use over twenty years. Table 9 and Figure 3 display the number of residential building permits by town for 1990 through 1993, and Map 8 shows the clustering of residential growth areas in the Planning Area.

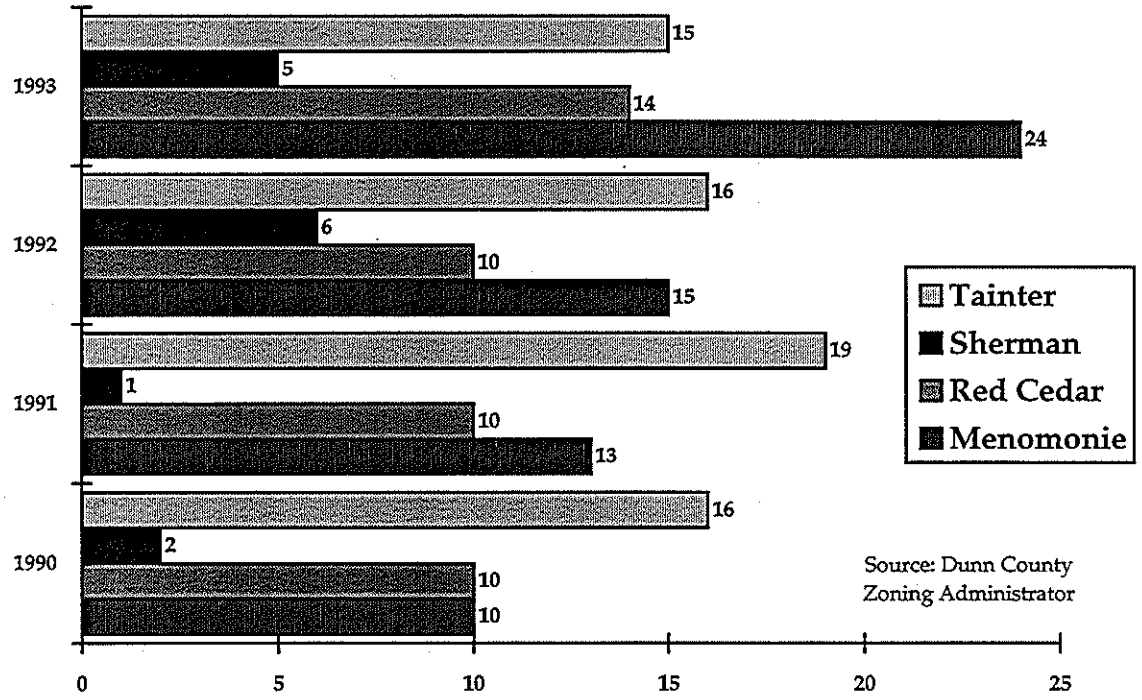
Residential land use information for the City of Menomonie reveals that between 1984 and 1992 were there was a 53 acre increase in the amount of multi-family housing or 64.6%. During the same period single and two family residential land area grew by 100 acres or 14.3%. According to the U.S. Census, between 1980 and 1990, there was an increase of 458 housing units in multi-family dwellings, while there was a decrease of 101 single- or two-family housing units. The majority of housing unit development in the City of Menomonie since 1980 has been multi-family, but a trend of increasing single-family housing development is emerging. In addition, continuing housing development in the unincorporated area is at a much lower density than within the city. This trend would indicate the housing density should be decreasing.

TABLE 9 Residential Housing Permits 1990-1993, Unincorporated Areas

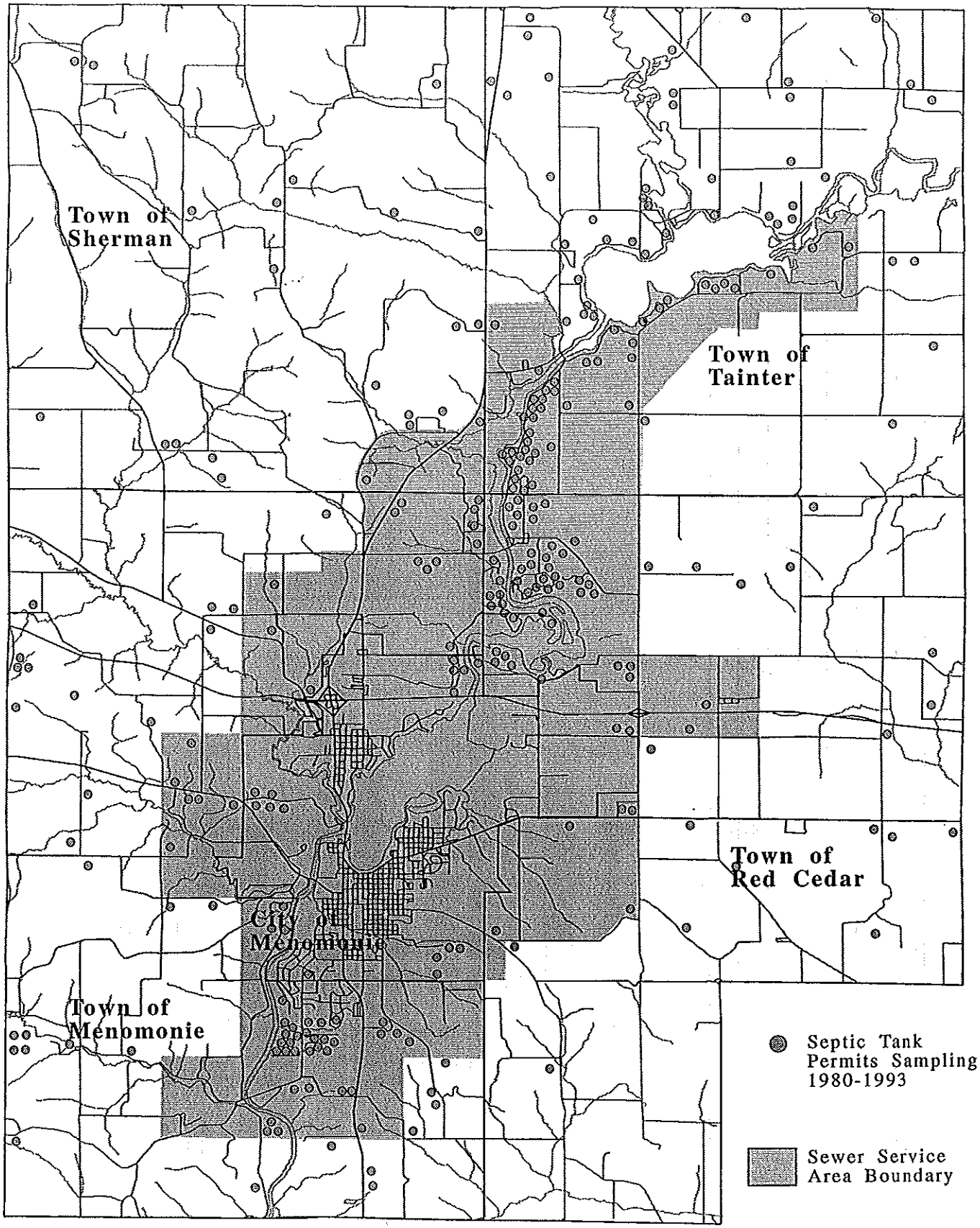
Municipality	1990			1991			1992			1993		
	New Home	Mobile Home	Total	New Home	Mobile Home	Total	New Home	Mobile Home	Total	New Home	Mobile Home	Total
Menomonie	8	2	10	10	3	13	14	1	15	24	0	24
Red Cedar	7	3	10	7	3	10	9	1	10	13	1	14
Sherman	1	1	2	0	1	1	5	1	6	4	1	5
Tainter	13	3	16	15	4	19	15	1	16	13	2	15
Totals	29	9	38	32	11	43	43	4	47	54	4	58

Source: Dunn County Zoning Administrator

FIGURE 3 Housing Permits, 1990-1993

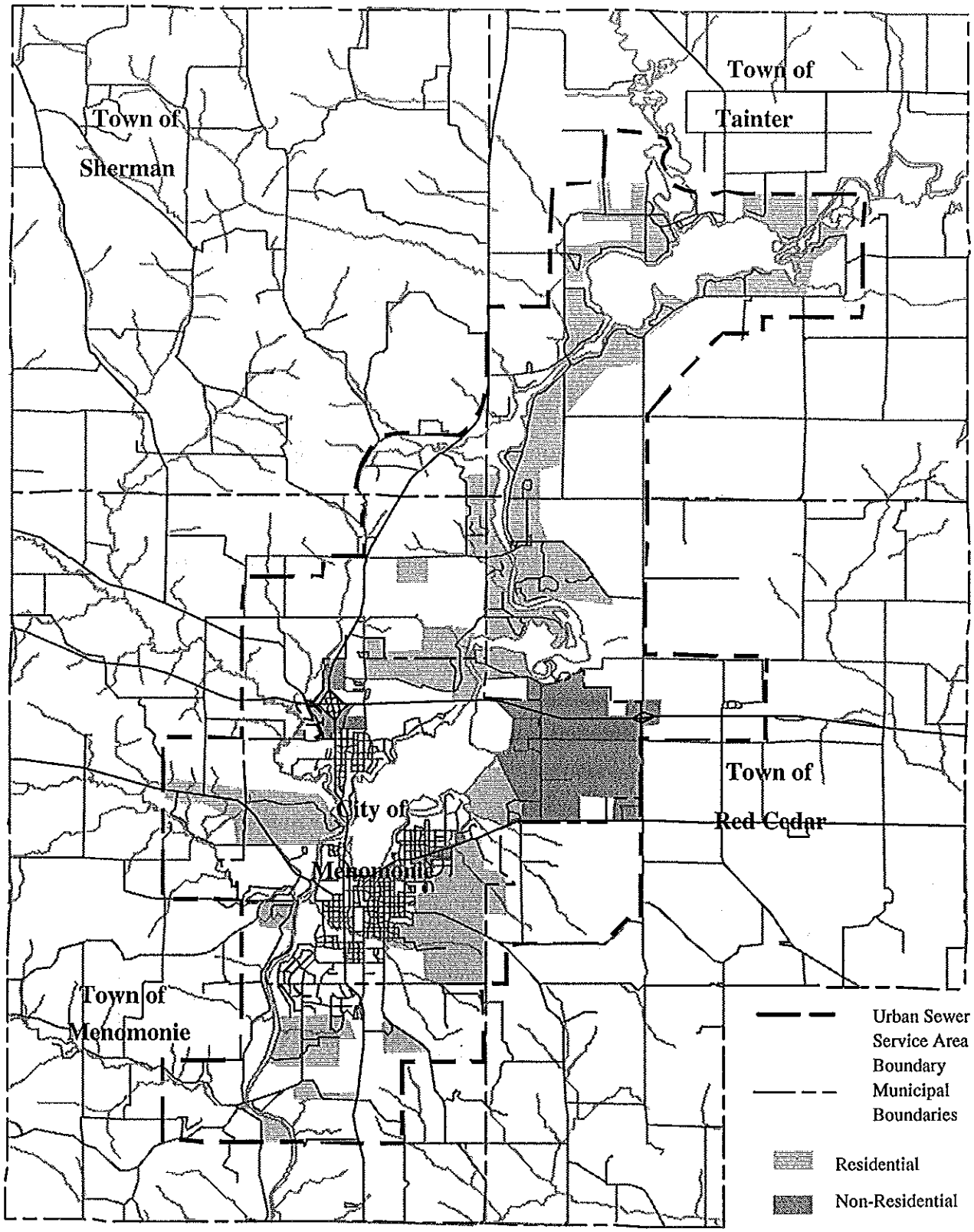


MAP 7 Septic System Permits, Sampling From 1980 to 1993



Source: Dunn County Zoning Administrator

MAP 8 Urban Growth Areas 1995-2015



4.5.3 Allocation for Future Residential Development

Based on household size, population growth, and households per acre, the number of acres needed to accommodate residential development can be calculated. All of these factors are variable through time, so figures were chosen which reflect current trends.

First, the population projections, as presented in Table 8, were used to determine the projected population increase in the sewer service area from 1995 to 2015. This 20 year population change within the sewer service area is projected to be 3,681 people.

Second, the 1990 Census showed a 2.7 persons per household figure for Dunn County. In 1980 the size of a household was just over 3 persons. Since the size of households has been declining over the past 40 years, it can be concluded that decline will continue. However, the rate of the decline should slow significantly. The selected household size is 2.6 persons, which is an estimated average household size from 1995 to 2015.

Third, a density figure of 2.7 households per acre was chosen to reflect current development standards. Since the majority of the households are in Menomonie, more weight was given to its development standard. Certainly, housing densities are less in some areas of the Planning Area, but this figure represents an average.

Finally, multiplying the persons per household times the households per acre results in persons per acre. Then, dividing persons per acre into the projected population increase between 1995 and 2015 determines the number of acres needed to accommodate future residential growth within the predetermined sewer service area.

2.6 x 2.7 = 7.02 persons per acre

3,681 / 7.02 = 524 residential acres needed for population growth within the Menomonie Urban Sewer Service Area.

TABLE 10 Population Density Alternatives; Menomonie Sewer Service Area

1995-2015 Population Growth:	3,681	
People per household:	2.6	
Dwelling units needed:	1,416	
People per acre	*Households/acre*	*Acres needed*
3	1.2	1,179
4	1.5	943
5	1.9	745
6	2.3	616
7	2.7	524
8	3.0	471
9	3.5	405
10	3.8	372
11	4.2	337
12	4.6	308

Source: WCWRPC

4.5.4 Non-Residential Development

Non-residential growth areas were identified by comparing the 1973 and 1993 land use information revealing changes in non-residential land use over twenty years, and from the projected land use in the City of Menomonie Comprehensive Plan Update.

The clusters of potential high employment growth areas coincide with industrial parks, commercial centers, and the new County Highway B/ Interstate 94 interchange. The major growth areas are: the Menomonie Industrial Park; the Stout Technology Park; continued commercial expansion in north Menomonie at State Highway 25 and Interstate 94; and the County Highway B/ Interstate 94 interchange. The attraction and expansion of businesses and industry, through the market and development efforts, will have an effect on the timing and extent of growth in these areas. Map 8 exhibits these non-residential growth areas.

In addition to the above identified growth areas, the proposed extension of 21st Avenue in Menomonie will have a significant impact on residential and non-residential development. This extension is identified in the City of Menomonie Comprehensive Plan as possibly being built by the year 2003. It will extend 21st Avenue east of 9th Street and north to County Highway J and U.S. Highway 12/State Highway 29 to provide improved circulation on Menomonie's east side. This extension would put commercial development pressure on Menomonie's south side, along County Highway Y (9th Street) at 21st, 24th, and 28th Avenues.

4.6 Delineation of Urban Sewer Service Area Boundary - 2015

As noted in the preceding chapters, environmental corridors, existing sewer conditions, existing development, and future development affect the future growth of a community. Looking at how these variables interact will provide a strong basis for guiding future growth.

The Dunn County Strategic Planning Task Force began its development of the urban sewer service area boundary by identifying potential areas of urban growth and existing residential areas requiring future sewer service. Using firsthand local knowledge, land use maps, and the forecasts of urban growth, the Task Force compiled the starting point for discussions as the areas shown in Map 9. Area A, which corresponds to areas that will probably be served by sewer in the near future, was the common area selected by all Task Force members. The other areas were selected by Task Force members as those to be the basis for discussions regarding the appropriateness of inclusion into, or exclusion from, the urban sewer service area.

Upon review of the discussion areas the Task Force decided that the area around Tainter Lake will need to be sewered by the year 2015, because of existing residential development and continued expansion of residential areas. The conditions of unsewered residential development which exist along the Red Cedar River north of Menomonie are also apparent around Tainter Lake. The residents around Tainter Lake will probably realize the need to sewer the area to prevent further serious degradation of lake water quality. Considering the Department of Natural Resources' policy of non-proliferation of wastewater treatment facilities, and the cost of establishing a new facility, it is evident that using the existing

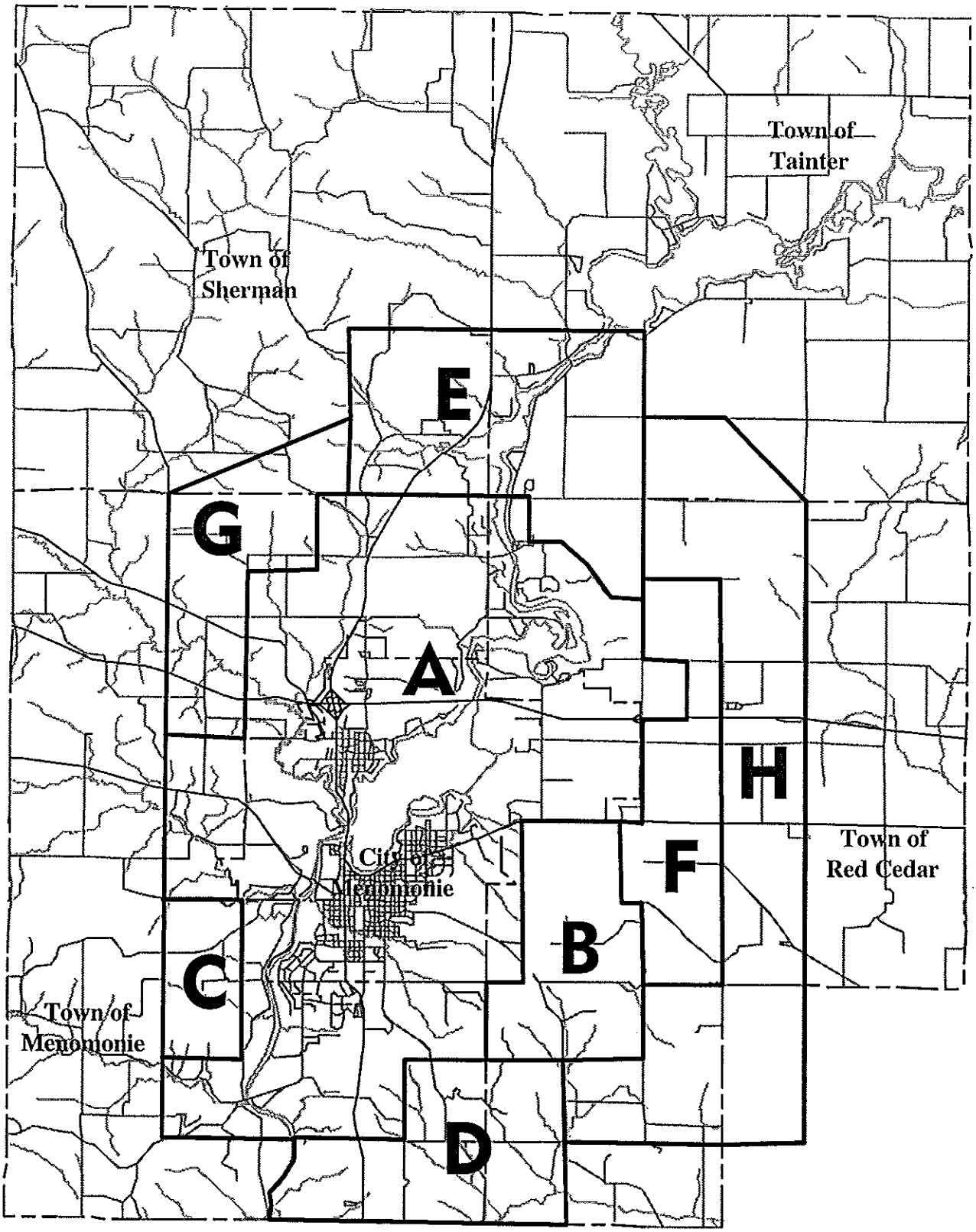
Menomonie site and facilities, and extending sewer lines is the only practical way to serve this area. The only other wastewater treatment facility near the Tainter Lake area is at the Village of Colfax. This facility would be inadequate to serve the area, and the Menomonie facility is best situated to serve the intervening Red Cedar River area north of the City of Menomonie.

The Task Force was also concerned about the implications for controlling development by including areas into or excluding areas from the sewer service area. It was felt that in certain circumstances development would be encouraged by designating areas as available for sanitary sewer. However, it was decided that those areas designated as available for sewered development could be more closely controlled using the goals, objectives and policies in the sewer service area plan. In Map 9 the areas C, D, and G were dismissed as remote and unlikely to be served by sanitary sewer. The portion of area B north of Whispering Hills Road was included because the improvements to County Highway B, the sewered industrial and commercial land to the north, and its proximity to City of Menomonie wellfields. The only portion of areas F and H which were retained were lands around the unincorporated settlement of Rusk. This area presently has City of Menomonie water service, and is likely to experience undetermined development because of its proximity to the industrial and commercial development around the County Highway B/Interstate 94 interchange. Area E was adjusted to remove land west of County Highway F, north of Retzloff Road, and west of State Highway 25 (north of Retzloff Road). Also in area E, land to the west of County Highway B and The Lake Road was retained because the actual alignment of the sewer extension necessary to serve Tainter Lake is unknown and could be located anywhere in this area.

The Task Force decided that restricting the sewer service area unnecessarily can lead to undue plan amendments, making the development process burdensome. It is better to provide for the potential for sewered development and let the development controlling mechanisms of local planning, zoning and site plan review, the sewer service area plan, and costs of sewer extension and hookup determine where that development actually occurs.

From these boundary adjustment discussions, a final sewer service area was selected and the sewer service area specific population, acreage and density figures calculated. Local knowledge of the area, land use maps, urban growth areas, and development objectives were considered by the Task Force in selecting the final urban sewer service area boundary. The final sewer service area boundary is shown on Map 1 and 5. The newly created sewer service boundary encompasses approximately 32,186 acres of land. Out of that total there are approximately 7,000 acres available to development. Inclusion of lands within the sewer service area does not imply they will be developed and sewered by 2015, only that there is a potential for development utilizing sewer service. Environmental corridors and the high cost of sewer extension will be major limiting factors for sewered development. There is probably no way to determine exactly where these development acres will occur. It is hoped that new development will occur in an compact and orderly way as outlined in the policies of this plan. Such development often provides for more cost-effective public services. However, land economics, within the development framework government has in place, has considerable influence over the actual occurrence of development.

MAP 9 Boundary Issues



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CHAPTER FIVE

IMPLEMENTATION OF THE PLAN

5.1 Implementation

The sewer service plan is the tool used in the review of proposals for sewer extensions and hookups. The Dunn County Land Conservation Department, as a Designated Planning Agency (DPA), will advise the WisDNR and WisDILHR regarding whether a sewer extension or hookup is in conformance with the plan. For a proposal to be in conformance with the plan, the sewer extension or hookup review confirms the proposal is within the sewer service area, consistent with plan goals, objectives and policies, and also not in an environmental corridor.

The environmental corridor criteria in the review process means developers and municipal officials must be aware of the criteria and its consequences when proposing new development. An awareness of the sewer service plan by the developers and local governments will ensure proper and timely development occurs.

The Dunn County Land Conservation Department, WisDNR, and all the municipalities represented on the Dunn County Strategic Planning Task Force recognize the importance of residential, commercial, and industrial development in the Menomonie area. Likewise, the Task Force recognizes the importance of preserving water quality and the environment. Consequently, the implementation of this plan will be accomplished through site specific review which will allow sewered development to occur with minimal impacts to the water resources in the sewer service area.

5.2 Sewer Extension Review Procedures

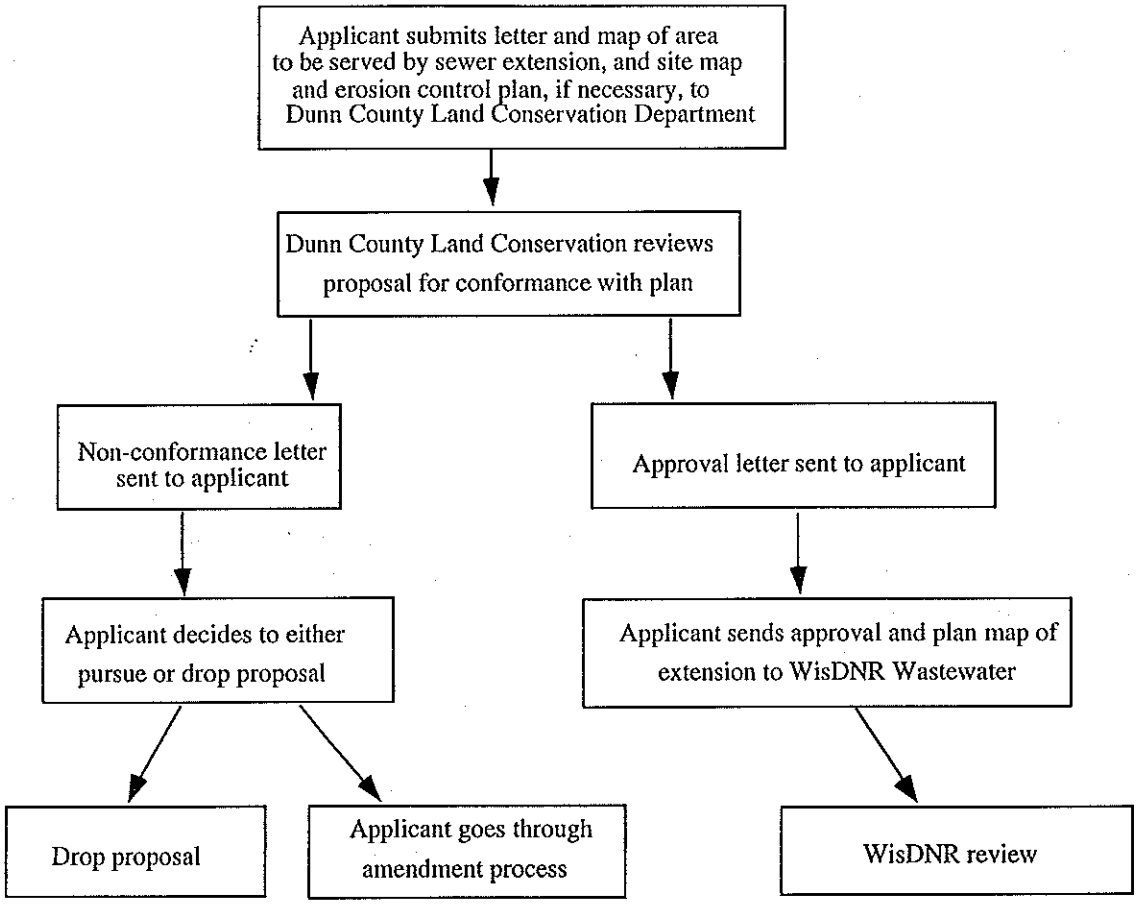
Upon the final approval of this plan, implementation of the plan will consist of reviewing proposals for sewer extensions and hookups. The Dunn County Land Conservation Department, as a DPA, will be responsible for advising the WisDNR on the consistency of the proposed projects with the Sewer Service Area Plan. The local review procedures for sewer extensions are outlined below. NR110 must be reviewed by the applicant for detailed WisDNR plan approval requirements.

1. Applicants for sewer extensions will submit a letter and a plan map showing the proposed sewer extension and the development to be served (with acreages) to the Dunn County Land Conservation Department. This should be done early in the planning process, prior to detailed plans, to avoid delays of the project. Early submittal of the plans will ensure the local review process is completed prior to final submittal of the plans to WisDNR.

1a. If there is any doubt as to the proposed extension infringing on an environmental corridor (as delineated on the review maps), the Dunn County Land Conservation Department will consult with and request site specific information (including proposed building footprints) from the local municipality. This information, along with the environmental corridor criteria from this plan, will be used to make a recommendation on the proposal.

2. The Dunn County Land Conservation Department staff will review all submissions for conformance with the plan, specifically ensuring the proposed extension does not infringe on an environmental corridor, and is within the sewer service area.

FIGURE 4 Review Procedures for Sewer Extension Requests



Applicants requesting an approval of an extension, where that extension or the development it serves infringes on a 12 to 20 percent slope environmental corridor, must submit the following:

- The plan map showing 2-foot land surface contours.
- A copy of the erosion control plan required by either the City of Menomonie, DILHR, or WisDNR which describes the erosion control measures to be implemented at the site.

Assuming the absence of other environmental constraints, any such request will be approved as in conformance with the sewer service plan if the proposed extension is within the sewer service area and the request submittal contains the plan map and erosion control plan as described above. If the implementation and enforcement of erosion control plans are found to be deficient by the WisDNR, the environmental corridor slope limitation of 12 percent or greater will be enforced. Once effective implementation and enforcement of erosion control plans are maintained the environmental corridor slope limitation of 20 percent or greater will be enforced.

5.2 Sewer Extension Review Procedures (continued)

3. If the requested sewer extension is in conformance with the plan, a letter will be sent to the applicant within 15 days of receipt of the plan map. This approval letter and other required materials should then be submitted to WisDNR Bureau of Wastewater by the applicant.

3a. If the proposed extension is not in conformance with the plan, or if there are questions about consistency, a letter of notification will be sent to the applicant within 15 days. The applicant should then decide if they want to further pursue the sewer extension. If not, no further action is necessary.

4. If the applicant decides to pursue the sewer extension, the plan must be amended for the proposed extension to be in conformance. The amendment procedures can be found in the Plan Amendment Process section. An applicant can also alter the proposal to pursue conformance and re-apply.

5. If the plan is amended, the applicant must re-submit their application to the Dunn County Land Conservation Department.

5.3 Sewer Hookup Review Procedures

An arrangement between the WisDNR and the WisDILHR requires review by the Dunn County Land Conservation Department of private sewer hookups to confirm conformance with the Menomonie Urban Sewer Service Plan. ILHR 82.20 (4) requires all new residential (developments greater than two dwelling units, or larger than a duplex), commercial, and industrial developments to submit a letter from the Dunn County Land Conservation Department indicating the proposed development is in conformance with the sewer service plan along with the other information required for DILHR plan review. Specific requirements are outlined in ILHR82 and NR110.

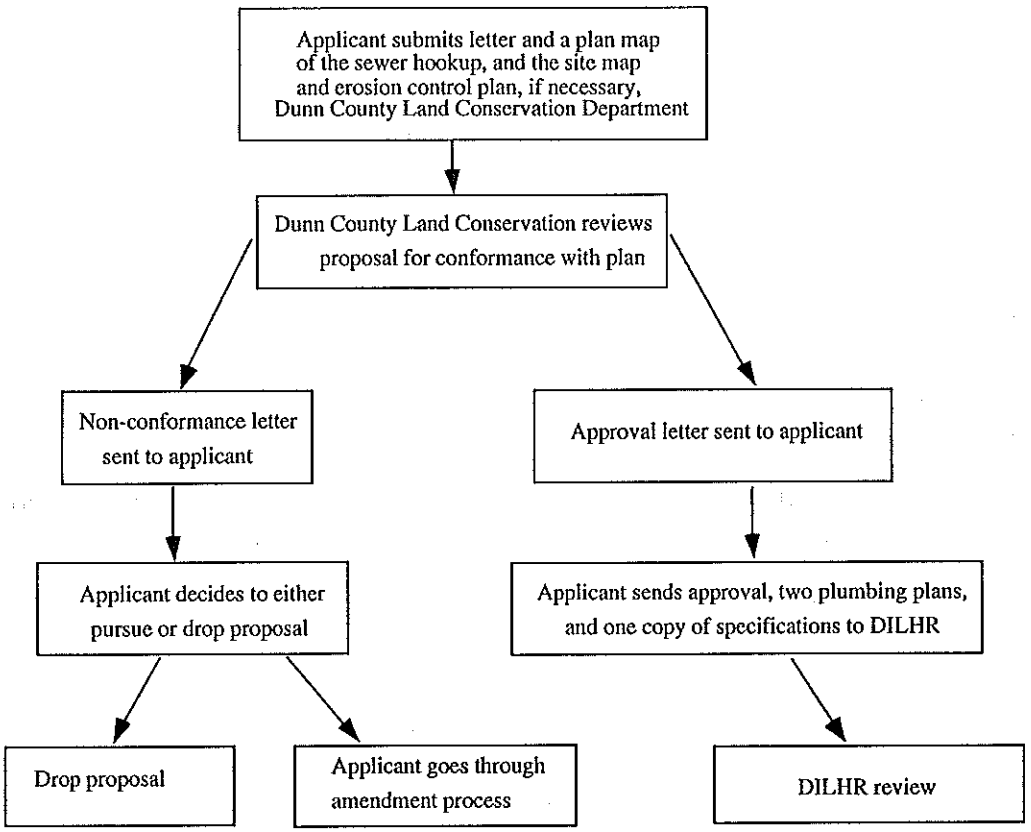
Local review of private hookups will be done by the Dunn County Land Conservation Department.

1. Applicants for sewer hookups will submit a letter containing the project name, project location, and project owner and a plan map showing the proposed sewer hookup to the Dunn County Land Conservation Department. This should be done early in the planning process, prior to detailed plans, to avoid delays of the project. Early submittal of the plans will ensure the local review process is completed prior to final submittal of the plans to WisDILHR.

1a. If there is any doubt as to the proposed hookup infringing on an environmental corridor (as delineated on the review maps), the Dunn County Land Conservation Department will consult with and request site specific information (including building footprints) from the local municipality. This information, along with the environmental corridor criteria from this plan, will be used to make a proposal recommendation.

5.3 Sewer Hookup Review Procedures (continued)

FIGURE 5 Review Procedures for Sewer Hookup Requests



2. The Dunn County Land Conservation Department staff will review all submissions for conformance with the plan, specifically ensuring the proposed hookup does not infringe on an environmental corridor and is within the sewer service area.

   Applicants requesting an approval of a hookup, where the private sewer lateral or the structure it serves infringes on a 12 to 20 percent slope environmental corridor, must submit the following:

   - The plan map showing 2-foot land surface contours.
   - A copy of the erosion control plan required by either the City of Menomonie, DILHR, or WisDNR which describes the erosion control measures to be implemented at the site.

   Assuming the absence of other environmental constraints, any such request will be approved as in conformance with the sewer service plan if the proposed extension is within the sewer service area and the request submittal contains the plan map and erosion control plan as described above. If the implementation and enforcement of erosion control plans are found to be deficient by the WisDNR, the environmental corridor slope limitation of 12 percent or greater will be enforced. Once effective implementation and enforcement of erosion control plans are maintained the environmental corridor slope limitation of 20 percent or greater will be enforced.

5.3 Sewer Hookup Review Procedures (continued)

3. If the requested sewer hookup is in conformance with the plan, a letter will be sent to the applicant within 15 days of receipt of the plan map. The approval letter and all WisDILHR required information and documentation should then be submitted for approval to WisDILHR by the applicant.

3a. If the proposed hookup is not in conformance with the plan, or if there are questions about consistency, a letter of notification will be sent to the applicant within 15 days. The applicant should then decide if they want to further pursue the sewer hookup. If not, no further action is necessary.

4. If the applicant decides to pursue the sewer hookup, the plan must be amended for the proposed hookup to be in conformance. The amendment procedures can be found in the Plan Amendment Process section. An applicant can also alter the proposal to pursue conformance and re-apply.

5. If the plan is amended, the applicant must re-submit the application to the Dunn County Land Conservation Department.

5.4 Plan Amendment Process

With the possibility of a shift in development patterns, a mechanism for reviewing and revising the sewer service area boundary is essential. The amendment process will allow the communities and developers to alter the service area by using additional technical data, new community needs and trends, and possible facility changes. All amendment records and updated boundary maps will be maintained by the Dunn County Land Conservation Department.

Four types of amendments may be made to the Sewer Service Plan.

- Type I amendments are requests for boundary changes without the total acreage of the service area changing.
- Type II amendments are requests to alter the boundary and the acreage of the service area.
- Type III amendments are requests to add holding tank service areas to the plan.
- Type IV amendments are a request for development of an environmental corridor.

Proposals for an amendment to the Sewer Service Plan should include:

a. the exact acreage.
b. legal description of the lands to be added or deleted.
c. a detailed map of the area and surroundings, including topography and buildings.
d. land use proposals.
e. a list of specific service needs to the area (i.e., water, sewer, roads).

5.4 Plan Amendment Process (continued)

Type I Amendment. The sewer service area boundary is altered without the total acreage changing.

With this amendment acreage can only be added to the service area if a corresponding number of acres is subtracted. This "swap" requirement will keep the locally approved population density figures unchanged. Requests of this type should be submitted to the Dunn County Land Conservation Department by the governmental entity that will be servicing the proposed area.

Dunn County Land Conservation Department staff will then review the proposed amendment based on these criteria:

a. Such sewerage service can be provided in a cost-effective manner.
b. There will be no significant adverse water quality and/or environmental impact associated with providing sewer service to the area.
c. The proposed amendment is in compliance with the policies and goals of this plan.
d. Existing or planned sewerage systems have sufficient capacity to treat projected flows.
e. The areas to be swapped are of the same acreage.

Upon Dunn County Land Conservation Department review, the amendment must be approved by the City of Menomonie and/or the Dunn County Strategic Planning Task Force, and then WisDNR will make final approval.

Type II Amendment. The sewer service area boundary is modified and the total acreage is altered.

With this amendment acreage cannot be added to the sewer service area unless the following circumstances exists: (1) area is needed to accommodate unanticipated population growth; (2) a change in local population densities has been approved by the local municipality; and (3) failing on-site wastewater systems. Requests of this type should be submitted to the Dunn County Land Conservation Department by the governmental entity that will be servicing the proposed area.

In addition to the above requirements of an amendment proposal, a Type II amendment proposal should also include:

a. actual population increases in the municipality
b. actual amount of vacant lands within the portion of the municipality in the sewer service area.
c. current development density of the municipality
d. current levels and capacities of the treatment facility to serve the proposed area.

5.4 Plan Amendment Process (continued)

Dunn County Land Conservation Department staff will then review the proposed amendment based on these criteria:

a. There is a significant difference in the projected population and the actual population of the municipality.
b. Such sewerage service can be provided in a cost-effective manner.
c. There will be no significant adverse water quality and/or environmental impact associated with providing sewer service to the area.
d. The proposed amendment is in compliance with the policies and goals of this plan.
e. Existing or planned sewerage systems have sufficient capacity to treat projected flows.

Upon Dunn County Land Conservation Department review, the amendment must be approved by the City of Menomonie and/or the Dunn County Strategic Planning Task Force, with final approval being made by the WisDNR.

Type III Amendment. The addition of a holding tank service area to the plan.

A holding tank service area is required if there is a holding tank within the planning area and outside the sewer service area which generates 3,000 gallons or more of septage per day. Further explanation of holding tank service areas is contained in Chapter 6 of this plan. A request for this type of amendment must be made by the wastewater treatment facility that will service the tank. Requests for a Type III amendment should be submitted to the Dunn County Land Conservation Department and include:

a. A map of the proposed holding tank service area.
b. The exact acreage of the proposed area.
c. Proof there is a contract with the City of Menomonie POTW to handle the septage from the tank.
d. The proposed amendment is in compliance with the policies and goals of this plan.

Dunn County Land Conservation Department staff will review the proposed amendment based on the information above. In addition, a request for a Type III amendment for new development utilizing a new holding tank that encroaches on an environmental corridor will be denied, except as provided for below. The amendment will be allowed if it is determined that the actual construction of all buildings and the holding tank are not on those portions of the holding tank service area affected by any of the three environmental corridor criteria (>12% slope, wetlands, floodplains), and there are sufficient setbacks and erosion control measures taken, as defined by local zoning and land development regulations.

Applicants requesting a Type III amendment, where the development utilizing a new holding tank (all buildings and the holding tank) encroaches on a 12 to 20 percent slope environmental corridor, must submit the following:

- The plan map showing 2-foot land surface contours.

- A copy of the erosion control plan required by either the City of Menomonie, DILHR, or WisDNR which describes the erosion control measures to be implemented at the site.

Assuming the absence of other environmental constraints, any such request will be approved as an amendment to the sewer service plan if the proposed holding tank development satisfies the Dunn County Land Conservation Department staff review and the request submittal contains the plan map and erosion control plan as described above. Upon Dunn County Land Conservation Department review and City of Menomonie and/or the Dunn County Strategic Planning Task Force approval; final approval will be made by the WisDNR. If the implementation and enforcement of erosion control plans are found to be deficient by the WisDNR, the environmental corridor slope limitation of 12 percent or greater will be enforced. Once effective implementation and enforcement of erosion control plans are maintained the environmental corridor slope limitation of 20 percent or greater will be enforced.

Type IV Amendment. The development of an area designated as an environmental corridor.

All requests for Type IV amendments will be reviewed on a case-by-case site specific manner. A Type IV Amendment is one which is requested by the municipality wishing to extend sewer service to an area delineated as an environmental corridor. The plan recognizes the possible conflict between development and preservation of environmental corridors, and it provides this amendment process as an attempt to allow both to co-exist. Requests of this type will be submitted to both the Dunn County Land Conservation Department and Wisconsin Department of Natural Resources, Western District Office by the governmental entity that will be servicing the proposed area.

Dunn County Land Conservation Department and WisDNR staff will review the proposed amendment based on:

a. There will be no significant adverse water quality and/or environmental impact associated with providing sewer service to the area.
b. The proposed amendment is in compliance with the policies and goals of this plan.
c. Such sewerage service can be provided in a cost-effective manner.
d. All appropriate local, state, and federal environmental permits (such as erosion control, wetland preservation, floodplain, etc.) have been granted for the proposed development.

When a municipality chooses to apply for a Type IV Amendment, involving areas with slopes greater than 12%, it shall require from the developer a copy of a site plan map with two foot contours and an erosion control plan required by either the City of Menomonie, DILHR, or WisDNR which describes the erosion control measures to be implemented at the site.

5.4 Plan Amendment Process (continued)

It is the responsibility of the municipality to review and ensure proper implementation of the proposed erosion control plan. Upon approval of the erosion control plan by the municipality, it will send a letter stating approval to WisDNR. The Dunn County Land Conservation Department will also submit its recommendation to WisDNR. If there are no other WisDNR objections, approval of the erosion control plan by the municipality should facilitate the issuance of a Type IV Amendment by the WisDNR. Once approval of the amendment is made by the WisDNR, Map 5 (Environmental Corridors) of the Sewer Service Plan will be updated to eliminate that portion of the environmental corridor, thus including it as a developable area within the sewer service area. If the implementation and enforcement of an erosion control plan for an area receiving a Type IV Amendment are found to be deficient by the WisDNR, the environmental corridor slope limitation of 12 percent or greater will be enforced for all sewer extensions and hookups. Once effective implementation and enforcement of all required erosion control plans are maintained the environmental corridor slope limitation of 20 percent or greater will be enforced.

An approved Type IV amendment is one which allows development of an environmental corridor with minimal environmental impact. A meeting between the developer, the municipality, the Dunn County Land Conservation Department, and WisDNR may be needed to discuss the proposed amendment.

5.5 Summary

The Menomonie Urban Sewer Service Plan is intended to be a guide for local municipalities in water quality management. The plan map is based on the preceding data and maps, especially the population projections, growth areas, and environmental corridors. Together this information has been analyzed and translated into the sewer service area for 2015. There is substantial acreage of developable land within the City of Menomonie which should be used before developing extensions. Inclusion of lands within the sewer service area does not imply they will be developed and sewered by 2015.

The sewer service plan is designed to accommodate changes which may occur in the years between updates. Development trends, population density changes, community needs, and failed septic systems are all possible reasons the sewer service plan may need to be altered during the interim years. All changes in the plan require an amendment which must be approved by the City of Menomonie, the Dunn County Strategic Planning Task Force and the Dunn County Land Conservation Department, with final approval being made by the WisDNR. Changes to the plan could include altering the sewer service area boundary, adding holding tank service areas, or the inclusion of an environmental corridor into the sewer service area. These types of changes in the plan are explained further in section 5.4 - Plan Amendment Process.

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CHAPTER SIX

HOLDING TANK SERVICE AREAS

6.1 Holding Tank Service Areas

In some cases, municipalities are faced with high cost alternatives to improving their wastewater treatment and disposal situations. With the number of affordable alternatives diminishing, holding tanks may be the only alternative. As of October 1, 1987, a revised NR113 took effect to consistently handle this alternative. At the same time NR113 was being changed, NR205 was being revised to clarify Publicly Owned Treatment Works (POTW) obligations to accept septage. As of June 1, 1994, there were newly proposed drafts of further revisions to NR113 and NR205. The provisions of this section can only relate to programs and policy as they are currently enforced. Three terms should be defined here to aid in understanding the requirements of NR113:

1. "Publicly owned treatment works planning area" means the area delineated in a map form in which the planning for a specific POTW is being or has been prepared to cover. In other words, the area that a POTW is responsible to consider in planning a cost-effective regional wastewater treatment alternative.

2. "Publicly owned treatment works sewer service area" means the area presently served and anticipated to be served by a sewerage collection system as approved under ch. NR121 or as a facility planning effort done under ch. NR110, if no NR121 designation has been made.

3. "Publicly owned treatment works holding tank service area" means the area outside the POTW's sewer service area, but inside or equal to the POTW's planning area where a contract has been developed for holding tank wastewater to be treated at the POTW.

The general requirements applicable to the Menomonie Sewer Service Area are:

1. If a holding tank or septic tank is located within the sewer service area boundary, the disposal of septage from that system must be at the Menomonie POTW, as required by NR113 and NR205, or land spread according to WisDNR approved site or WPDES permitting.

2. New holding tanks for new development, outside of the sewer service area and inside the planning area, which receive more than 3,000 gallons of wastewater per day require that the owner of the holding tank system and the POTW reach an agreement and seek a water quality management plan amendment by the Dunn County Land Conservation Department with approval by the WisDNR (see page 56, Type III Amendment). The amendment is needed to put the area tributary to the holding tank within a holding tank service area of the POTW. The new holding tank cannot be approved until the amendment has been completed or until the WisDNR has received adequate assurance that it will be completed. This type of amendment does not require an acreage swap. The Dunn County Land Conservation Department will evaluate the amendment request and may recommend the holding tank owner consider other POTWs because of cost effectiveness or environmental concerns.

3. Holding tanks to replace existing failed onsite systems, which will receive more than 3,000 gallons of wastewater per day, should also be included in the designated POTW

holding tank service area. However, if the owner of the holding tank can satisfactorily demonstrate that he is unable to become part of such a service area, the holding tank may be approved provided the owner has a multi-year contract with a POTW, of sufficient capacity, to provide treatment for all wastewater tributary to the holding tank. Further, the owner must provide satisfactory assurance all such wastewater will only be disposed of at a POTW.

4. Small holding tank (generating under 3,000 gallons per day) and septic tank wastewater must be taken to a POTW if:

   a. The septic tank is located in the POTW's sewer service area.
   b. The holding tank is located in the POTW's sewer service or holding tank service areas.

   NOTE: The POTW acceptance requirement, for holding tank wastewater within the sewer service and holding tank service area and septic tank wastewater within the sewer service area is in s. NR205.07(2)(i).

   c. The holding tank is located inside the POTW's planning area, but outside the POTW's sewer service and holding tank service area(s); if the POTW will accept the wastewater and; the cost to the disposer/hauler is less than or equal to the following costs*:

Years	Maximum Fee/1000 Gallons
1993-1995	$14.00
1996-1998	$16.00
1999-2001	$18.00

   * Costs beyond 1995 are anticipated but not yet promulgated under NR113 and NR205 1994 revisions.

The above requirements (in 4., including 4. a., b., and c.) do not apply if the wastewater from small holding tanks and septic tank systems will be land spread in accordance with a WisDNR approved site or WPDES permit.

5. POTW's are required to accept, treat, and dispose of septage under certain circumstances as directed by 144.08 State Statute and ch. NR205. The following is a summary:

   a. Winter disposal (November 15 - April 15)

      - Each year, prior to September 1, licensed disposers/haulers may apply to a POTW for permission to dispose of septage during the winter.
      - Applications submitted to the POTW by licensed disposers are subject to review by the POTW and the POTW shall:
         i. Review septage applications and provide a written denial or approval to the licensed disposer/hauler by October 1 of each year.

ii. Develop a disposal plan for each licensed disposer/hauler approved for septage acceptance. A disposal plan, at a minimum, shall contain the following terms and conditions:
   (1) Specific quantities, location, times, and methods for the discharge of septage to the sewerage system.
   (2) Requirements to report the source and amount of septage placed in the sewerage system.
   (3) Requirements (if any) for the licensed disposer/hauler to pay to analyze other than residential septage.
   (4) Actual and equitable disposal fees based on the septage introduction into the sewerage system and calculated at a rate applied to other users of the sewerage system, and including the cost of additional facilities or personnel necessary to accept septage at the point of introduction into the sewerage system.
   (5) All terms and conditions imposed on the disposer of septage.
   (6) A formal approval that the licensed disposer/hauler has permission to discharge septage into a specific POTW under specific conditions.

iii. Accept and treat septage from licensed disposers/haulers unless:
   (1) Treatment of the septage would cause the POTW to exceed its operating design capacity or to violate any applicable effluent limitations or standards, water quality standards, or other legally applicable requirements, including court orders or state or federal statutes, rules, regulations or orders; or
   (2) The septage is not compatible with the sewerage system; or
   (3) The disposer/hauler has not applied for and received approval to dispose of septage in the sewerage system or the disposer/hauler fails to comply with the disposal plan; or
   (4) The licensed disposer/hauler fails to comply with the septage disposal rules promulgated by the POTW or the conditions of the disposal plan.

b. Area the POTW is Required to Accept Septage from Year-Round

- Septage that is generated within its sewer service area.
- Holding tank wastewater that is generated outside the POTW's sewer service area, but inside or equal to the POTW's planning area where a contract has been developed for acceptance, treatment, or disposal.

c. Priority System (NR205.07(2)(h))

- 'First Priority'. Wastes from existing or new holding and septic tanks within the POTW's sewer service area and holding tanks within the POTW's holding tank service area(s).
- 'Second Priority'. Wastes from existing holding tanks for residential or commercial establishments outside the POTW sewer service area and holding tank service area(s), but inside the POTW's planning area where the holding tank was installed to replace an inadequate private sewerage system.
- 'Third Priority'. Wastes from existing septic tanks and holding tanks that were installed not as replacement to an inadequate sewerage system for residential or commercial establishments outside the POTW's sewer service area and holding tank service areas, but inside the POTW's planning area.
- 'Fourth Priority'. Wastes from new or existing septic and holding tanks for residential or commercial establishments outside the POTW's planning area.

6.2 Summary

The service area for a POTW may include both a urban sewer service area and a holding tank area. The POTW should have the capacity to accept wastewater from both areas. A holding tank service area must be delineated for any holding tank outside the sewer service area, but within the planning area, generating 3,000 gallons or more of septage a day. The difference between the sewer and holding tank service areas is the holding tank service area includes areas not intended to be sewered during the design life of the POTW. Also, holding tanks may be located in either service area.

No holding tank service area has been delineated in this plan, because there were no identified contracts to dispose of large holding tank wastewater into the Menomonie treatment plant from areas outside the sewer service area, yet within the planning area. In addition, to the knowledge of the treatment plant staff, there were no holding tanks in the planning area, and outside the sewer service area, required to contract with the POTW.

A Type III service area amendment is required when a holding tank service area is added within the Menomonie POTW Planning Area, and outside the Menomonie Urban Sewer Service Area. An amendment request for a holding tank service area for new development cannot be approved if the area encroaches on a environmental corridor. The amendment will be allowed if it is determined that the actual construction of all buildings and the holding tank are not on those portions of the holding tank service area affected by any of the three environmental corridor criteria (>12% slope, wetlands, floodplains), and there are sufficient setbacks and erosion control measures taken, as defined by local zoning and land development regulations. If the amendment for the holding tank requests that the actual construction of any portion of the buildings or the holding tank encroachment upon a slope between 12 and 20 percent slope the applicant must follow the erosion control planning procedures for Type III amendments which apply. Sewer service area plan amendments are described in Section 5.4 Plan Amendment Process of this plan.

CHAPTER SEVEN

EROSION CONTROL AND STORMWATER MANAGEMENT ORDINANCES

7.1 Construction Site Erosion Control Ordinances

Protection of surface waters is the foundation of the Menomonie Sewer Service Area Plan. Identifying areas unsuitable for development because of water quality concerns is the major component of this plan. However, the areas identified for development still have the capability to negatively impact surface waters. Areas under construction can contribute enormous amounts of sediment to these waters. Control of this sediment is possible if construction site erosion control measures are required and enforced. One tool immediately available to local communities is aggressive enforcement of construction site erosion control for one and two family dwellings under the uniform dwelling code. The City of Menomonie has ordinance provisions in the City Code for Erosion and Sediment Control.

All communities within the Menomonie Sewer Service Area are strongly encouraged to adopt and enforce the conditions in the model construction site erosion control ordinance currently available from the Department of Natural Resources. This model ordinance contains provisions for more than just one and two family dwellings. It requires construction site erosion control measures be implemented on sites requiring subdivision plat approval, sites which involve grading, removal of protective vegetation, excavation, or land filling affecting sites 4,000 square feet or more, sites in which excavation or filling of 400 cubic yards or more occurs, and street, highway, road, or bridge construction.

7.2 Stormwater Management Ordinances

A stormwater management ordinance is another tool that can mitigate water quality problems. Members of the Dunn County Strategic Planning Task Force agree that stormwater management can be effective in addressing surface water quality.

The communities within the Menomonie Sewer Service Area are strongly encouraged to adopt, and have mechanisms in place to enforce, the model stormwater management ordinance developed by the Department of Natural Resources, **within one year** after it becomes available. This stormwater ordinance specifically addresses local communities' ability to address surface water quality protection. Assistance will be available from the DNR to help communities adapt the model ordinance to their individual circumstances. The communities in the Menomonie Sewer Service Area can fit provisions in the model ordinance to the special problems of the Red Cedar River, and its tributaries and lakes. In addition, the DNR will assist communities with the review of ordinance enforcement measures to assess their effectiveness.

Whether through modifications in zoning ordinances or the development of a stormwater management ordinance, implementation of stormwater management techniques can prevent further degradation of surface waters due to present development practices. All communities in Wisconsin should be working on the implementation of stormwater management controls and enforcement as stricter requirements are expected to come soon from the U.S. Environmental Protection Agency. Those communities with ordinances in place will be better able to adapt to the new federal requirements. Technical assistance is available from the Wisconsin Department of Natural Resources and their publication, The Wisconsin Municipal Stormwater Manual.

7.3 Stormwater Management Authorization

There are several state statutes authorizing land use controls to protect water quality. Local governments have the ability to employ land use planning, zoning, development controls, stormwater management and land preservation to effect the protection of water resources. For example, Wisconsin State Statutes 59.974 and 61.345 permit the local government enactment of construction site erosion control and stormwater management zoning ordinances. Also, Wisconsin State Statute 92.11 authorizes the development of land use regulations for the control of nonpoint source (run-off related) pollution by any county, city, or village.

Other techniques available to local governments to protect surface water quality are the purchase of development rights, conservation easements, and purchase of land next to important water resources.

7.4 Stormwater Management Financing

Taxation - Stormwater management controls are usually financed by local communities through *ad valorem* property tax revenues. The rationale for financing stormwater management through taxation is that there are public benefits to managing runoff. However, stormwater expenditures must compete with other government services and this activity has often been neglected.

Bonding - Long-term borrowing can be an good way for local communities to finance stormwater projects. Issuing bonds can be more cost-effective than bank financing, and the interest earned by purchasers of the bonds is exempt from federal income taxes. Limits are placed on the total amount municipalities can bond and some bond issues must be placed on referendum. Besides tax exempt bonds, there are Revenue Bonds, Public Improvement Bonds, and Special Improvement Bonds, which are all financial instruments that can be used to finance water quality protection.

Stormwater Utility - This utility can be created by one or more local governments to charge property owners user fees or assessments, proportional to their stormwater discharge (and the cost of subsequent impacts), to pay for stormwater management activities. The American Public Works Association (APWA) has concluded:

> *The user charge and the utility concept are the most dependable and equitable approaches available to local governments for financing stormwater management.*

The formation of a stormwater utility requires careful planning, and broad institutional and political support.

Grants-In-Aid and low interest loan programs - There are a variety of government programs to help defray the cost to local government for stormwater management programs.

7.5 Controlling Pollution Sources

Local governments can implement strategies to limit the damage done to the environment from the activities of its residents and business community. Many residents, government agencies and departments, community groups, and businesses in and around the City of Menomonie already contribute to the reduction of pollution affecting surface water quality. More must be done if further degradation of surface water quality is to be addressed. Information and education can be enhanced by Dunn County agencies, the City of Menomonie, and the Towns within the Sewer Service Area to relate surface water pollution problems and how the community contributes to them. These efforts can help to change people's attitudes and behavior when each individual sees their potential role in preventing pollution of the environment. When people understand how they impact water quality in their own neighborhoods, protection measures are more accepted.

Leaf, Lawn Waste, Solid Waste and Waste Oil Disposal - Dunn County is already addressing the problems associated with the things we as a society throw away. Contact the Dunn County Solid Waste Coordinator at 715-232-4017 to find out about solid waste reduction, reuse, recycling, composting and disposal in Dunn County.

Road Salt - Excessive sand and salt application to winter roads can cause negative impacts to the environment from sediment and pollution. Road salt application also causes increased deterioration of roads, streets and bridges. Improper storage of road salt supplies also contributes to local pollution of surface waters. Communities should exercise careful planning for the application of road salt and consider salt alternatives to reduce the impacts of this pollutant. All storage of road salt should, at least, conform to Administrative Code TRANS 277, which requires road salt piles to be covered and stored on impervious pads.

Pet Waste - Local governments have the ability to enact and enforce animal control ordinances which can reduce the amount of pet fecal material that contaminates runoff into surface waters. Complementary benefits are reducing a public annoyance and addressing serious health concerns. Pet wastes should be flushed down the toilet so they can receive the same treatment as human waste. Check with your University of Wisconsin, Cooperative Extension Agent and local wastewater utility (if on sanitary sewer), or plumber or septage hauler (if using a septic system or holding tank) for instructions for toilet pet waste disposal. Most landfills do not want to receive pet wastes, and some communities have enacted ordinances prohibiting disposal in this manner.

Public education efforts regarding the purpose of animal control ordinances in force are very effective for achieving compliance. Neighborhood social pressure and enlightened self-interest can help pet waste control efforts when the community learns that proper pet waste disposal can protect pet and human health, surface water quality, and quality of life standards.

Construction Site Erosion Control - As previously mentioned, areas under construction can contribute enormous amounts of sediment to surface waters, significantly degrading their quality. The City of Menomonie has ordinance provisions in the City Code for Erosion and Sediment Control. All communities have the ability to protect surface water

quality with the adoption and enforcement of the provisions in the model construction site erosion control ordinance currently available from the Department of Natural Resources.

7.6 Best Management Practices

Best management practices (BMP) incorporated into development site design can help reduce negative impacts when the decision has been made to allow development. If all future development were required to incorporate BMPs, it would be possible to minimize the set of these controls required for each site and still achieve a desired level of water quality protection. While no BMP regimen can totally mitigate the stormwater impacts of development, they are a way to address the increases in the volume of water, and the resultant pollution and sediment load, that pose a threat to the resource. For more information on these valuable stormwater control techniques refer to Volume II: Technical Design Guidelines for Stormwater Best Management Practices in The Wisconsin Municipal Stormwater Manual from the Wisconsin Department of Natural Resources, Bureau of Water Resources Management.

Wet Detention Ponds - The most common BMP used for the control of urban stormwater runoff is the wet detention pond. They can be a dependable and aesthetic system, consisting of a single permanent pool of water, 3 to 7 feet deep, which treats incoming stormwater through a forebay, the pond itself, and an outlet structure. They also can be effectively incorporated into development site designs as attractive green space, providing a park-like environment while controlling runoff. Wet detention ponds have been shown to remove a significant percentage of suspended solids, Nitrogen, Phosphorus, Lead, Copper, Zinc, and, to a lesser extent, other pollutants from urban runoff.

Constructed Stormwater Wetlands - These structures are shallow pools which facilitate the growth of marsh plants which can filter out sediment and pollutants. These artificial wetlands do not offer the ecological diversity present in a natural wetland system and are not designed to replace existing wetlands. If properly constructed, they can remove most pollutants from urban runoff through various treatment processes including: sedimentation, infiltration, chemical precipitation, adsorption, microbial interactions, and absorption by plants. There are some environmental problems and complex design considerations associated with constructed stormwater wetlands, the negative aspects of which must be weighed against the stormwater management benefits possible through their use.

Infiltration Basins - Another common BMP to address urban runoff is essentially a large depression in the ground where runoff enters and is stored while it infiltrates into the ground through the basin bottom and sides. The use of infiltration basins requires the appropriate soils, topography, geology, and hydrogeology. They can provide groundwater recharge, as runoff is infiltrated into the ground. However, this infiltration can affect groundwater quality if pollutants are not removed by suitable soil conditions. Infiltration basins must be maintained to retain vegetative growth and delay the inevitable clogging or sealing of the basin, and runoff must be treated before entering the basin to remove sediment.

Infiltration Trenches - These structures are shallow, excavated trenches filled with a coarse aggregate and covered with a pervious layer of soil. The trench acts like a reservoir which distributes stormwater runoff to the groundwater and the surface water. The infiltration trench diminishes and slows the amount of runoff reaching surface waters. These systems require careful siting, extensive maintenance, and do not perform well in northern climates such as found in Wisconsin.

Porous Pavement - Conventionally paved surfaces do not allow the penetration of runoff and tend to increase its volume and velocity during storm events. Porous pavements let runoff infiltrate into the groundwater and can contribute to streambank protection and pollution adsorption. However, they also tend to clog from sediments and vehicle residue, are suitable only for light traffic, and are susceptible to deterioration from road sand and salt. They can be effective in controlling runoff from driveways and off-peak times parking areas which receive light traffic. However, porous pavement requires careful and deliberate siting, construction, and maintenance.

Street Sweeping - In urban areas, street sweeping has been shown to have a significant impact on the reduction of stormwater runoff sedimentation and pollution. Residential street sweeping can remove up to 30 percent of urban runoff pollutants, is highly visible, and provides an opportunity to educate the public about the importance of controlling stormwater runoff. The effective cleaning of commercial and industrial parking and storage areas can remove up to 70 percent of the runoff contaminants coming from these facilities.

New Construction On-site Stormwater Management - There are a variety of practices which can reduce the amount of runoff resulting from the increase of impervious surfaces on the sites of new development. Whether in residential or non-residential development, the ability to have the same amount of rainfall infiltrate on-site after development as before development, without contributing to erosion, is the desired outcome of these practices. In most instances it is reasonable to expect that all post-development discharges from a site shall be equal to or less than the pre-development peak discharges from that site for a 3-year, 24 hour frequency storm. The use of grassy swales along roads instead of curb and gutter, rain guttered eaves gently channeled to grassy areas where rainwater can infiltrate, and other techniques for on-site stormwater management are outlined in the Wisconsin Construction Site Best Management Practice Handbook (WisDNR).

7.7 Elements of a Stormwater Management Ordinance

As previously stated the model stormwater management ordinance developed by the Department of Natural Resources will be available soon after the completion of this plan. The model stormwater ordinance specifically addresses local communities' ability to address surface water quality protection. The following list are the elements which will comprise an adequate Stormwater Management Ordinance. Each element can be written as a separate section which relates the appropriate information, requirements, and implementation of the ordinance to effect the protection of surface waters.

Findings of fact/purpose and objectives
Authority/jurisdiction
Definitions
Applicability
Information and education
Plan review
Performance standards
Off-site management facilities
Maintenance
Performance bond
Enforcement
Appeals
Variance procedure

The communities within the Menomonie Sewer Service Area are strongly encouraged to adopt, and have mechanisms in place to enforce, their local adaptation of the model stormwater management ordinance developed by the Department of Natural Resources, **within one year** after it becomes available.

APPENDIX A

WisDNR Planning Guidance

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

POLICIES AND PROCEDURES
SEWER SERVICE AREA PLANS AND AMENDMENTS
January 1994

Since 1979, sewer service area (SSA) plans have been developed for more than 150 Wisconsin communities in designated and non-designated areas of the state. The plans, which are prepared by local or regional planning agencies under contract with the Department, are designed to protect water quality. This planning process is described in NR 121, Wis. Adm. Code. Designated areas of the state include Southeastern Wisconsin, Dane County and the Fox River Valley.

These guidelines describe the areas which were to be excluded from sanitary sewer service areas as environmental corridors.

1. Initiating Sewer Service Area Revisions

SSA revisions can be initiated only by a designated planning agency (DPA), a designated management agency (DMA) or by an entity seeking DMA status (e.g., a previously unsewered sanitary district). The Department will review a denial by a DPA only if an appeal of the denial comes from a DMA. The Department does not accept revisions or appeals submitted by developers, individuals or other organizations.

2. Sewer Service Area Boundary

SSA boundaries should follow specific physical or cultural features, such as roads, rivers, property boundaries, drainage divide, the outer limits of environmental corridors and related floodland and wetland areas, or a line at a specific distance from a physical or cultural feature. When a planning agency submits a SSA plan or amendments to the DNR, they must submit maps with adequate detail to precisely identify these boundaries.

3. Land Use and Service Limitations:

The DNR can approve water quality plans or amendments in which the Designated Planning Agency in cooperation with local governments set land use limitations or other additional requirements above and beyond the minimum requirement of Ch. NR 121, Wis. Adm. Code. Examples of such limitations include: residential, commercial, industrial, institutional, housing type (single versus multiple units) and restricted provisions of other urban services such as water supply, school, and transportation. However in reviewing sewer extensions for conformance with water quality management plans, WDNR is not authorized to consider land use limitations or requirements which are not related to water resource management.

4. Updates To SSA Plans:

Ch. NR 121, Wis. Adm. Code, calls for an update of the WQMP including the SSA plan every five years. If three significant amendments to a SSA have been submitted for a DMA to the Department during five year period, any additional

amendment must include an overall analysis of population projection and density assumption of that SSA and its cumulative impact on the receiving STP.

5. Conditional Approval:

The DNR can add conditions as part of a SSA amendment approval if necessary to protect ground or surface water. If any person is aggrieved by the Department's decision, that person has the right to appeal the decision. Wisconsin Statutes and Administrative Code establish time periods within which requests to review Department decisions must be filed.

6. Conformance Review:

One duty of the Designated Planning Agency (under contract with the Department) is to review sewer extension requests to determine conformance with water quality management plans. If the Designated Planning Agency decides that a proposed extension is not in conformance with the plan, the DMA for that area may appeal that decision to the DNR. The legislature has authorized the Department to consider conformance with areawide plans as part of its review of facility plans and "plans and specifications" under s. 144.04, Wis. Stats. The Department, in adopting Chapter NR 110, Wis. Adm. Code, specifically requires that all facility plans and all "plans and specifications" for reviewable projects, including sewer extensions, shall be in conformance with areawide plans in order to be approved. As with any other requirement (e.g., sewer sizing, number of manholes, etc.) it is up to the applicant to provide evidence of compliance and up to the Department to review for compliance. The sole responsibility for reviewing a request for a sewer extension for conformance with areawide plans rests with the Department. In carrying out the responsibility to assure conformance of a sewer extension project with areawide water quality management plan requirements, the Department has two options: 1) review by the Department staff, or 2) contract with a designated or local planning agency.

7. Revision of Approved SSA Plan:

The Department can withdraw earlier sewer extension or SSA plan approvals if new information indicates that sewered development will have a significantly negative impact on water quality.

8. Holding Tank Service Area:

The following summarizes the relationship between sewer service area and holding tank service area:

1. The planning area and sewer service area boundaries are those identified under NR 121, Wis. Adm. Code. The holding tank service area must be defined and identified at the time of negotiation between the holding tank owner and the publicly owned wastewater treatment works (POTW).

2. If a holding tank or a septic tank is located within the 20 year sewer service area boundary, the disposal of the septage from that system must be at that POTW (required by NR 113 and NR 205, Wis. Adm. Code). This is true regardless of whether a county boundary is

involved. The areawide water quality management plan need only identify this requirement.

3. Holding tanks for new development outside of the 20 year sewer service area, which will receive more than 3,000 gallons per day of wastewater, require that the owner of the holding tank system and the POTW reach an agreement (and seek a water quality management plan amendment by the DPA with approval by the DNR). The amendment is needed to put the area tributary to the holding tank within the holding service area of the POTW. The new holding tank cannot be approved until the amendment has been completed or until the Department has received adequate assurance that it will be completed. This amendment does not require a swap of acreage. The DPA will evaluate the amendment request and may recommend that the holding tank owner consider other POTW's because of cost effectiveness or environmental concerns.

4. Holding tanks to replace failing onsite system(s), which receive more than 3,000 gallons of wastewater per day, should also be included in a designated POTW service area. However, if the owner of the holding tank can satisfactorily demonstrate that he is unable to become part of such a service area, the holding tank may be approved provided that owner has a multi-year contract with a POTW to provide treatment for all wastewater tributary to the holding tank. Furthermore, the owner must provide satisfactory assurance that all such wastewater will only be disposed of at a POTW.

For more information call Roger Shores at (608) 266-5237.

GUIDANCE FOR APPROVING SEWER SERVICE AREA PLANS AND PLAN AMENDMENTS

The following guidance has been developed by the Wisconsin Department of Natural Resources (DNR) for the evaluation of sewer service area (SSA) plans and plan amendments. These guidelines represent the minimum criteria that will be used by the Department in reviewing and approving of SSA plans and amendments. Field investigations will be conducted by Department staff in those cases where it is deemed necessary. The results of the field investigations will weigh heavily in the final decision on a request for approval.

The local community or designated management agency may utilize more stringent criteria than those established in this guidance. All plans and plan amendments will be reviewed on an individual basis and the merits of each will be considered along with the consistency of the submittal with these guidelines or other approved amendment procedures. Unique local conditions or circumstances will be considered in the approval of plans or plan amendments. This guidance will be revised as necessary to reflect changes in state laws, administrative rules and DNR policies.

Copies of all SSA plans and amendments, and supporting information must submitted to both the DNR Central Office (Roger Shores, 101 S. Webster St., WR/2 GEF II, Madison, WI 53707-7921) and to the appropriate DNR Water Resources Management, District Staff contact. Both the DNR Central Office and District Staff contacts should be contacted at the very beginning of the process.

Environmentally Sensitive Areas - NR 121.05(g)(2)(c), Wis. Adm. Code, describes environmentally sensitive areas to be excluded from SSA. These excluded areas are commonly referred to as "environmental corridors". In this guidance the term "environmental corridor" will be used as a generic term for environmentally sensitive areas that should be considered for exclusion from SSA. Environmental corridors may include wetlands, shorelands, floodways and floodplains, steep slopes and highly erodible soils, groundwater recharge areas and other physical constraints.

WETLANDS:

Definition - An area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and has soils indicative of wet conditions (NR 103, Wis. Adm. Code).

Policy - All wetlands should be identified and protected from sewered development. Wetlands should be clearly identified as environmentally sensitive areas (i.e., environmental corridors) on sewer service area maps. Wetlands which have not been altered should be given high priority for preservation.

Sewer Service Area Plans and Plan Amendments Plans and plan amendments which would impact a wetland must be evaluated according to the following:

1. Wetland Impacts - Does the project have the potential to directly or indirectly affect wetlands?

2. Water/Wetland Dependency - Is the proposed activity wetland dependent? (Does the project need to be located in or adjacent to a wetland or surface water to fulfill its basic purpose?)

3. Practical Alternatives Analysis - Are practicable alternatives available which will not adversely impact wetlands or have other significant adverse environmental impacts? Explain in detail: background of project, alternatives, comparison of alternatives.

4. Wetland Functional Assessment - How will the project affect the wetland?: Describe the wetland that will be affected and explain how the project may affect the functional values of the wetland, water quality or other environmental values.

SHORELANDS:

Definition - Shorelands are lands within the following distances from the ordinary high-water mark of navigable waters: 1,000 feet from a lake, pond or flowage or 300 feet from a river or stream to the landward side of the floodplain, whichever distance is greatest.

Policy - Shorelands represent environmental features which should be given high priority for protection from development, particularly those shorelands which coincide with wetlands as identified in the State Wetlands Mapping Program.

Sewer Service Area Plans and Plan Amendments - The Department will not approve any plan or plan amendment that is not consistent with an approved county or state shoreland zoning ordinance. Additionally, evaluation of plan amendments will consider the following:

a. Potential adverse water quality impacts. In assessing plan amendments the Department will consider adverse impacts upon any of the following:

   1. maintenance of dry season stream flow, or the discharge, recharge or flow of groundwater from a wetland

   2. filtering or storage of sediments, nutrients or heavy metals that would otherwise drain into navigable waters

   3. shoreline protection against erosion to reduce the flow of effluent, sediment and nutrients from the shoreland area.

b. Potential adverse impacts on habitats. Amendments where the proposed activity would adversely disrupt wildlife habitat or fish spawning, breeding, nursery or feeding grounds should include protective measures.

c. Storm and flood water storage capacity. Amendments which would result in a reduction of storm and flood water storage capacity should be avoided or minimized.

d. Presence of, or proximity to, scientific study areas, sanctuaries and refuges, or scarce wetland areas. SSA plans and amendments should assess and take into consideration potential adverse impacts to these areas.

STEEP SLOPES AND HIGHLY ERODIBLE SOILS:

Definition - This category is defined as any slope equal to or greater than 12 percent and any soil type occurring on a slope equal to or greater than 12 percent.

Policy - In general, slopes equal to or greater than 12 percent regardless of soil type and which are proximal to a stream should be excluded from development. Slopes in combination with other environmental features should be considered for designation as environmental corridors.

Sewer Service Areas Plans and Plan Amendments - Sewer Service area plans should exclude slopes equal to or greater than 12 percent, which are proximal to a stream, from sanitary sewer service. Where a local construction erosion control ordinance exists, the plans should be consistent with the slope restrictions of the ordinance. Amendments to the service area plan should consider the following.

a. Proximity of the slope to a stream. Amendments for sewered development on steep slopes which would result in direct runoff into a stream should be prohibited. Development on any slopes should include mitigating measures for protection of water quality.

b. Amendments to allow sewered development on slopes should be the most cost-effective alternative and should be consistent with the existing development pattern and locally approved construction erosion control ordinances.

FLOODPLAINS:

Definition. The floodplain is the land which has been or may be hereafter covered by flood water during the regional flood. The floodplain includes the floodway and the flood fringe.

The floodway is the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry and discharge the flood water or flood flows associated with the regional flood.

Policy. In order to prevent development in a high hazard area, floodplains should be considered for exclusion from sanitary service areas. Portions of the floodway shall not be included except where there is existing development which must be served.

Sewer Service Area Plans and Plan Amendments. The Department will not approve any plan or plan amendment that is not consistent with an approved county or state floodplain zoning ordinance or which would allow service to new development in the floodway. In addition, the plans or plan amendments should be evaluated considering the following:

a. Flood water conveyance capacity. Amendments or plans which would result in a reduction of the flood water conveyance capacity should be denied unless remedial actions are identified and approved before approval of the amendment or plan. Remedial actions must conform with NR 116.

b. Existing development within the floodway. When there is an existing lawful development within the floodway, a new plan or plan amendment may include the development within the boundaries of its proposed service area.

c. Storm and flood water storage capacity. Amendments which would result in a reduction in storm and flood water storage capacity should be avoided or remedial actions should be identified.

OTHER LIMITING PHYSICAL FEATURES:

Definition - Physical features of an area which may have significant local or statewide importance. These areas may include woodlands or plant stands of rare or endangered species; rare or endangered animal habitats; historical or archaeologic sites; or groundwater recharge/discharge areas.

Policy - Areas which include one or more of the above features may be considered for environmental corridor designation when they represent an integral part of the direct stream drainage area.

Sewer Service Area Plans and Plan Amendments - In the preparation of service area plans, appropriate state or local offices (e.g., State Historical Society, DNR Bureau of Endangered Species) should be contacted to determine if any of these features are present in the planning area. Areas containing these features may be excluded from sanitary sewer service. Plan amendment requests to provide sanitary sewer service to an area with any of these features should be the least disruptive alternative and should include preventive measures to provide maximum protection of adjacent water resources.

II. GUIDANCE FOR SUBMISSION OF PROPOSALS FOR SEWER SERVICE AREA AMENDMENTS

Proposals for the amendment of sewer service areas should include the exact acreage, as well as a description of lands to be added or deleted. The description should allow these areas to be easily located on a map in relation to the boundaries of the original sewer service areas, and to roadways, environmental corridors, and other significant features. At a minimum, amendments should be described in terms of township, range, section, and quarter section, and shown on an appropriately detailed map with the scale indicated.

The locational description should be accompanied by a description of the resource base of the land being added to or deleted from the service area. This description should include the acreage of each resource feature (e.g. wetlands, woodlands, habitat) to be added or deleted. Any anticipated water quality impacts from the proposed amendments should be identified to the extent possible.

The acreage incorporated by an approved sewer service area is determined by the population of the area, the projected future population which will be serviced by the sewer system, and by locally approved density assumptions for the service area. Accordingly, incremental acreage cannot be added to the sewer service area unless the following circumstances exist: 1) area is needed to accommodate unanticipated population growth, and 2) a change in local densities has been approved by the local municipality.

If population projections and locally approved densities remain unchanged, acreage can only be added to the service area if a corresponding number of acres is subtracted, keeping the population density stable. The exception to this swap requirement is a case where a density range has been established for the service area and the addition of land to the service area does not violate either the upper or lower limit of the range.

Documentation of public participation and approval of the density assumptions in local decisions to amend an approved sewer service area must be submitted with sewer service area amendment requests. A locally approved land use plan may be submitted as a basis for a change in the service area and density assumptions, however, public participation must be documented in any case. SSA amendment proposals must include an analysis of how each of the amendment criteria are met.

The planning commission or agency must maintain a current map of sewer service areas in its jurisdiction, showing approved amendments (additions or deletions) to the service areas.

For more information call Roger Shores at (608) 266-5237.

APPENDIX B

Dunn County Strategic Planning Task Force Representatives

Dunn County Strategic Planning
Task Force Representatives

Chuck Stokke, Mayor
City of Menomonie
City Hall
800 Wilson Avenue
Menomonie, WI 54751

Lowell Prange
Administrator
City Hall
800 Wilson Avenue
Menomonie, WI 54751

John Klovning
Cedar Corporation
604 Wilson Avenue
Menomonie, WI 54751

Myron White
Executive Director
Economic Dev. Corp.
537 North Broadway
Menomonie, WI 54751

Ray Score, Chair
Dunn County Board
Route 2, Box 134
Boyceville, WI 54725

Jim Hartung, Chair
Dunn County LCC
1203 Wilcox Street
Menomonie, WI 54751

Ellen Ochs, Supervisor
Dunn County Board
Route 5, Box 219
Menomonie, WI 54751

Pat Thompson
Administrative Coordinator
County of Dunn
800 Wilson Avenue
Menomonie, WI 54751

Jerome Prochnow, Chair
Town of Red Cedar
Route 2, Box 292
Menomonie, WI 54751

Carl Casper, Chair
Town of Menomonie
Route 2, Box 249
Menomonie, WI 54751

Robert McKay, Chair
Town of Tainter
Route 7
Menomonie, WI 54751

Jim Eggert
Citizen Member
Route 3
Colfax, WI 54730

Dunn County Taxpayers
Association
P.O. Box 188
Menomonie, WI 54751

Menomonie Federate
Woman's Club
c/o Eva Rogers
Route 7
Menomonie, WI 54751

Greg Quilling, Supervisor
Town of Red Cedar
Route 2, Box 141
Menomonie, WI 54751

Marty Havlovic
UW-Extension Office
Suite D
3909 Red Cedar Street
Menomonie, WI 54751

Stan Anderson, Chair
Dunn Co. Zoning Ordinance
Board of Adjustment and
Development Committee
Route 2, Box 196
Downing, WI 54734

Jerry Bowker
Tainter Lake Association
Route 7, Box 283
Menomonie, WI 54751

Francis Eiseth, Supervisor
Dunn County Board and
Town of Menomonie
Route 1, Box 13
Menomonie, WI 54751

Ken Parejko
Tainter Lake Association
Biology Department
UW-Stout
Menomonie, WI 54751

Jim Forster
Dunn County LCD
Ag Center, Suite C
390 Red Cedar Street
Menomonie, WI 54751

Rick Mechelke
Dunn County LCD
Ag Center, Suite C
390 Red Cedar Street
Menomonie, WI 54751

Richard Fruit, Supervisor
Town of Sherman
Route 6, Box 196
Menomonie, WI 54751

APPENDIX C

DNR Model Construction Site Erosion Control Ordinance

WISCONSIN

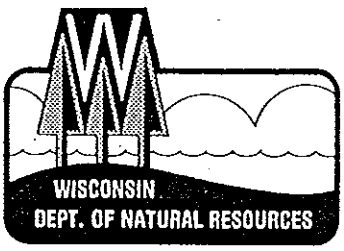
CONSTRUCTION SITE

BEST MANAGEMENT PRACTICE HANDBOOK

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

BUREAU OF WATER RESOURCES MANAGEMENT

NONPOINT SOURCE AND LAND MANAGEMENT SECTION



NATURAL RESOURCES BOARD

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Lyman F. Wible - Administrator, Division for Environmental Quality
Bruce J. Baker - Director, Bureau of Water Resources Management
Rebecca Wallace - Chief, Nonpoint Source and Land Management Section

Author: Jim Baumann - Nonpoint Source and Land Management Section

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PUBLICATION WR-222 92 Rev.

* New Federal Regulations Affect Construction Activity *

In 1990, the federal EPA promulgated a new set of regulations regarding storm water discharges from construction sites.

These regulations will take effect October 1, 1992, and will require permits for construction and grading activity that disturbs more than five acres. Smaller sites that are part of a planned development larger than five acres must also apply for a permit.

EPA requirements for storm water discharge permits are likely to require the following information: location (including a map) and nature of the activity, total area of the site and area of the site that is expected to be stripped of vegetative plant cover during the life of the permit, proposed measures, including Best Management Practices, to control pollutants in storm water discharges during construction and after construction is completed, a description of applicable state and local erosion and sediment control requirements, an estimate of the runoff coefficient of the site, the increase in impervious area after the activity is completed, and the name(s) of impacted waters (surface or ground).

In Wisconsin, the DNR has authority to carry out these new regulations. For more details on permit application requirements, an application or information regarding construction sites and storm water regulations, write to:

WDNR Storm Water Program -WW/2
P.O. Box 7921
Madison, WI 53707-7921
or call (608) 264-6262.

We anticipate periodic updates of this handbook. If you are interested in receiving updates, please fill out this form and mail it to:

Nonpoint Source and Land Management Section -WR/2
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921

Name _____

Municipality or firm _____

Address _____

City _____ State _____ Zip _____

APPENDIX A: MODEL ORDINANCE

MODEL CONSTRUCTION SITE EROSION CONTROL ORDINANCE

FOREWORD

The intent of this ordinance is to require erosion control practices that will reduce the amount of sediment and other pollutants leaving construction sites during land development or land disturbance activities. This ordinance applies to all land disturbing construction activities.

S. .01 AUTHORITY.

This ordinance is adopted under the authority granted by _____ [s. 59.974, Stats., for counties, s. 61.354, Stats., for villages, s. 62.234, Stats., for cities].

S. .02 FINDINGS AND PURPOSE.

(1) FINDINGS. The _____ [county, city, or village governing board] finds runoff from construction sites carries a significant amount of sediment and other pollutants to the waters of the state and this _____[county, city, or village].

(2) PURPOSE. It is the purpose of this ordinance to preserve the natural resources; to protect the quality of the waters of the state and the _____ [county, city, or village]; and to protect and promote the health, safety and welfare of the people, to the extent practicable by minimizing the amount of sediment and other pollutants carried by runoff or discharged from construction sites to lakes, streams and wetlands.

S. .03 APPLICABILITY OF ORDINANCE.

This ordinance applies to land disturbing and land developing activities on lands within the boundaries and jurisdiction of the _____ [county, city, or village] and, optionally, the public and private lands subject to extraterritorial review under ch. 236, Stats. All state funded or conducted construction is exempt from this ordinance.

[Note: State funded or conducted construction activities must meet the requirements contained in the "State Plan for the Control of Construction Erosion and Stormwater Runoff", which contains similar requirements as contained in this model ordinance.]

S. .04 DEFINITIONS.

(1) "Agricultural land use" means use of land for planting, growing, cultivating and harvesting of crops for human or livestock consumption and pasturing or yarding of livestock.

(2) "Commercial land use" means use of land for the retail or wholesale sale of goods or services.

(3) "Construction site control measure" means a control measure used to meet the requirements of s. .07(2).

(4) "Control measure" means a practice or combination of practices to control erosion and attendant pollution.

(5) "Control plan" means a written description of the number, locations, sizes, and other pertinent information of control measures designed to meet the requirements of this ordinance submitted by the applicant for review and approval by _____ [administrative authority].

(6) "Erosion" means the detachment and movement of soil, sediment or rock fragments by water, wind, ice, or gravity.

(7) "Land developing activity" means the construction of buildings, roads, parking lots, paved storage areas and similar facilities.

(8) "Land disturbing construction activity" means any man-made change of the land surface including removing vegetative cover, excavating, filling and grading but not including agricultural land uses such as planting, growing, cultivating and harvesting of crops; growing and tending of gardens; harvesting of trees; and landscaping modifications.

(9) "Landowner" means any person holding title to or having an interest in land.

(10) "Land user" means any person operating, leasing, renting, or having made other arrangements with the landowner by which the landowner authorizes use of his or her land.

(11) "Runoff" means the rainfall, snowmelt, or irrigation water flowing over the ground surface.

(12) "Set of 1 year design storms" means the following rain intensities and rain volumes or corresponding values specific to the community for the storm durations of 0.5, 1, 2, 3, 6, 12 and 24 hours that occur approximately once per year. [Note: the following are typical characteristics of these one year storms for most of Wisconsin:

storm duration (hours)	average rain intensity (inches/hour)	total rain (inches)
0.5	1.8	0.9
1	1.1	1.1
2	0.7	1.3
3	0.5	1.5
6	0.3	1.7
12	0.2	2.0
24	0.1	2.3]

(13) "Site" means the entire area included in the legal description of the land on which the land disturbing or land development activity is proposed in the permit application.

S. .05 DESIGN CRITERIA, STANDARDS AND SPECIFICATIONS FOR CONTROL MEASURES.

All control measures required to comply with this ordinance shall meet the design criteria, standards and specifications for the control measures based on accepted design criteria, standards and specifications identified by the _____ [administering authority].

S. .06 MAINTENANCE OF CONTROL MEASURES.

All sedimentation basins and other control measures necessary to meet the requirements of this ordinance shall be maintained by the applicant or subsequent landowner during the period of land disturbance and land development of the site in a satisfactory manner to ensure adequate performance and to prevent nuisance conditions.

S. .07 CONTROL OF EROSION AND POLLUTANTS DURING LAND DISTURBANCE AND DEVELOPMENT.

(1) APPLICABILITY. This section applies to the following sites of land development or land disturbing activities:

(a) Those requiring a subdivision plat approval or the construction of houses or commercial, industrial or institutional buildings on lots of approved subdivision plats.

(b) Those requiring a certified survey approval or the construction of houses or commercial, industrial or institutional buildings on lots of approved certified surveys.

(c) Those involving grading, removal of protective ground cover or vegetation, excavation, land filling or other land disturbing activity affecting a surface area of 4000 square feet or more;

(d) Those involving excavation or filling or a combination of excavation and filling affecting 400 cubic yards or more of dirt, sand or other excavation or fill material;

(e) Those involving street, highway, road, or bridge construction, enlargement, relocation or reconstruction;

(f) Those involving the laying, repairing, replacing or enlarging of an underground pipe or facility for a distance of 300 feet or more.

[Note: The above applicability criteria were prepared by the state Legislature and are specifically stated in s. 144.266, Wisconsin Statutes, for inclusion in the model ordinance. Utility companies responsible for

emergency repair work should enter into a "memorandum of agreement" with the administration authority clearly stating their responsibilities if their activities may be included under any of the above applicability criteria.]

(2) EROSION AND OTHER POLLUTANT CONTROL REQUIREMENTS. The following requirements shall be met on all sites described in sub. (1).

(a) Site dewatering. Water pumped from the site shall be treated by temporary sedimentation basins, grit chambers, sand filters, upflow chambers, hydro-cyclones, swirl concentrators, or other appropriate controls designed and used to remove particles of 100 microns or greater for the highest dewatering pumping rate. If the water is demonstrated to have no particles greater than 100 microns during dewatering operations, then no control is needed before discharge, except as determined by _____ [administrative authority]. Water may not be discharged in a manner that causes erosion of the site or receiving channels.

[Note: There are many ways to meet this particle size performance objective, depending on the pumping rate. As an example, if the pumping rate is very low (1 gal/min), then an inclined or vertical enlarged pipe (about 8" in diameter for 1 gal/min) several feet long would be an adequate control device to restrict the discharge of 100 micron, and larger, particles. As the pumping rate increases, then the "device" must be enlarged. At a moderate (100 gal/min) pumping rate, a vertical section of corrugated steel pipe, or concrete pipe section, or other small "tank" (about 4-1/2 feet across for a 100 gal/min pumping rate) several feet tall would be adequate. With these pipe sections or small tanks, inlet baffles would be needed to minimize turbulence. With very large pumping rates (10,000 gal/min), sediment basins (about 35 feet in diameter for a pumping rate of 10,000 gal/min) at least three feet in depth with a simple (but adequately sized) pipe outlet would be needed. More sophisticated control devices (such as swirl concentrators or hydro-cyclones) could be specially fabricated that would generally be smaller than the simple sedimentation devices described above, but they would not be required.

The performance standard of 100 micron maximum particles in the dewatering water at the maximum pumping rate significantly reduces the liability of the contractor when compared to a standard of "no visible particulate matter". If a properly sized device is correctly used, based on the 100 micron particle size performance standard, then discharges of visible particulate matter would not constitute a violation. It is not possible to design a control device that would insure "no visible particulate matter" discharges. This 100 micron standard is intended to significantly reduce sedimentation problems in downstream drainage systems and in the receiving waters that are caused by large particles. "Visible particulate matter" will probably still occur in water meeting this standard, as most turbidity effects are caused by very small particles that usually do not cause as severe of a sedimentation problem as larger particles. This 100 micron particle size performance standard was therefore selected to be easily met and enforced, and to reduce sedimentation problems. A "no visible particulate matter" standard in

contrast could not be met easily or cheaply, violations would frequently occur, and inspectors would have to make frequent site visits and require frequent control device changes. In addition, particle size measurements would not be required to prove compliance with the 100 micron performance standard. Only the proper use of a device designed to meet this particle size criteria is needed. However, if a contractor or site engineer feels that the dewatering water does not contain any particles larger than 100 microns, no control device would be needed if optional frequent particle size analyses confirm that fact. In most cases, the use of the simple control devices described previously would be less expensive and less bothersome than performing frequent particle size analyses.]

(b) Waste and material disposal. All waste and unused building materials (including garbage, debris, cleaning wastes, wastewater, toxic materials, or hazardous materials) shall be properly disposed and not allowed to be carried by runoff into a receiving channel or storm sewer system.

(c) Tracking. Each site shall have graveled roads, access drives and parking areas of sufficient width and length to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by street cleaning (not flushing) before the end of each workday.

(d) Drain inlet protection. All storm drain inlets shall be protected with a straw bale, filter fabric, or equivalent barrier meeting accepted design criteria, standards and specifications.

(e) Site erosion control. The following criteria (1. through 4.) apply only to land development or land disturbing activities that result in runoff leaving the site.

1. Channelized runoff from adjacent areas passing through the site shall be diverted around disturbed areas, if practical. Otherwise, the channel shall be protected as described below in S .07(2)(e)3.c. Sheetflow runoff from adjacent areas greater than 10,000 square feet in area shall also be diverted around disturbed areas, unless shown to have resultant runoff velocities of less than 0.5 ft/sec across the disturbed area for the set of one year design storms. Diverted runoff shall be conveyed in a manner that will not erode the conveyance and receiving channels.

[Note: Soil Conservation Service guidelines for allowable velocities in different types of channels should be followed.]

2. All activities on the site shall be conducted in a logical sequence to minimize the area of bare soil exposed at any one time.

3. Runoff from the entire disturbed area on the site shall be controlled by meeting either subpar. a. and b. or a. and c.

a. All disturbed ground left inactive for 7 or more days shall be stabilized by seeding or sodding (only available prior to

September 15th) or by mulching or covering, or other equivalent control measure.

b. For sites with more than 10 acres disturbed at one time, or if a channel originates in the disturbed area, one or more sedimentation basins shall be constructed. Each sedimentation basin shall have a surface area of at least 1% of the area draining to the basin and at least 3 feet of depth and constructed in accordance with accepted design specifications. Sediment shall be removed to maintain a depth of 3 feet. The basin shall be designed to trap sediment greater than 15 microns in size, based on the set of 1-year design storms having durations from 0.5 to 24 hours. The basin discharge rate shall also be sufficiently low as to not cause erosion along the discharge channel or the receiving water.

c. For sites with less than 10 acres disturbed at one time, filter fences, straw bales, or equivalent control measures shall be placed along all sideslope and downslope sides of the site. If a channel or area of concentrated runoff passes through the site, filter fences shall be placed along the channel edges to reduce sediment reaching the channel.

4. Any soil or dirt storage piles containing more than ten cubic yards of material should not be located with a downslope drainage length of less than 25 feet to a roadway or drainage channel. If remaining for more than 7 days, they shall be stabilized by mulching, vegetative cover, tarps or other means. Erosion from piles which will be in existence for less than 7 days shall be controlled by placing straw bales or filter fence barriers around the pile. In-street utility repair or construction soil or dirt storage piles located closer than 25 feet of a roadway or drainage channel must be covered with tarps or suitable alternative control, if exposed for more than 7 days, and the stormdrain inlets must be protected with straw bale or other appropriate filtering barriers.

S. .08 PERMIT APPLICATION, CONTROL PLAN, AND PERMIT ISSUANCE.

No landowner or land user may commence a land disturbance or land development activity subject to this ordinance without receiving prior approval of a control plan for the site and a permit from _____ [administering authority]. At least one landowner or land user controlling or using the site and desiring to undertake a land disturbing or land developing activity subject to this ordinance shall submit an application for a permit and a control plan and pay an application fee to _____ [administering authority]. By submitting an application, the applicant is authorizing the _____ [administering authority] to enter the site to obtain information required for the review of the control plan.

(1) CONTENT OF THE CONTROL PLAN FOR LAND DISTURBING ACTIVITIES COVERING MORE THAN ONE ACRE.

(a) Existing site map. A map of existing site conditions on a scale of at least 1 inch equals 100 feet showing the site and immediately adjacent areas:

1. Site boundaries and adjacent lands which accurately identify site location;

2. Lakes, streams, wetlands, channels, ditches and other water courses on and immediately adjacent to the site.

[Note: The local unit of government should identify sensitive local waters that may need to be further addressed by the control plan.]

3. 100 year floodplains, flood fringes and floodways;

4. Location of the predominant soil types;

5. Vegetative cover;

6. Location and dimensions of stormwater drainage systems and natural drainage patterns on and immediately adjacent to the site;

7. Locations and dimensions of utilities, structures, roads, highways, and paving; and

8. Site topography at a contour interval not to exceed five feet.

(b) Plan of final site conditions. A plan of final site conditions on the same scale as the existing site map showing the site changes.

(c) Site construction plan. A site construction plan including:

1. Locations and dimensions of all proposed land disturbing activities;

2. Locations and dimensions of all temporary soil or dirt stockpiles;

3. Locations and dimensions of all construction site management control measures necessary to meet the requirements of this ordinance;

4. Schedule of anticipated starting and completion date of each land disturbing or land developing activity including the installation of construction site control measures needed to meet the requirements of this ordinance; and

5. Provisions for maintenance of the construction site control measures during construction.

(2) CONTENT OF CONTROL PLAN STATEMENT FOR LAND DISTURBING ACTIVITIES COVERING LESS THAN ONE ACRE, BUT MEETING THE APPLICABILITY REQUIREMENTS STATED IN s. .07(1).

An erosion control plan statement (with simple map) shall be submitted to briefly describe the site and erosion controls (including the site development schedule) that will be used to meet the requirements of the ordinance.

(3) REVIEW OF CONTROL PLAN. Within 45 days of receipt of the application, control plan, (or control plan statement) and fee, the _____ [administering authority] shall review the application and control plan to determine if the requirements of this ordinance are met. The _____ [administering authority] may request comments from other departments or agencies. If the requirements of this ordinance are met, the _____ [administering authority] shall approve the plan, inform the applicant and issue a permit. If the conditions are not met, the [administering authority] shall inform the applicant in writing and may either require needed information or disapprove the plan. Within 30 days of receipt of needed information, the _____ [administering authority] shall again determine if the plan meets the requirements of this ordinance. If the plan is disapproved, the _____ [administering authority] shall inform the applicant in writing of the reasons for the disapproval.

(4) PERMITS.

(a) Duration. Permits shall be valid for a period of 180 days, or the length of the building permit or other construction authorizations, whichever is longer, from the date of issuance. The _____ [administering authority] may extend the period one or more times for up to an additional 180 days. The _____ [administering authority] may require additional control measures as a condition of the extension if they are necessary to meet the requirements of this ordinance.

(b) Surety bond. As a condition of approval and issuance of the permit, the _____ [administering authority] may require the applicant to deposit a surety bond or irrevocable letter of credit to guarantee a good faith execution of the approved control plan and any permit conditions.

(c) Permit conditions. All permits shall require the permittee to:

1. Notify the _____ [administering authority] within 48 hours of commencing any land disturbing activity.

2. Notify the _____ [administering authority] of completion of any control measures within 14 days after their installation.

3. Obtain permission in writing from the _____ [administering authority] prior to modifying the control plan.

4. Install all control measures as identified in the approved control plan;

5. Maintain all road drainage systems, stormwater drainage systems, control measures and other facilities identified in the control plan.

6. Repair any siltation or erosion damage to adjoining surfaces and drainageways resulting from land developing or disturbing activities;

7. Inspect the construction control measures after each rain of 0.5 inches or more and at least once each week and make needed repairs;

8. Allow the _____ [administering authority] to enter the site for the purpose of inspecting compliance with the control plan or for performing any work necessary to bring the site into compliance with the control plan; and

9. Keep a copy of the control plan on the site.

S. .09 INSPECTION.

The _____ [administering authority] shall inspect construction sites at least once a month during the period starting March 1 and ending October 31 and at least 2 times during the period starting November 1 and ending February 28 to ensure compliance with the control plan.

If land disturbing or land development activities are being carried out without a permit, the _____ [administering authority] shall enter the land pursuant to the provisions of s. 66.122 and 66.123, Wis. Stats.

S. .10 ENFORCEMENT.

(1) The _____ [administering authority] may post a stop-work order if:

(a) Any land disturbing or land developing activity regulated under this ordinance is being undertaken without a permit;

(b) The control plan is not being implemented in a good faith manner; or

(c) The conditions of the permit are not being met.

(2) If the permittee does not cease the activity or comply with the control plan or permit conditions within 10 days, the _____ [administering authority] may revoke the permit.

(3) If the landowner or land user where no permit has been issued does not cease the activity within 10 days, the _____ [administering authority] may request the _____ [district attorney, city attorney, or village attorney] to obtain a cease and desist order.

(4) The _____ [administering authority] or the board of appeals may retract the stop-work order or the revocation.

(5) 10 days after posting a stop-work order, the _____ [administering authority] may issue a notice of intent to the permittee or landowner or land user of the _____'s [administering authority] intent to perform work

necessary to comply with this ordinance. The _____ [administering authority] may go on the land and commence the work after 14 days from issuing the notice of intent. The costs of the work performed by the _____ [administering authority], plus interest at the rate authorized by _____ [administrative authority] shall be billed to the permittee or the landowner. In the event a permittee or landowner fails to pay the amount due, the clerk shall enter the amount due on the tax rolls and collect as a special assessment against the property pursuant to section 66.60(16), Wis. Stats.

(6) Any person violating any of the provisions of this ordinance shall be subject to a forfeiture of not less than $_____ nor more than $_____ and the costs of prosecution for each violation. Each day a violation exists shall constitute a separate offense.

(7) Compliance with the provisions of this ordinance may also be enforced by injunction.

S. .11 APPEALS.

(1) BOARD OF APPEALS [or BOARD OF ADJUSTMENTS]. The board of appeals [or board of adjustments if county ordinance] created pursuant to section _____ of the _____ [county's, city's or village's] zoning ordinance pursuant to section 62.23(7)(e) and 68.11, Wis. Stats.:

(a) Shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the _____ [administering authority] in administering this ordinance;

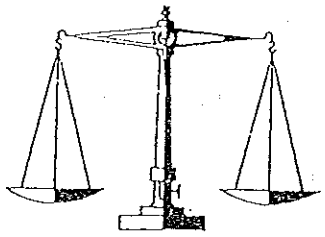
(b) Upon appeal, may authorize variances from the provisions of this ordinance which are not contrary to the public interest and where owing to special conditions a literal enforcement of the provisions of the ordinance will result in unnecessary hardship; and

(c) Shall use the rules, procedures, duties and powers authorized by statute in hearing and deciding appeals and authorizing variances.

(2) WHO MAY APPEAL. Any applicant, permittee, landowner, or land user may appeal any order, decision or determination made by the _____ [administering authority] in administering this ordinance.

Legal Comment

by James H. Schneider
League Legal Counsel



Construction Site Erosion Ordinances

In past issues, this magazine has discussed the Wisconsin construction site erosion legislation and model ordinance.* The purpose of this Comment is to present an overview of this topic and to make comments concerning construction site erosion ordinances. These comments include a discussion of aspects of the model ordinance and suggested changes to that ordinance.

Background — Erosion is not just an agricultural problem. While cropland erosion is typically 3 to 10 tons per acre per year, erosion at an unprotected construction site may reach 300 tons per acre. Unprotected soil on construction sites can create dusty conditions; sediment leaving the construction site can muddy roads, clog storm sewers and ditches, and pollute streams and lakes.

It is much easier and cheaper to prevent the problem than to attempt to undo environmental damage. The focus, therefore, of construction site erosion ordinances is on the developer's** "best management practices."

The Wisconsin legislature responded to the problem of construction site erosion by enacting 1983 Wis. Act 416. This act gave the Department of Natural Resources (DNR) the duty of adopting a state erosion plan and advising and assisting municipalities to develop construction site erosion ordinances. This legislation also required municipalities to cooperate with DNR in meeting the erosion problem. Sec. 144.266, Stats.

The Model Ordinance

In response to the act, the League formed an advisory group which, with the help of DNR staff, developed the Model Construction Site Erosion Ordinance. In addition, the DNR developed the *Wisconsin Construction Site Best Management Practice Handbook* (October 1988). A revised version of the *Handbook* is scheduled for March 1989. Technical assistance on best management practices and copies of the model ordinance and handbook may be obtained from DNR by contacting Jim Baumann, P.O. Box 7921, Madison, WI 53707-7921; (608) 266-9277.

Briefly, the model ordinance requires a developer to get a permit before undertaking certain "land disturbing" or "land developing" activities. See ss. .04 and .07(1) of the model ordinance; and sec. 144.266(3)(b), Stats. To get the permit, the municipality must approve the developer's site plan, which includes a map, a schedule of construction activities and a description of the erosion control measures to be used. The municipality may charge a permit fee and require a bond. The municipality enforces the ordinance by inspections, and may levy forfeitures, revoke permits and obtain court orders for noncompliance with the ordinance and approved plan.

Before turning to the specific comments, it should be noted that construction site ordinances are not mandatory. The legislation as originally introduced made them mandatory, as did a section of the 1988 budget act (Act 399), which was vetoed by the governor. In addition, the proposed federal Environmental Protection Agency storm water regulations for municipalities over 100,000 require construction site best management practices, and in the future it is likely that smaller municipalities will be required to have these practices. (See the proposed regulations on the National Pollution Discharge Elimination System, *Federal Register*, Dec. 7, 1988.) Even though these ordinances are not now mandatory, all municipalities are strongly urged to adopt an ordinance to deal with the problem of construction site erosion.

Comments on the Construction Site Erosion Legislation and Model Ordinance

In these comments the term "the ordinance" refers to a construction site erosion control ordinance adopted under the authority of secs. 144.266 (DNR authority and general provisions), 62.234 (cities), 61.354 (villages)

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*See the November 1986 and January 1987 issues of THE MUNICIPALITY.

**In this Comment the term "developer" is used for convenience to refer to the person holding a construction site permit. The model ordinance in S. 08 actually requires a "land owner" or "land user" to obtain a permit.

These comments were prepared by James Schneider, League Legal Counsel; Attorney Douglas Yanggen, Land Use Specialist, University of Wisconsin—Madison; and DNR staff.

and 59.974 (counties). The model ordinance is an example of an ordinance developed under these provisions.

Comments On Statutory Issues

1. Model Ordinances. The statutes refer to the model ordinance as a "model construction site erosion control and storm water management zoning ordinance." Sec. 144.266(4). The storm water ordinance is being worked on.

2. Authority To Adopt. Cities, villages and counties are authorized to adopt the ordinance. Secs. 62.234, 61.354 and 59.974, Stats. The appropriate zoning ordinances apply, as provided by secs. 62.234(4), 61.354(4) and 59.974(4), but a county ordinance is not subject to town approval. A county ordinance applies only to unincorporated areas. However, a more restrictive town ordinance adopted prior to a county ordinance adopted under sec. 59.974 remains in effect to the extent of the greater restrictions, unless the ordinance is repealed by the town board. Sec. 59.974(2), (4)(a) and (5).

3. Applicability to Government Units. The ordinance applies to local governments and local agencies but not to the state. Secs. 59.974(8), 61.354(7) and 62.234(7). The state, however, must follow the erosion control and storm water management plan adopted by DNR. Sec. 144.266(2).

4. Optional Nature. The ordinance is optional, not mandatory, and the model ordinance standards are therefore suggested standards. Sec. 144.266(3) and (4). Local governments can pick and choose among the provisions. The model ordinance, however, has the advantage of being an integrated and comprehensive approach using uniform standards.

5. Method of Adoption of The Ordinance. If the ordinance is adopted as part of the zoning code, then the procedural requirements for adoption of a zoning ordinance or amendment would apply. Secs. 59.974(4)(a), 61.354(4)(a) and 62.234(4)(a), Stats. If the ordinance is not adopted as part of the zoning code, then the ordinance arguably could be adopted in the same fashion as any other ordinance not subject to special procedural requirements. Secs. 59.974(2), 61.354(2) and 62.234(2). However, to be on the safe side, it is advisable to follow the zoning procedures.

6. Preemption. The ordinance supersedes existing city, village or county erosion control provisions contained in city, village or county zoning codes. Secs. 62.234(4)(c), 61.354(4)(c) and 59.974(4)(c). These statutes do not provide that erosion provisions in ordinances other than the zoning code are preempted.

7. Variances and Appeals. The zoning board of appeals in a city or village and the zoning board of adjustment in a county determine variances and appeals under the ordinance. See secs. 62.23(7)(e) and 59.99.

8. Joint Agreements. Cities, villages and counties may adopt ordinances using sec. 66.30, the intergovernmental cooperation statute, to agree to administer the ordinance. Secs. 62.234(8), 61.354(8) and 59.974(9).

9. Regional Plan Commission Enforcement. Whether or not the entire city, village or county is served by a regional plan commission, the local government may, with the commission's consent, by ordinance empower the commission to administer the ordinance throughout the entire city, village or county. Secs. 62.234(8), 61.354(8) and 59.974(9).

10. Legal And Technical Advice. Local governments should involve their legal advisors in the preparation and administration of the ordinance. The League legal staff is available, pursuant to the League's legal policy, to provide advice to members concerning the ordinance. The DNR will provide technical assistance; contact Jim Baumann at the address given at the top of column 2, page 74.

Possible Changes to The Model Ordinance

1. Terminology. S. 03 states that the model ordinance is intended to apply to all "land disturbing" and "land developing" activities. The ordinance defines "land developing activity" and "land disturbing construction activity." S.04(7) and (8). However, the second definition is not used in the ordinance—the word "construction" is omitted except in the foreword. Although it would be preferable to avoid this inconsistency, it does not seem to present a problem in interpretation.

The real concern is that the ordinance is inconsistent in referring to "land disturbing" and "land development activity." Although both terms are often used, in a number of cases only one term is used. For example, the term "land disturbing activities" alone is used in the title of the provisions concerning control plans, S. 08(1) and (2). [Also, in the title of S. 08(2) reference is made to the applicability requirement; this phrase ('but meeting . . .') is unnecessary and confusing, and should therefore be deleted]. See also the foreword and S. 08(1)(c)1 and (4)(c)1. To avoid confusion, it is advisable to use both phrases in each instance.

2. Extraterritorial Application. S. 03. The model ordinance provides that it is optionally applicable to lands subject to extraterritorial review under ch. 236. The statutes provide that "All powers granted to a . . .(city or village) under s. 236.45 may be exercised by it with respect to construction site erosion control . . . if the . . .(city or village) has or provides a planning commission or agency." Secs. 62.234(6) and 61.354(6).

One interpretation is that this merely means that a subdivision ordinance, which may apply extraterritorially [(sec. 236.45(3)], may contain erosion control provisions. However, if this is the case then the statutory reference to a planning agency is superfluous — cities and villages with subdivision ordinances must always have planning agencies. Sec. 236.45(2)(a). This suggests that the statutes may intend to allow municipalities to make their erosion control ordinances applicable extraterritorially even if such ordinances are not part of a subdivision ordinance.

Cities and villages adopting the model ordinance should make it clear whether they intend it to apply to their extraterritorial area. They should also specify whether it applies only to plat approval, or whether it applies to the entire geographic extraterritorial area even if plat approval is not involved. The latter interpretation makes the ordinance apply to existing lots, as well as other lands, within the extraterritorial area. The statutory language is ambiguous in this respect, so municipalities should consult their attorneys before enacting such a provision.

Language incorporating these three interpretations follows. (a) To make the ordinance inapplicable extraterritorially, end the first sentence of S. 03 after "[county, city, or village]". (b) To make the ordinance apply to extraterritorial plat approval, end the first sentence as above and add the following sentence: "This ordinance applies to the division of land within the boundaries of the _____ [city or village] and within its extraterritorial plat approval jurisdiction under ch.236, Stats." (c) To make the ordinance apply to the entire geographic extraterritorial area even if plat approval is not involved (i.e., to existing recorded lots as well as other lands), end the first sentence as in (a) above and add the following sentence: 'This ordinance applies to all lands located within the extraterritorial plat approval jurisdiction of _____ [city or village], even if plat approval is not involved."

3. Definition of "Set of 1 year design storms". S. 04(12). According to DNR, the set of 1 year design storms is much more appropriate for permanent storm water infiltration practices than for practices used for controlling erosion on construction sites. The DNR's *Wisconsin Construction Site Best Management Practice Handbook* does not use these design storms. Therefore, this definition may be deleted. However, if this definition is deleted, provisions using this term must of course be changed. In place of the 1 year storms, DNR recommends using 2-year or 5-year 24-hour storms.

4. Design Criteria, Standards and Specifications for Control Measures. S. 05. The city, village or county may wish to reference

Please turn to page 76

Site Erosion

Continued from page 75

DNR's *Wisconsin Construction Site Best Management Practice Handbook* in this section.

5. Maintenance of Control Measures. S. 06. The city, county or village may wish to reference the maintenance provisions for control measures contained in DNR's *Wisconsin Construction Site Best Management Practice Handbook.*

6. Site Erosion Control. S. 07(2)(e). DNR makes the following recommendations:

Under provision 1., a design storm, such as a 10-year, 24-hour design storm, should be used instead of the "set of 1 year design storms."

Under provision 3.a., specify that site shall be stabilized by temporary or permanent seeding; temporary or permanent seeding and mulching; sodding; covering with tarps; or equivalent control measures. Seeding without mulch may only be allowed if the seeding is started and completed between May 1st and September 15th. If temporary seeding is used, a permanent cover shall also be required as part of the final site stabilization.

Under provision 3.b, the city, village or county may wish to reference the sediment trap and sediment basins in the DNR *Wisconsin Construction Site Best Management Practice Handbook* instead of the design criteria stated in the model ordinance.

The city, village or county may wish to consider an additional provision for very steep sites. Sites on slopes of 12% or more slope may require additional or different controls than listed in provision 3.

Under provision 4., in most cases the preferred methods of controlling sediment from soil or sand piles in existence for more than 7 days are filter fabric fences or straw bale fences. (Note: If the piles are in existence for extended periods, such as more than 6 months, the filter fabric or straw bales may need to be replaced.) The city, village or county may wish to include these two practices in the list of acceptable practices.

7. Sodding. S. 07(2)(e)3. On p. 5, at bottom, insert earliest date at which seeding or sodding is acceptable.

8. Ten Acre Sites. S. 07(2)(e)3b and c. On p. 6 — specify which measures apply when the site is exactly 10 acres. That is, make b apply to sites "with 10 or more acres disturbed" or make c apply to sites "with no more than 10 acres disturbed."

9. One Acre Sites. S. 08(1) and (2). On pp.6 and 7 — specify which control plan applies when the site is exactly one acre. That is, make (1) apply when "one or more acres" are involved or make (2) apply to "no more than one acre."

10. Existing Site Map for Sites of more than 1 Acre. S. 08(1)(a). DNR suggests that the city, village or county may wish to define the physical dimensions of immediately adjacent areas. Alternatively, the city, village or county may wish to allow the administering authority to specify the dimensions. As stated in (1)(a), the information specified must be included for both the site and immediately adjacent area. Therefore, the phrase "on and immediately adjacent to the site" in (1)(a) 2 and 6 is redundant.

11. Corporation Counsel. S. 10(3). For counties, add "corporation counsel".

12. Special Charge. S. 10(5). Substitute "special charge" for "special assessment".

13. Statutory References. S. 11(1). Delete the language following "zoning ordinance pursuant to" and substitute "ss. 59.99 or 62.23(7)(e)."

14. Enforcement provisions. The ordinance authorizes the administering authority to go onto the site and perform work necessary to bring the site into compliance with the control plan. SS. 08(4)(c)8 and .10(5). S. 10(5) specifically provides that 10 days after posting a "stop-work order," the administering authority may issue a notice of intent to perform work necessary to comply with the ordinance; and 14 days after that, the authority may perform the work and charge it to the permittee or landowner. If the amount is not paid, the special charge may become a lien against the property pursuant to sec. 66.60(16).

S. 10(5) appears to go too far and not far enough. On the one hand, assume that a municipal inspector on the site after the work crew has left for the day notices that a couple of bails have tipped over or that a drain filter does not completely cover the drain. In such circumstances, it seems appropriate for the inspector to set things right. (For such simple changes, though, it might not be appropriate to charge the contractor unless he or she was given an opportunity to correct the problems). In such cases, the 24 day period is too long and unworkable.

On the other hand, if the site needs substantial work, following the 24 day notice procedure may be more appropriate. However, even in such a case, it may be advisable to get a court order allowing the administering authority to perform the work. "Self help" remedies (i.e., not pursuant to a court order) pose constitutional questions.

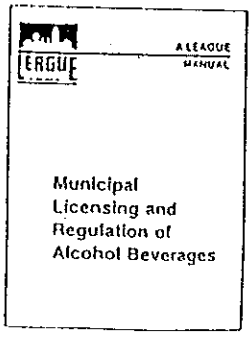
In addition, there may be emergency circumstances where action is required and there is no time to get a court order or give much, if any, notice to the contractor.

In general, the municipality or county may wish to rely on existing zoning enforcement provisions to enforce the model ordinance. With regard to entering the site to perform needed work, this may involve abating a nuisance, and the municipality or county may therefore wish to rely on its nuisance procedure.

Also, local governments may wish to make the ordinance enforceable through the use of citations.

15. Appeals to Board. S. 11(2)—delete the sentence beginning "Any applicant. . ." and substitute "Appeals to the board of appeals [or board of adjustment if county ordinance] may be taken by any aggrieved person or by any officer, department, board or bureau of the [county, city or village] affected by any decision of the _____[administering authority]."

A Valuable Resource



To League of Wisconsin Municipalities
122 West Washington Avenue
Madison, WI 53703

Please send _____ copies ($10 each) of the Municipal Licensing and Regulation of Alcohol Beverages manual to:

Name _____

Address _____

City, State, Zip _____

$_____ Enclosed

APPENDIX D

DNR Model Stormwater Management Ordinance

To be appended when available

APPENDIX E

Legal Type Description of the Sewer Service Boundary - 2015

Menomonie Sewer Service Area - Legal Description

Beginning at the NE corner of section 28 T29N, R12W (in the Town of Tainter, Dunn County); thence traversing section 28 T29N, R12W diagonally NE to SW to the NE corner of section 32 T29N, R12W; thence south to the SE corner of section 8 T28N, R12W; thence east to the SE corner of section 10 T28N, R12W; thence south to the SE corner of section 15 T28N, R12W; thence west to the SE corner of section 17 T28N, R12W; thence south to the intersection of the centerlines of 610th St. and 510th Ave.; thence west on the centerline of 510th Ave. to the intersection of 550th St.; thence south to the south ¼ corner of section 31 T28N, R12W; thence west to the SW corner of section 31 T28N, R12W; thence south to the NE corner of section 12 T27N, R13W; thence west to the NW corner of said section; thence south to the SW corner of said section; thence west to the SW corner of section 9 T27N, R13W; thence north to the NW corner of said section; thence east to the NE corner of said section; thence north to the SE corner of section 28 T28N, R13W; thence west to the SW corner of said section; thence north to the NW corner of section 21 T28N, R13W; thence east to the NE corner of said section; thence north to the NW corner of section 10 T28N, R13W; thence east to the NE corner of said section; thence north to a point of the centerline of 700th Ave.; thence east to the intersection of 700th Ave and C.T.H. "J"; thence north on the centerline of C.T.H. "J" to the intersection of C.T.H. "F"; thence north on the centerline of C.T.H. "F" to the intersection of 760th Ave.; thence east on the centerline of 760th Ave. to the intersection of S.T.H. 25; thence northeasterly on the centerline of S.T.H. 25 to the NW corner of the SW¼ of section 19 T29N, R12W; thence east to the NW corner of the SE¼ of said section; thence north to the centerline of Lamb's Creek; thence southeasterly along the centerline of Lamb's Creek to the centerline of the Red Cedar River; thence south to a point on the south shore of Tainter Lake; thence northeasterly along the south shore line of Tainter Lake to a point on the south line of the NW¼ of section 14 T29N, R12W; thence east to the NE corner of the NW¼ of the SE¼ of section 14 T29N, R12W; thence south to the SE corner of the NW¼ of the SE¼ of section 23 T29N, R12W; thence west to the NE corner of the SE¼ of the SE¼ of section 22 T29N, R12W; thence south to the SE corner of said section; thence west to the point of beginning.

APPENDIX F

Resource and Technical Assistance Contact List

Local Government and Organizations

Contact	Area
Mike Helgeson, Dunn County Zoning Administrator 800 Wilson Avenue Menomonie, WI 54751 715-232-1401	Dunn County Comprhensive Zoning Ordinance
Lowell R. Prange, City of Menomonie Administrator 800 Wilson Avenue Menomonie, WI 54751 715-232-2187	City of Menomonie Development Regulations
James J. Forster County Conservationist Dunn County Land Conservation 390 Red Cedar Street Menomonie, WI 54751 715-232-1496	Sewer Service Extension, Hookup and Amendment Review Groundwater Soils Wetlands Erosion Control
Dale Gagner District Conservationist USDA Soil Conservation Service 390 Red Cedar Street Menomonie, WI 54751 715-232-1132	Soils Wetlands
Daniel J. Prestebak Conservation Planner Dunn County Land Conservation 390 Red Cedar Street Menomonie, WI 54751 715-232-1496	Farmland Preservation
Chad Haas Dunn County Solid Waste Coordinator 800 Wilson Avenue Menomonie, WI 54751 715-232-4017	Solid Waste Recycling Waste Reduction Hazardous Waste
Alta Vasey Morgan Dunn County Historical Society 323 Park Circle Menomonie, WI 54751 715-235-8154	Historical Resources
Ed Jenson Sewer Superintendent City of Menomonie Riverside Drive Menomonie, WI 54751 715-232-2175	City of Menomonie Southside Wastewater Treatment Facility

Department of Natural Resources

Contact	Area
Cindy Koperski Water Quality Planning Wisconsin DNR P.O. Box 4001 Eau Claire, WI 54702 715-839-3799	Surface Water Stormwater Management Sewer Service Area Plans
Dan Koich Water Regulation and Zoning Wisconsin DNR 2004 Highland Avenue Eau Claire, WI 54701 715-839-3769	Shoreland Setbacks Floodplain Wetlands
Steve Thon Wastewater Engineer Wisconsin DNR 2004 Highland Avenue Eau Claire, WI 54701 715-839-3776	Municipal Sewer and Water Groundwater
Roger Shores WR/2 Water Quality Planning Wisconsin DNR 101 S. Webster GEF II P.O. Box 7921 Madison, WI 53707-7921 608-266-5237	Sewer Service Area Plans
Gary Lepak 715-839-3779	Floodplain Engineer
Tim Hanson 715-839-3773	Water Supply, Non-municipal Groundwater
Doug Erickson 715-839-3839	Water Supply, Non-municipal Groundwater
Bill Evans 715-839-3710	Hydrogeologist-Soil & Water Contamination
Susan Borman 715-839-3836	Aquatic Botanist-Wetlands
Cindy Casey 715-839-1606	Urban Forestry
Jay Jordan 715-232-1516	Forests of Dunn County
James Cleven 715-232-1269	Conservation Warden-DNR Regulations Violations
Jack Tritt 715-839-3768	Solid Waste-Disposal
Paul Wiegner 715-839-5171	Solid Waste-Recycling
Ginger Hooper 715-839-3759	Solid Waste-Hazardous
Loren Brumberg 715-839-3770	Solid Waste-Tires
Elizabeth Spencer 608-264-6054	Endangered Resources
Tom Woletz 715-839-3756	Air Quality Management

Other Important Contacts

Contact	Area
Leroy Jansky Department of Industry, Labor and Human Relations 13 E. Spruce Street Chippewa Falls, WI 54729 715-726-2544	Septic Systems
Kathy Prentice Department of Industry, Labor and Human Relations 1300 State Highway 29 Chippewa Falls, WI 54729 715-726-2559	Underground Storage Tanks Commercial Retail
Darrell Christy Department of Industry, Labor and Human Relations 13 E. Spruce Street Chippewa Falls, WI 54729 715-726-2542	Underground Storage Tanks Non-Retail
Duane Klein Department of Agricultural, Trade and Consumer Protection 801 W. Badger Road Madison, WI 53708-8911 608-266-7896	Fertilizers and Pesticides
Chip Harry L. Brown, III J.D. The State Historical Society of Wisconsin 816 State Street Madison, WI 53706-1488 608-264-6404	Historical Resources