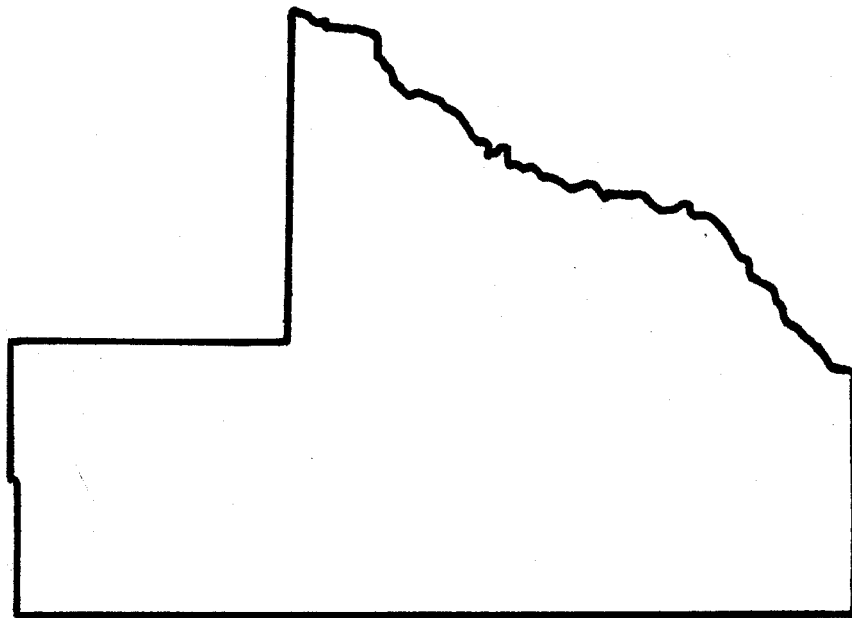


**BROWN COUNTY
LAND USE PLAN**



1991

AN ORDINANCE
ADOPTING THE
BROWN COUNTY LAND USE PLAN

WHEREAS, a Land Use Plan for Brown County was adopted in 1970; and

WHEREAS, conditions in Brown County have changed since 1970; and

WHEREAS, the Planning Commission developed a Land Use Plan for the County, a copy of which has been presented to the Brown County Board of Commissioners; and

WHEREAS, the Planning Commission, on the 14th day of February, 1991, adopted a recommendation that the Brown County Land Use Plan be referred to the Brown County Board of Commissioners for adoption; and

WHEREAS, the Brown County Board of Commissioners, on the 19th day of March, 1991, following proper notice, held and conducted a public hearing; and

WHEREAS, based upon the recommendation of the Planning Commission and the outcome of the public hearing, the Brown County Board of Commissioners hereby finds and determines that the adoption of the Brown County Land Use Plan is appropriate.

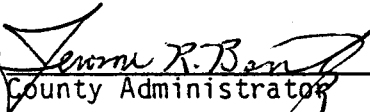
NOW, THEREFORE, BE IT ORDAINED, by the Brown County Board of Commissioners that the Brown County Land Use Plan be adopted in accordance with Minnesota Statutes 394.23.

This ordinance shall become effective immediately upon its passage and without publication.

Adopted this 19th day of March, 1991.


Chairman
Brown County Board of Commissioners

ATTEST:


County Administrator

BROWN COUNTY LAND USE PLAN

1991

Prepared by
BROWN COUNTY
and
MINNESOTA VALLEY COUNCIL OF GOVERNMENTS

BROWN COUNTY LAND USE PLAN

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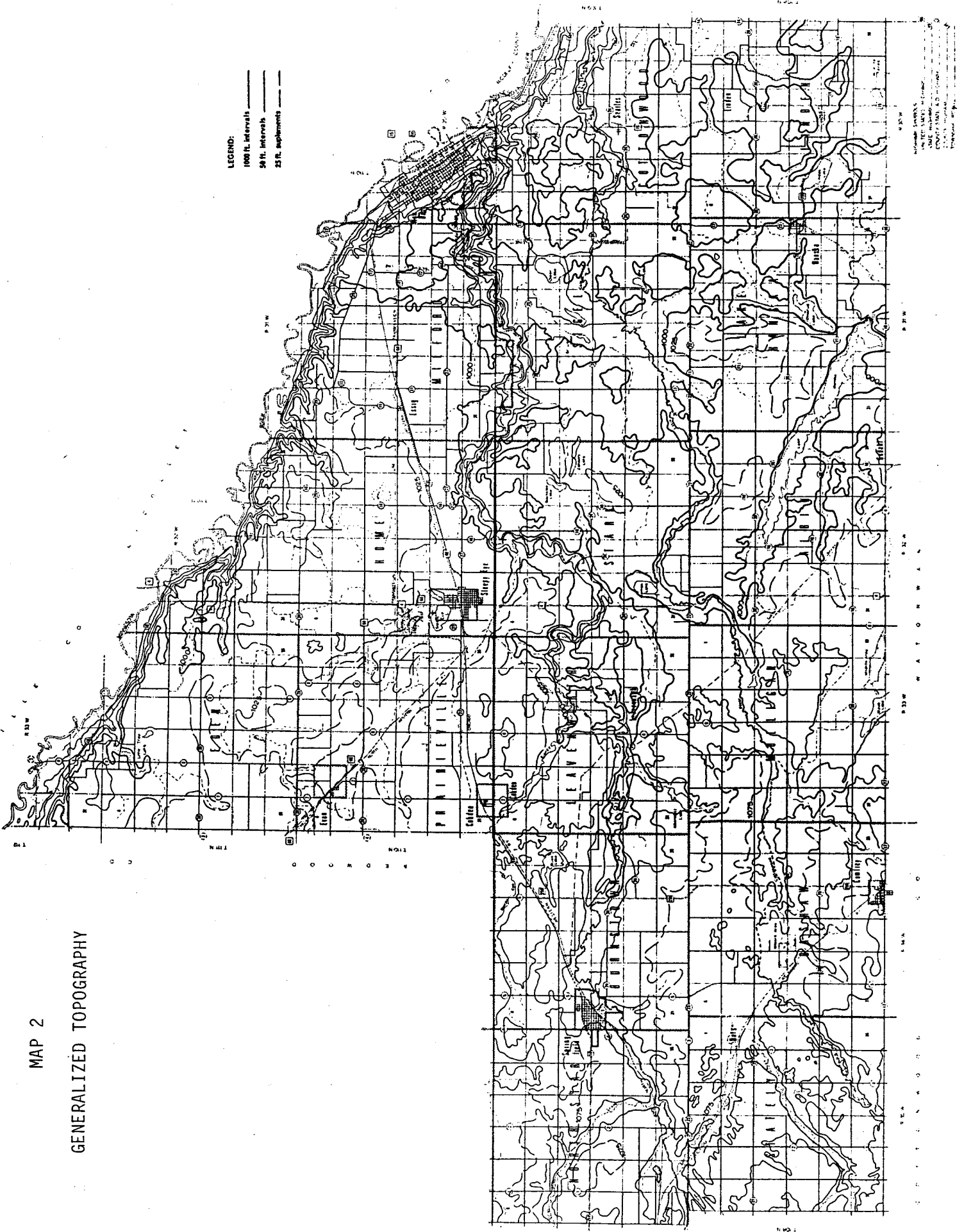
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BROWN COUNTY LAND USE PLAN

I. INTRODUCTION

The purpose of the Brown County Land Use Plan is to provide guidelines for the future development of land within the County. The Plan serves as the basis for County land use decisions and provides the legal foundation for the adoption of official controls. These official controls, such as the zoning ordinance and subdivision regulations, are the tools used by the County to achieve the goals established by the Land Use Plan.

Many factors were considered when developing the Land Use Plan. An analysis of general characteristics of the county provides an overview of existing conditions and trends, while an analysis of existing land use provides information on the established land use patterns that form the basis for future development. The plan itself sets forth goals and objectives for the future development of land in the County.

The Brown County Land Use Plan was developed with consideration given to the following general goals:

- * To protect and promote the public health, safety, and general welfare.
- * To provide for the most appropriate uses of land throughout the County.
- * To protect and preserve agricultural land.
- * To protect and preserve environmentally sensitive areas.
- * To promote orderly development of residential, commercial, industrial, recreational, and public areas.
- * To minimize incompatible uses of land.

This Land Use Plan updates the Land Use Plan adopted by Brown County in 1970. As conditions in the County have changed, many aspects of the previous plan are no longer applicable. However, those portions of the plan that are applicable to the current situation were incorporated into this document.

In order for the land use plan to remain current, it should be reviewed and updated as new information becomes available or as conditions in the County change. A current land use plan will better serve County officials as they guide the development of land in the County.

II. GENERAL CHARACTERISTICS

A. Natural Characteristics

Location

Brown County is located in south central Minnesota and has a total land area of 610 square miles. The County is bordered on the north by Renville and Nicollet Counties, on the east by Nicollet and Blue Earth Counties, on the south by Watonwan and Cottonwood Counties, and on the west by Cottonwood and Redwood Counties. The Minnesota River forms the northern boundary of the county.

There are seven incorporated cities, four unincorporated communities, and sixteen townships in Brown County. The incorporated cities are New Ulm, Sleepy Eye, Springfield, Comfrey, Hanska, Evan, and Cobden. The unincorporated communities are Leavenworth (located in Leavenworth Township), Godahl (located in Albin Township), Essig (located in Milford Township), and Searles (located in Cottonwood Township). The 1990 Census indicated a total County population of 26,984. The City of New Ulm is the largest urban area in the County as well as the county seat.

Climate

The climate in Brown County is classified as a humid continental type characterized by cold winters and hot summers. The average annual precipitation in Brown County is 28 inches, with 70 percent of the precipitation falling between the months of April and September. The average temperature in the county is 46 F. However, the temperature ranges from an average in July of 73 F to an average in January of 12 F. The average relative humidity in midafternoon is 60 percent. The prevailing wind is from the northwest.

Geology/Topography

The majority of Brown County is nearly level or gently sloping, with elevations ranging from 1,000 to 1,100 feet above sea level. The highest elevation is in the southwestern part of the county where terminal moraines reach an elevation of 1,260 feet. The lowest elevation is in the northeastern edge of the county where valleys cut by streams and rivers entering the Minnesota River drop to an elevation of 780 feet. The topography is steepest along the Minnesota, Cottonwood, and Little Cottonwood Rivers, and in the terminal moraines. The flat area of the county was once part of the bed and shoreline of Glacial Lake Minnesota.

Precambrian metamorphic and igneous rocks, mainly granite, gneiss, and Sioux quartzite, form the lowermost geologic unit in Brown County. The depth to these rocks is generally from 100 feet to more than 200 feet; however, bedrock crops out in the valleys cut by rivers and streams. Paleozoic Sandstone underlies part of

southeastern Brown County. Cretaceous sedimentary rocks underlie the glacial drift throughout most of the County. Glacial drift of Wisconsin age forms the uppermost geological unit, ranging from a few feet to more than 200 feet in thickness. Deposits of glacial till cover 80 percent of the county, glacial outwash deposits of sand and gravel cover 15 percent of the county, and alluvium derived from the glacial drift covers 5 percent of the county.

Granite is found along the Minnesota River Valley, especially north of New Ulm. There are numerous sand and gravel pits in the county concentrated along the Cottonwood and Little Cottonwood Rivers. Kaolin Clay is mined in one location along the Minnesota River Valley. Surface sandstone is found in the northeast and southwest portions of the county. The remainder of the county has combinations of traces of clays, shale, marl, sand, sandstone, and lignite.

Soils

Brown County lies in a section of rolling prairie soils that were once partially covered by Glacial Lake Minnesota. This region of south central Minnesota is often referred to as the wet prairie and has traditionally had spring drainage problems. Before the utilization of tiling and ditches, a few inches of water often remained on the poorly drained land for many weeks each spring. Construction of an elaborate system of tiling and drainage ditches has allowed crops to be planted earlier.

The soils found in Brown County relate directly to climate and natural vegetation. The existing soils are the result of climatic and vegetational influences on parent materials deposited in the county by the withdrawal of the glaciers during pre-historic times. As both parent materials and vegetation vary considerably throughout the county, a substantial variation in soil types is to be expected. The soils in Brown County vary from the dark fertile glacial till soils developed under prairie vegetation between the rivers to the lighter colored sandy soils of low fertility developed under hardwood forest cover near the rivers.

The Soil Conservation Service and the Minnesota Agricultural Experiment Station have identified and mapped ten general soil associations in Brown County. While an association typically consists of one or more major soils and some minor soils, the soil association is named for the major soils found in the association. Each soil association has a distinctive pattern of soils, topography, and drainage. Soils derived from the same parent material will have different characteristics depending upon drainage, topography, and other factors. The soil associations can be used to compare the suitability of large areas for general land uses. However, the soils in any one association differ from place to place in slope, depth, drainage, and other characteristics.

The ten soil associations identified in Brown County are grouped into three categories: nearly level to very steep, loamy and silty soils on uplands; nearly level and gently sloping, loamy soils mainly on valley trains; and nearly level, loamy and silty soils on flood plains.

The first category, nearly level to very steep, loamy and silty soils on uplands, formed dominantly in loamy glacial till on uplands. These soils are well-drained to very poorly drained and are used mainly as cropland. Corn, soybeans, and small grain are the major crops. This category makes up 76 percent of the county and includes the following Associations: Canisteo-Ves-Seaforth (21%); Canisteo-Glencoe-Seaforth (1%); Ves-Webster-Storden (1%); Normania-Webster-Ves (0.7%); Webster-Nicollet-Okoboji (18%); Webster-Nicollet-Clarion (27%); and Clarion-Storden-Terril (1%).

The second category, nearly level and gently sloping, loamy soils mainly on valley trains, formed dominantly in loamy glacial outwash on valley trains. These soils are well-drained to very poorly drained and are used mainly as cropland. Corn, soybeans, and small grains are the major crops. This category makes up 19 percent of the county and includes the following Associations: Dickman-Estherville-Lemond (10%) and Lemond-Nicollet-Dickman (9%).

The third category, nearly level, loamy and silty soils on flood plains, formed in loamy and silty alluvium on flood plains. These soils are poorly drained or moderately well-drained and are subject to flooding in the spring. These soils are used mainly as cropland, with corn, soybeans, and small grains as the dominant crops. This category makes up 5 percent of the county and includes the Millington-Minneiska-Calco Association.

Minerals

Granite is found along the Minnesota River Valley, especially north of New Ulm. There are numerous sand and gravel sites throughout the County. These sites are concentrated along the Minnesota, Cottonwood, and Little Cottonwood Rivers. One Kaolin Clay mine is also found in the county along the Minnesota River.

Groundwater

Water in Brown County is obtained from wells tapping Pleistocene glacial deposits and sedimentary and igneous rocks. The most accessible and widely used aquifers are found in the beds of sand and gravel buried in the glacial deposits. In the western part of the county, water is found at a depth of forty to sixty feet. The glacial deposits in this area are shallow in some areas and some wells terminate in Cretaceous sedimentary rocks. These rocks consist mainly of shale and beds of poorly cemented sandstone and siltstone. The beds of sandstone can yield substantial supplies of water.

In the southeastern part of the county, Cambrian Sandstone underlies the glacial deposits. This sandstone also yields substantial quantities of water.

In the southwestern corner of the county, there are areas of Sioux quartzite that contain only small quantities of water.

In the northeastern part of the county, along the Minnesota River, water is found at a depth of 150 feet. The Precambrian igneous rocks (granite) of this area yield little or no water.

Small flowing wells are found near Springfield. Springs are found throughout the county. Specific sites of groundwater recharge and discharge have not been identified in Brown County.

Surface Water

The majority of land in Brown County is located within the Cottonwood River Watershed. The Cottonwood River Watershed drains approximately 1,280 square miles in Brown, Cottonwood, Redwood, Murray, and Lyon Counties. The Cottonwood River and its tributaries drain 44 percent of the County. The Little Cottonwood River drains 20 percent of the county, while 18 percent of the county is drained directly by the Minnesota River. An area in the southeastern part of the county is located within the Blue Earth River Watershed, with the Watonwan River draining 9 percent of the County. In addition, 8 percent of the County is drained by Morgan Creek and Minneopa Creek, which flow into the Minnesota River.

The smaller streams in the county generally flow 15 to 30 feet below the general elevation with comparatively narrow valleys. The Little Cottonwood River flows 30 feet below the general elevation, with a valley from one-eighth to one-fourth mile wide bordered by gentle slopes. The Cottonwood River flows 50 feet below the general elevation, with a valley from one-fourth to one-third of a mile wide. The Minnesota River flows 165 to 180 feet below the general elevation, with a valley from three-fourths of a mile to one and one-half miles wide. The Cottonwood and Minnesota River valleys are bordered by steep bluffs which rise sharply to the general elevation of the upland.

Only 2.5 percent of the county's total land area is covered by water. The average water coverage for Minnesota is 6.5 percent. There are 99 lakes in the County, although all but 20 are intermittent. Only 16 of these lakes are 20 acres or greater in size. The lakes are generally fertile, quite shallow, and subject to winterkill. The shallowness detracts from the lakes' use for recreational purposes. The amount of vegetational growth in the lakes by mid to late summer also makes the lakes recreationally undesirable.

There are three notable marshes in Brown County recognized by the DNR. Two of these marshes are in Mulligan Township and one is in Bashaw Township.

Vegetation

The vast majority of the land in Brown County is cropland. For the most part, this land was originally under prairie-type vegetation. Only 4 percent of the total land area is woodland. This woodland area consists primarily of hardwoods and is located in the Minnesota River Valley and along the river bottoms of its tributaries.

B. Population Characteristics

Population trends provide an understanding of what is presently happening in the County and a basis for anticipating what may occur in the future.

The population of Brown County has declined since 1970, after experiencing a 4.4 percent increase during the previous decade. By 1990, the population residing within the incorporated communities increased to 74.2 percent of the total County population. Of the three larger communities in the County, New Ulm and Sleepy Eye experienced growth of 0.6 and 6.7 percent, respectively, while Springfield experienced a decline in population of -1.4 percent between 1970 and 1990. All of the smaller communities in the County, except Hanska, experienced a decline in population between 1970 and 1990. New Ulm is the largest community in Brown County. The 1990 population of 13,132 indicates that 49 percent of all County residents live within the corporate limits of this community.

All townships, except Cottonwood Township, experienced population declines between 1970 and 1990.. The unincorporated community of Searles undoubtedly contributed to the slight increase in population in Cottonwood Townships. The rural farm population of the County, including unincorporated communities as well as farms, declined by 8.6 percent between 1970 and 1980. Table 1 provides an overview of the change in the County population by jurisdiction.

The Minnesota State Demographers Office has estimated that the County's population will remain relatively constant over the next 15 to 20 years. The population projection for 2005 is 28,360, a 1.0 percent decline compared to the 1980 population. While the County is expected to lose population, the population residing within the incorporated communities is expected to increase by over 10.0 percent by 2005.

Age/Gender Distribution

Analysis of Brown County's population by age group and gender provides information on how the population is maturing. A breakdown of the population by age group and gender is shown on Table 2.

TABLE 1
COUNTY POPULATION CHANGE
1970 - 1990

Townships	1970	1980	Change 1970-1980		1990	Change 1980-1990	
			Number	%		Number	%
Albin	441	444	+ 3	+ 0.7	361	- 83	- 18.7
Bashaw	390	356	- 34	- 8.7	273	- 83	- 23.3
Burnstown	386	350	- 36	- 9.3	322	- 28	- 8.0
Cottonwood	922	946	+ 24	+ 2.6	923	- 23	- 2.4
Eden	483	416	- 67	- 13.9	378	- 38	- 9.1
Home	821	792	- 29	- 3.5	712	- 80	- 10.1
Lake Hanska	528	474	- 54	- 10.2	378	- 96	- 20.3
Leavenworth	576	509	- 67	- 11.6	400	-109	- 21.4
Linden	501	436	- 65	- 13.0	363	- 73	- 20.1
Milford	758	754	- 4	- 0.5	711	- 43	- 6.0
Mulligan	491	369	- 122	- 24.8	274	- 95	- 25.7
North Star	421	395	- 26	- 6.2	365	- 30	- 7.6
Prairieville	487	401	- 86	- 17.7	378	- 23	- 5.7
Sigel	629	527	- 102	- 16.2	478	- 49	- 10.3
Stark	493	462	- 31	- 6.3	423	- 39	- 8.4
Stately	325	276	- 49	- 15.1	228	- 48	- 17.4
<u>Incorporated Communities</u>							
Cobden	113	72	- 41	-36.3	62	- 10	- 13.9
Comfrey (part)	512	508	- 4	- 0.8	433	- 75	- 14.8
Evan	126	90	- 36	-28.6	83	- 7	- 7.8
Hanska	442	429	- 13	- 2.9	443	+ 14	+ 3.3
New Ulm	13,051	13,755	+ 704	+ 5.4	13,132	- 623	- 4.5
Sleepy Eye	3,461	3,581	+ 120	+ 3.5	3,694	+ 113	+ 3.2
Springfield	2,530	2,303	- 227	- 9.0	2,173	- 130	- 5.6
COUNTY TOTAL	28,887	28,645	- 242	- 0.8	26,984	-1,661	- 5.8

Sources: U.S. Census, 1970, 1980 and 1990

TABLE 2
AGE/GENDER DISTRIBUTION OF POPULATION

1970 & 1980

Age Group	1970			1980			Change in Total 1970 - 1980		
	M	F	TOTAL	%	M	F	TOTAL	No.	%
0 - 4	1,224	1,208	2,432	8.4	1,106	1,021	2,127	- 305	-12.5
5 - 9	1,561	1,526	3,087	10.7	1,064	972	2,036	-1,051	-34.1
10 - 14	1,662	1,623	3,285	11.4	1,208	1,106	2,314	- 971	-29.6
15 - 19	1,299	1,365	2,664	9.2	1,453	1,544	2,997	+ 333	+12.5
20 - 24	800	1,143	1,943	6.7	1,261	1,389	2,650	+ 707	+36.4
25 - 29	733	773	1,506	5.2	1,047	1,008	2,055	+ 549	+36.5
30 - 34	681	658	1,339	4.6	881	896	1,777	+ 438	+32.7
35 - 39	680	713	1,393	4.8	702	725	1,427	+ 34	- 2.4
40 - 44	760	739	1,499	5.2	642	618	1,260	- 239	-15.9
45 - 49	768	751	1,519	5.3	652	659	1,311	- 208	-13.7
50 - 54	728	779	1,507	5.2	700	711	1,411	- 96	- 6.4
55 - 59	726	790	1,516	5.2	692	695	1,387	- 129	- 8.5
60 - 64	688	720	1,408	4.9	671	749	1,420	+ 12	+ 0.8
65 - 69	561	638	1,199	4.2	582	727	1,309	+ 110	+ 9.2
70 - 74	454	568	1,022	3.5	519	672	1,191	+ 169	+16.5
75 - 79	302	449	751	2.3	393	515	908	+ 157	+20.9
80 - 84	179	294	473	1.6	229	380	609	+ 136	+28.8
85 & over	140	204	344	1.2	134	322	456	+ 112	+32.6
TOTAL	13,946	14,941	28,887		13,936	14,709	28,645	- 242	- 0.8

Source: U.S. Census, 1970 & 1980

Although the total population of Brown County experienced a slight decline from 1970 to 1980, there were population increases within certain age groups. The 15-19, 20-24, 25-29, 30-34, and 35-39 age groups increased, as did all age groups in the 60 and over categories.

The median age in Brown County was 28.4 in 1970 and 30.4 in 1980. This increase follows the national trend and may be attributed to longer life expectancy and fewer births. As health care standards and facilities continue to improve and birth rates continue to decline, the median age will continue to increase.

Income

The per capita income for Brown County in 1980 was \$6,299, compared to \$7,451 for the State of Minnesota. The median income for families in the County was \$18,420, while the median household income was \$15,403. The median income in Brown County is only 87% of the median income for the State of Minnesota.

Labor Characteristics

Analysis of Brown County's labor force and employment trends provides information on economic activities and the economic stability of the region.

The number of people in the labor force increased by 21.4 percent from 1970 to 1980. In addition, the number of males and females as a ratio of the total labor force changed between 1970 and 1980. In 1970, the ratio was 62 percent male and 38 percent female. In 1980, the ratio was 57 percent male and 43 percent female. This reflects the national trend of more females joining the labor force. The ratio of the labor force to the total population also increased significantly between 1970 and 1980. In 1970, the labor force constituted 38 percent of the total population. By 1980, the ratio had increased to 47 percent of the total County population being part of the labor force. Table 3 provides additional information on the employment status of Brown County's population.

C. Housing Characteristics

Housing characteristics indicate economic growth in the County and the standard of living of the residents.

The number of housing units in Brown County increased by over 15% between 1970 and 1980. While the population declined slightly during this same period, an increase in the number of households and housing units is typical as families become smaller and family divisions increase. Although there was an increase in all types of housing units, the most significant percentage increase was in the area of mobile homes. Table 4 provides information on the number of housing units in the County.

The total number of year-round housing units in the County in 1980 was 10,458, including 9,989 occupied units and 470 vacant units. Of the 9,989 units that were occupied, 7,807 (78%) were owner-occupied and 2,181 (22%) were renter-occupied. The owner-renter split found in Brown County is consistent with the regional average of 75% owner-25% renter. The owner-renter split in the County remained relatively constant between 1970 and 1980. Table 5 provides information on the tenure of housing units in the County.

In 1980, the median value of owner-occupied units was \$40,200 and the median contract rent of renter-occupied units was \$142.

The age and condition of housing units is an indicator of the standard of living of County residents. In 1980, 2.4 percent of the owner-occupied housing units and 4.6 percent of the renter-occupied housing units did not have complete plumbing. Although these percentages seem high, it is not unusual for a predominantly rural county. Of the 10,458 housing units in the County in 1980, 46.8 percent were built before 1940, 35.8 percent were built between 1940 and 1970, and 17.4 percent were built between 1970 and 1980.

TABLE 3
EMPLOYMENT STATUS
1970 & 1980

	1970			1980			Change in Total 1970 - 1980	
	Male Number	Female Number	Total Number	Male Number	Female Number	Total Number	Number	%
Under 16	4,768	4,658	9,426	3,698	3,359	7,057	-2,369	-25.1
Military	14	-----	14	3	-----	3	-	-78.6
Civilian Labor Force	6,858	4,190	11,048	7,693	5,717	13,410	+2,362	+21.4
Not in Labor Force	<u>2,306</u>	<u>6,093</u>	<u>8,399</u>	<u>2,542</u>	<u>5,633</u>	<u>8,175</u>	-	- 2.7
TOTAL POPULATION	13,946	14,941	28,887	13,936	14,709	28,645	-	242

Source: U.S. Census, 1970 & 1980

TABLE 4
NUMBER OF HOUSING UNITS
1970 & 1980

Type	1970		1980		Change 1970-1980	
	No.	%	No.	%	No.	%
Single Family	7,887	86.9	8,449	80.8	+ 562	+ 7.1
Multiple Family	1,032	11.4	1,568	15.0	+ 536	+ 51.9
Mobile Homes	151	1.7	441	4.2	+ 290	+192.1
TOTAL	9,070		10,458		+1,388	+ 15.3

Source: U.S. Census, 1970 & 1980

TABLE 5
TENURE OF HOUSING UNITS
1970 & 1980

Tenure	1970		1980		Change 1970-1980	
	No.	%	No.	%	No.	%
Owner-occupied	6,750	74.4	7,807	74.7	+1,057	+15.7
Renter-occupied	1,992	22.0	2,181	20.8	+ 189	+ 9.5
Vacant	328	3.6	470	4.5	+ 142	+43.3
TOTAL	9,070		10,458		+1,388	+15.3

Source: U.S. Census, 1970 & 1980

D. Economic Characteristics

Historically, the economy of Brown County has been based primarily on agriculture. While the number of farms has decreased, agricultural productivity has increased with the aid of technological advances. Drain tiles have been installed throughout the County to improve field drainage and fertilizers have been used to maintain the rich soils in the County. In addition, farm size has continued to increase through consolidation. Less profitable farms have been eliminated, with their land being absorbed by more successful farms. In addition, there has been a trend towards specialization in cash grain crop production.

In 1980, approximately 322,000 acres in Brown County were used for cropland and 18,000 acres were used for pasture. Of the 322,000 acres used for cropland, 140,000 acres were used for field corn (grain and silage), 130,000 acres were used for soybeans, 27,000 acres were used for rotation hay, and 8,000 acres were used for sweet corn and canning peas. In recent years, the number of acres used for corn and soybeans has increased at the expense of pasture land, woodland, and hayland. The 18,000 acres used as permanent pasture is not cropped because the land is too steep, flooded too frequently, or too wet.

The 322,000 acres used for cropland meet the soil requirements for prime farmland set by the U.S. Department of Agriculture. Prime farmland is defined as the land that is best suited for food, feed, forage, fiber, and oilseed crops. The soil qualities, growing season, and moisture supply are those needed for a well-managed soil to produce a sustained high yield of crops in an economic manner. Prime farmland produces the highest yields with minimal inputs of energy and economic resources, and farming it results in the least damage to the environment. Prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, the level of acidity or alkalinity is acceptable, there are few or no rocks, and the land is permeable to water and air. Prime farmland is not excessively erodible, saturated with water for long period of time, or frequently flooded during the growing season.

The economy of Brown County appears to be quite stable. In recent years, employment in other sectors of the economy has increased within Brown County. In the late 1980s, the manufacturing sector employed the largest single group of employees in the County. In addition, retail sales in the County have continued to increase. This diversification contributes to the economic stability of the County.

The industry of employed persons provides information on employment trends and economic stability. The number of employed persons increased by 19 percent between 1970 and 1980. Employment increased in all industries except agriculture/forestry/mining and public administration; however, the decrease in employment for

both of these industries was less than one percent. The most significant numerical increases were in manufacturing with 842 employees and services with 591 employees. The most significant percentage increases were in wholesale trade (64.5 percent) and transportation/public utilities (43.7 percent). Table 6 provides information on the industry of employed persons for 1970 and 1980.

TABLE 6
INDUSTRY OF EMPLOYED PERSONS
1970 & 1980

<u>Industry</u>	<u>1970</u>	<u>1980</u>	<u>Change</u> <u>1970-1980</u>	
			<u>Number</u>	<u>%</u>
Agriculture/ Forestry/ Fishing	1,827	1,820	- 7	- 0.4
Mining	5	7	+ 2	+40.0
Construction	595	688	+ 93	+15.6
Manufacturing	2,453	3,295	+ 842	+34.3
Transportation/ Public Utilities	444	638	+ 194	+43.7
Wholesale Trade	310	510	+ 200	+64.5
Retail Trade	2,012	2,031	+ 19	+ 0.9
Finance/ Insurance/ Real Estate	333	445	+ 112	+33.6
Services	2,498	3,089	+ 591	+23.7
Public Administration	<u>215</u>	<u>214</u>	<u>- 1</u>	- 0.5
TOTAL	10,692	12,737	+2,045	

Sources: U.S. Census, 1970 & 1980

E. Public Facilities

Water/Sewer Systems

There are five incorporated communities in Brown County with municipal water distribution and sanitary sewer systems: Comfrey, Hanska, New Ulm, Sleepy Eye, and Springfield. The incorporated communities of Cobden and Evan rely on individual or shared wells and individual on-site sewer treatment systems (septic tanks). The four unincorporated communities in the County also rely on individual or shared wells and individual on-site sewer treatment systems.

Drainage System

There is an extensive drain tile system in Brown County. In 1980, there were 344.7 miles of open drainage ditches in the County. Approximately 287 square miles, 47 percent of the total land area of the county, is drained by this system.

Public Land

There are 5,560 acres of land in Brown County that are held by governmental agencies. The U.S. Bureau of Land Management holds 120 acres, the Minnesota Department of Natural Resources holds 2,733 acres, the Minnesota Department of Transportation holds 200 acres, and the Minnesota Department of Military Affairs holds 40 acres.

Parks/Recreation

There are many recreational areas in Brown County. Most of these recreational areas are along rivers and streams or adjacent to lakes, and most are public recreational areas. Recreational facilities include a state park, county parks, water access points, wildlife areas, historic sites, municipal parks, softball and baseball fields, and a private campground.

Flandrau State Park, located near New Ulm, includes 836 acres of flood plains, stream terraces, and side slopes along the Cottonwood River. The park has a swimming pool, campsites, picnic areas, a system of trails, and fishing and boating facilities. This park is operated by the Minnesota Department of Natural Resources (DNR).

There are two existing county parks in Brown County and two additional parks are in the process of being developed. Lake Hanska County Park is a 140 acre park located adjacent to Lake Hanska. The park has campsites, picnic areas, a system of trails, and points of historic interest. Trem1 Park is an 18 acre park located adjacent to Altermatt Lake. This day-use park has picnic areas and a system of trails. Clear Lake Park is a five acre

day-use park being developed adjacent to Clear Lake. The park has picnic areas and is located next to a DNR water access point. The County has also proposed to develop Mound Creek Park in conjunction with the construction of a flood control dam on Mound Creek. This park will be a day-use park with picnic areas, a system of trails, and a swimming beach.

The Minnesota DNR operates 15 wildlife areas in the County, which occupy a total of 2,002 acres. Emerson Wildlife Area is a 117 acre area located in Linden Township, Mulligan Wildlife Area is a 602 acre area located in Mulligan Township, and Bashaw Wildlife Area is a 275 acre area located in Bashaw Township. There are also a number of DNR water access points located along rivers and streams or adjacent to lakes throughout the County.

Historic sites in the County include Milford Monument in Milford Township, Golden Gate Village Site in Home Township, Fort Hill in Hanska Township, and Iberia Village Site in Stark Township. Numerous historic sites are also found within the incorporated cities in the County.

Numerous municipal parks are found in New Ulm, Sleepy Eye, Springfield, Hanska, and Comfrey. In addition, school recreational facilities are found in New Ulm, Sleepy Eye, Springfield, Hanska, Comfrey, Evan, Cobden, Leavenworth, and Searles.

A private campground is located in Home Township near the Golden Gate Village site. Private golf clubs and other recreational facilities are also found throughout the County.

F. Transportation

One U.S. Highway and five State Highways are found in Brown County. U.S. Highway 14 crosses the county east-west and passes through New Ulm, Essig, Sleepy Eye, Cobden, and Springfield. This highway is classified as a principal arterial. State Highway 4 crosses the county north-south and passes through Sleepy Eye. State Highway 15 crosses the county north-south and passes through New Ulm and Searles. State Highway 68 crosses the county east-west from State Highway 4 west through Evan and from State Highway 15 east. State Highways 4, 15, and 68 are classified as minor arterials. State Highway 257 crosses the county east-west from State Highway 15 west to Hanska. State Highway 258 crosses the county north-south from U.S. 14 south through Comfrey. State Highways 257 and 258 are classified as major collectors. All of the incorporated communities in Brown County are served by State Highways. The nearest Interstate Highways are I-35, 65 miles to the east at Owatonna, and I-90, 42 miles to the south at Fairmont.

There are 34 miles of U.S. highway, 99 miles of State highways, 338 miles of County State Aid highways, 17 miles of County roads, and 663 miles of township roads in Brown County. Ninety percent of the County State Aid highways are hard-surfaced.

Rail service in Brown County is provided by the Dakota Minnesota and Eastern Railroad. Tracks cross the county east-west, paralleling U.S. 14 and passing through the three largest communities. A spur provides service to Comfrey.

Air service is provided by three airports in the County. The New Ulm Airport is located directly west of the City and has a paved runway, as well as a grass cross runway. The Sleepy Eye Airport is located three miles south of the City and has grass runways. The Springfield Airport is located directly west of the City and has a paved runway.

III. EXISTING LAND USE

A. Overview

Brown County is primarily an agricultural county with one major urban center, several small urban centers, and numerous non-urban areas within its boundaries.

The last land use study for the County was completed in 1970. Since that time, three general patterns of residential development have occurred. The first and most obvious pattern is the increased number of non-farm residences near the fringe of urban areas. This pattern is especially prevalent near New Ulm and Sleepy Eye. The second pattern of residential development is the increased number of non-farm residences along major highways connecting the incorporated communities of the County. The third pattern of residential development is an increase in the number of non-farm residences near scenic areas. This pattern is a recent pattern and has not yet significantly impacted the scenic areas of the County.

Since 1970, there has also been an increase in commercial development outside of the incorporated cities. For the most part, this development has occurred on the fringe of urban areas and along the major arteries connecting the urban areas.

The greatest increases in non-farm development have occurred in Burnstown, Cottonwood, Home, and Milford Townships. The fact that those townships are adjacent to the three urban areas of the County explains this development. Unless policies are implemented to control this non-farm development, the patterns of development that have occurred in the last twenty years are expected to continue.

B. Land Use Classifications

An analysis of the existing land use in the County provides information on the land use patterns that have been established. These established land use patterns form the basis for future development. In order to identify existing land use patterns, land use classifications are utilized. For the purpose of this analysis, the following land use classifications were applied:

- Agricultural/Agricultural Residential/Uncultivated Land
- Incorporated Areas
- Non-Farm Residential
- Commercial
- Industrial
 - General Industrial
 - Gravel Pit
 - Kaolin Mine

B. Land Use Classifications (Cont'd)

- Public/Semi-Public
 - General Public/Semi-Public
 - Church
 - Cemetery
 - Town Hall
 - Historical Site
 - Wildlife Area
- Transportation, Communication, Utilities
 - Utilities
 - Airports
- Recreation Areas
- Floodplain Areas

A land use classification key can be found on the following page.

C. Existing Land Use by Township

The existing land use patterns in Brown County have been analyzed on a township-by-township basis. As the County's land use planning efforts do not extend into incorporated communities, the land use patterns in the incorporated areas of the County were not included; however, land uses adjacent to incorporated communities and outside of the corporate limits were included.


Information on existing land uses for the 16 townships in Brown County can be found on the following pages. These townships include:

- Albin Township
- Bashaw Township
- Burnstown Township
- Cottonwood Township
- Eden Township
- Home Township
- Lake Hanska Township
- Leavenworth Township
- Linden Township
- Milford Township
- Mulligan Township
- North Star Township
- Prairieville Township
- Sigel Township
- Stark Township
- Stately Township

BROWN COUNTY LAND USE PLAN

EXISTING LAND USE

EXISTING LAND USE LEGEND

 Agricultural/Agricultural Residential/Uncultivated Land

 Incorporated Areas

° Non-Farm Residential

¢ Commercial

¶ Industrial

GP Gravel Pit

K Kaolin Mine

* Public/Semi-Public

+ Church

± Cemetery

<T> Town Hall

H Historical Site

WL Wildlife Area

X Utilities

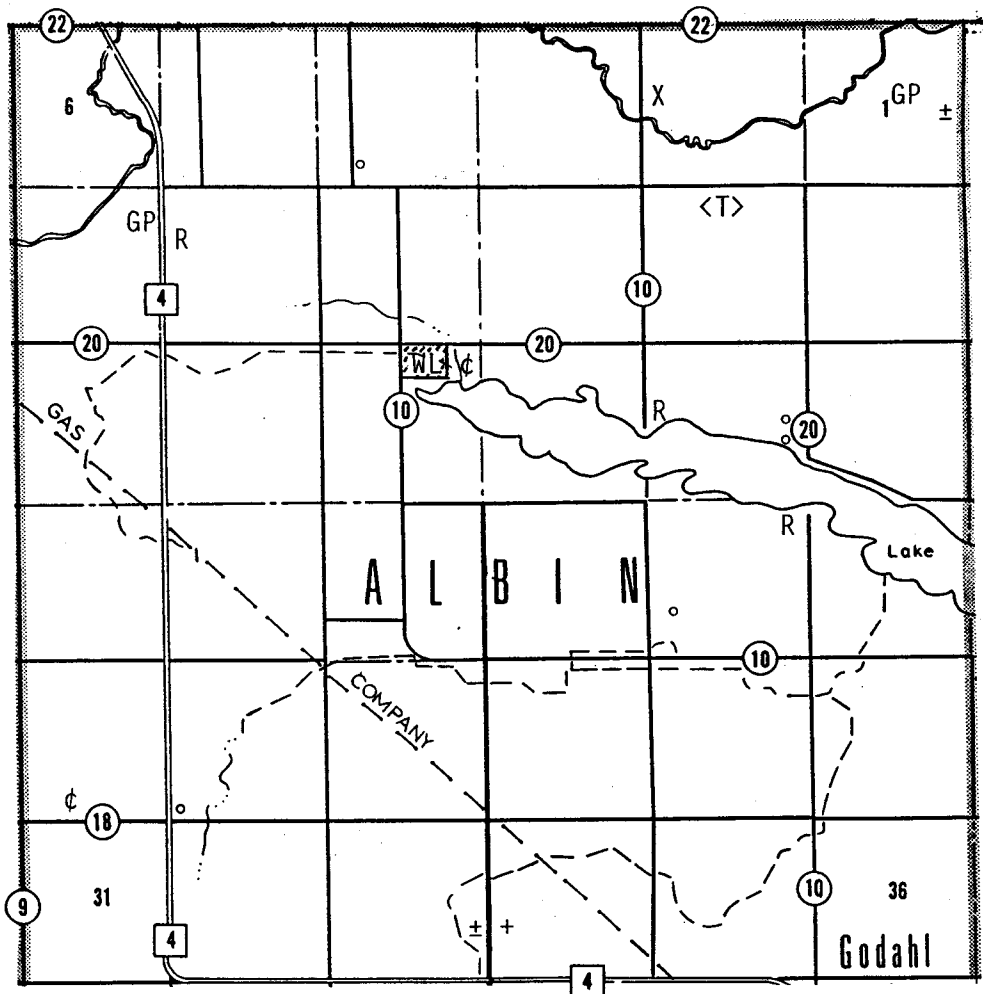
[0] Airports

R Recreation Area

EXISTING LAND USE

ALBIN TOWNSHIP

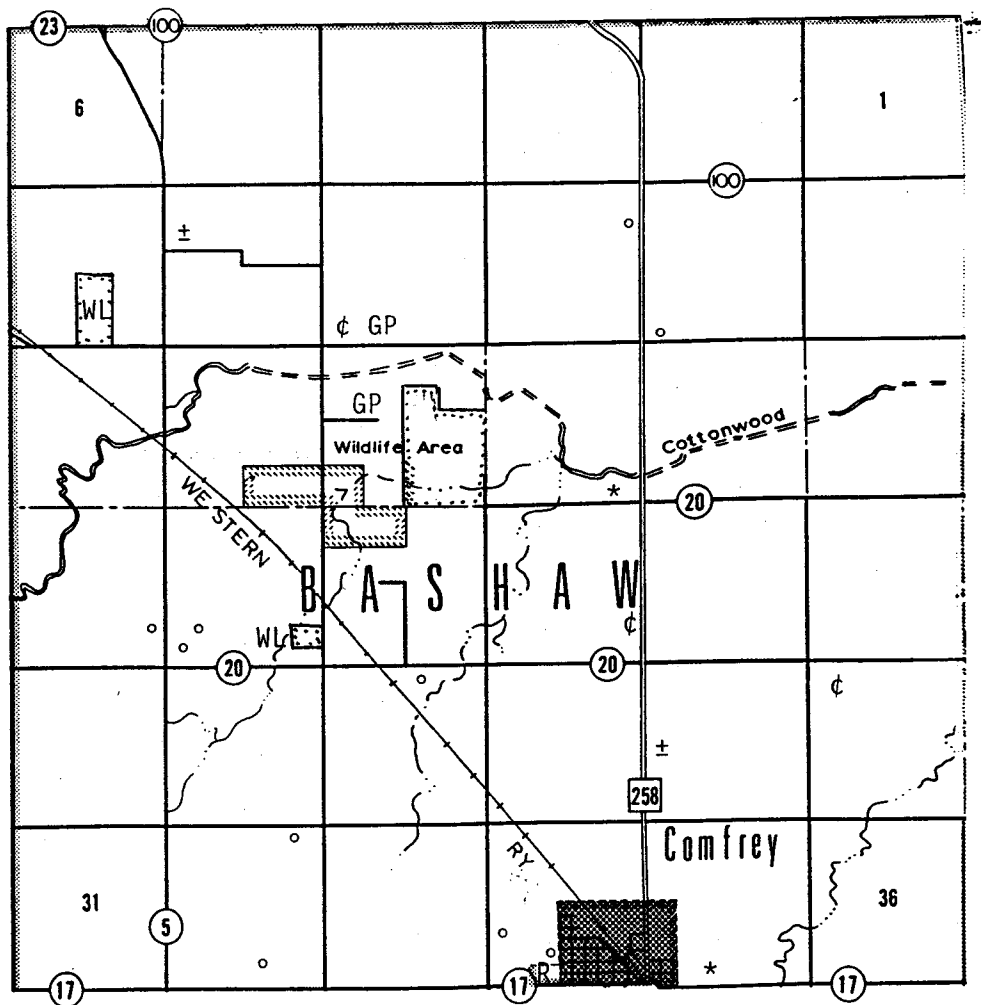
1990



EXISTING LAND USE

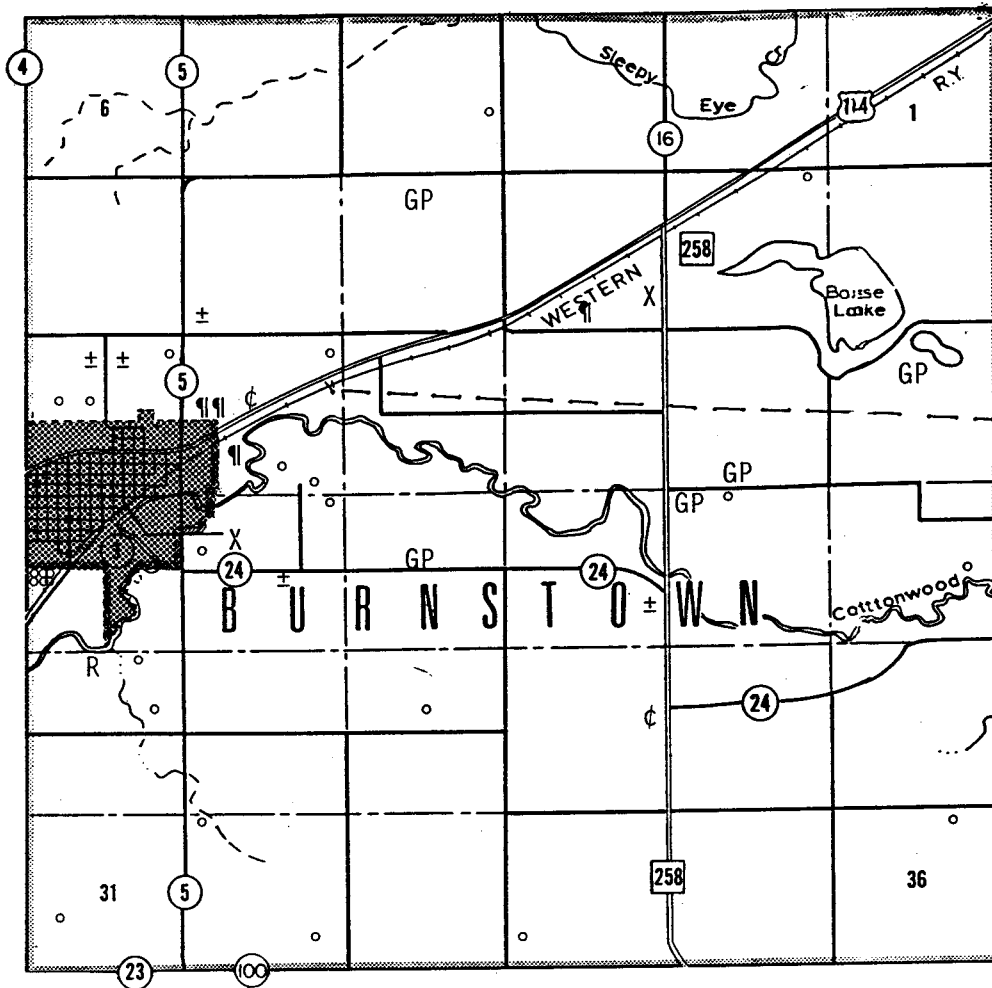
BASHAW TOWNSHIP

1990



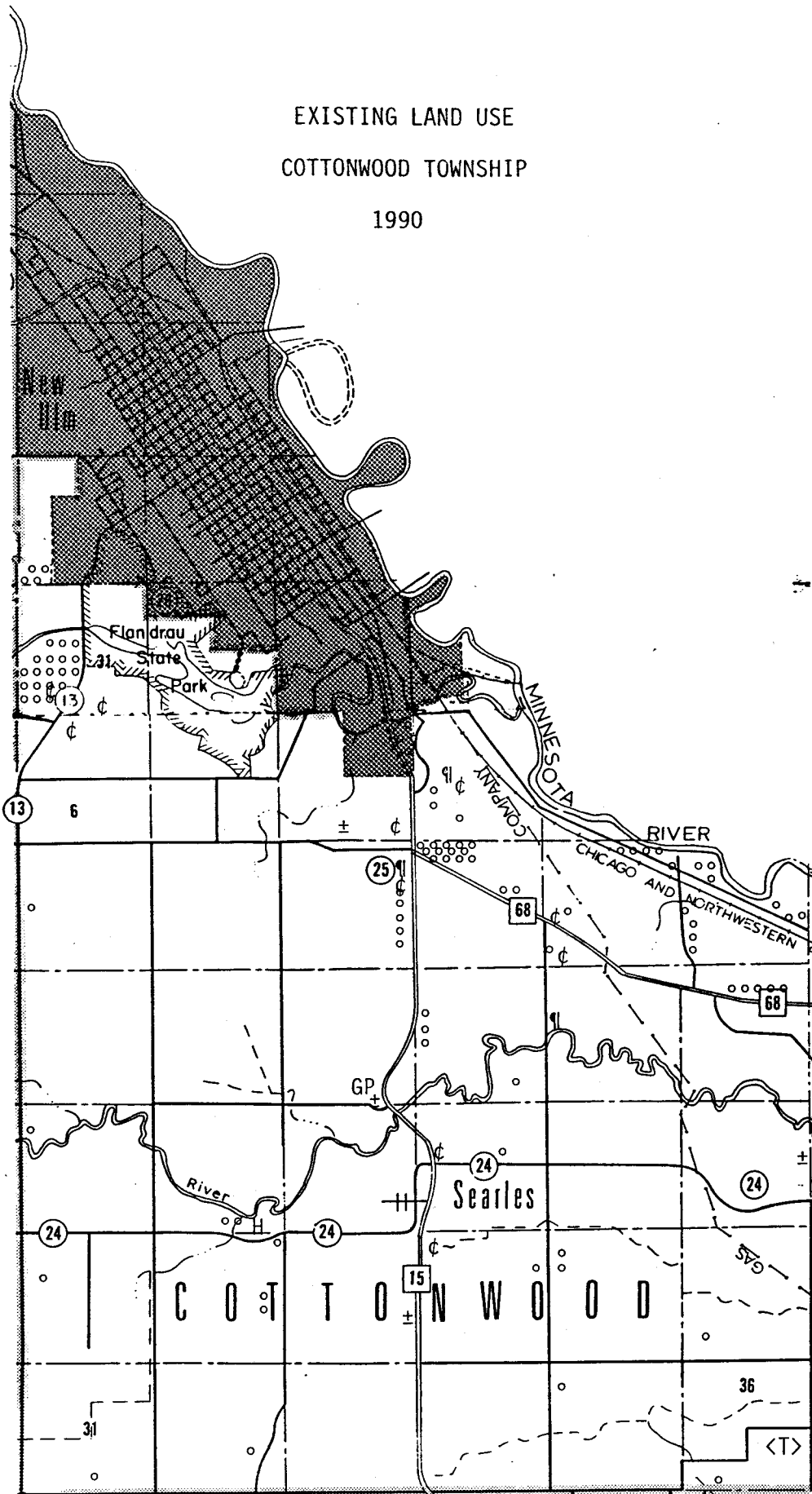
EXISTING LAND USE
BURNSTOWN TOWNSHIP

1990



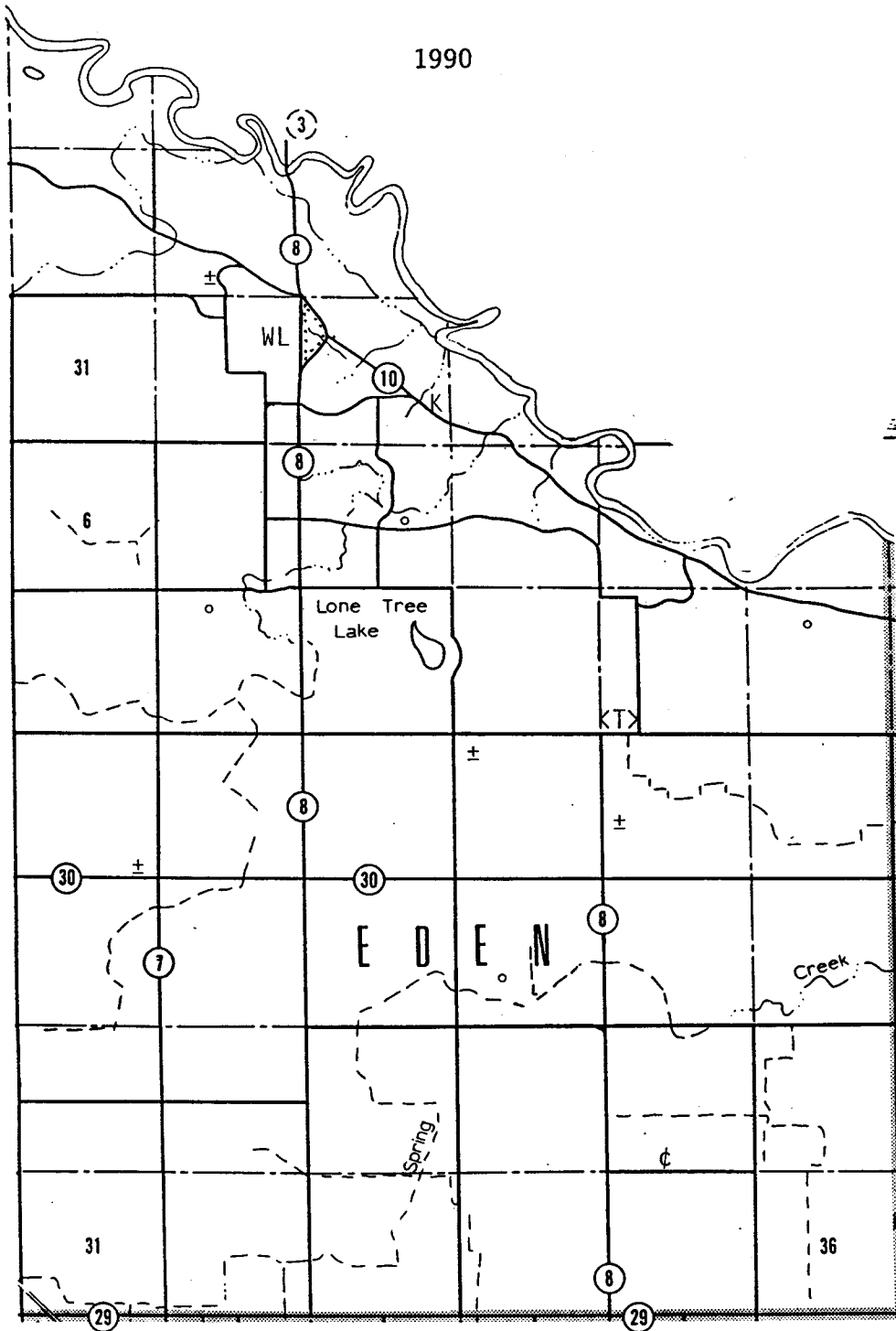
EXISTING LAND USE
COTTONWOOD TOWNSHIP

1990



EXISTING LAND USE
EDEN TOWNSHIP

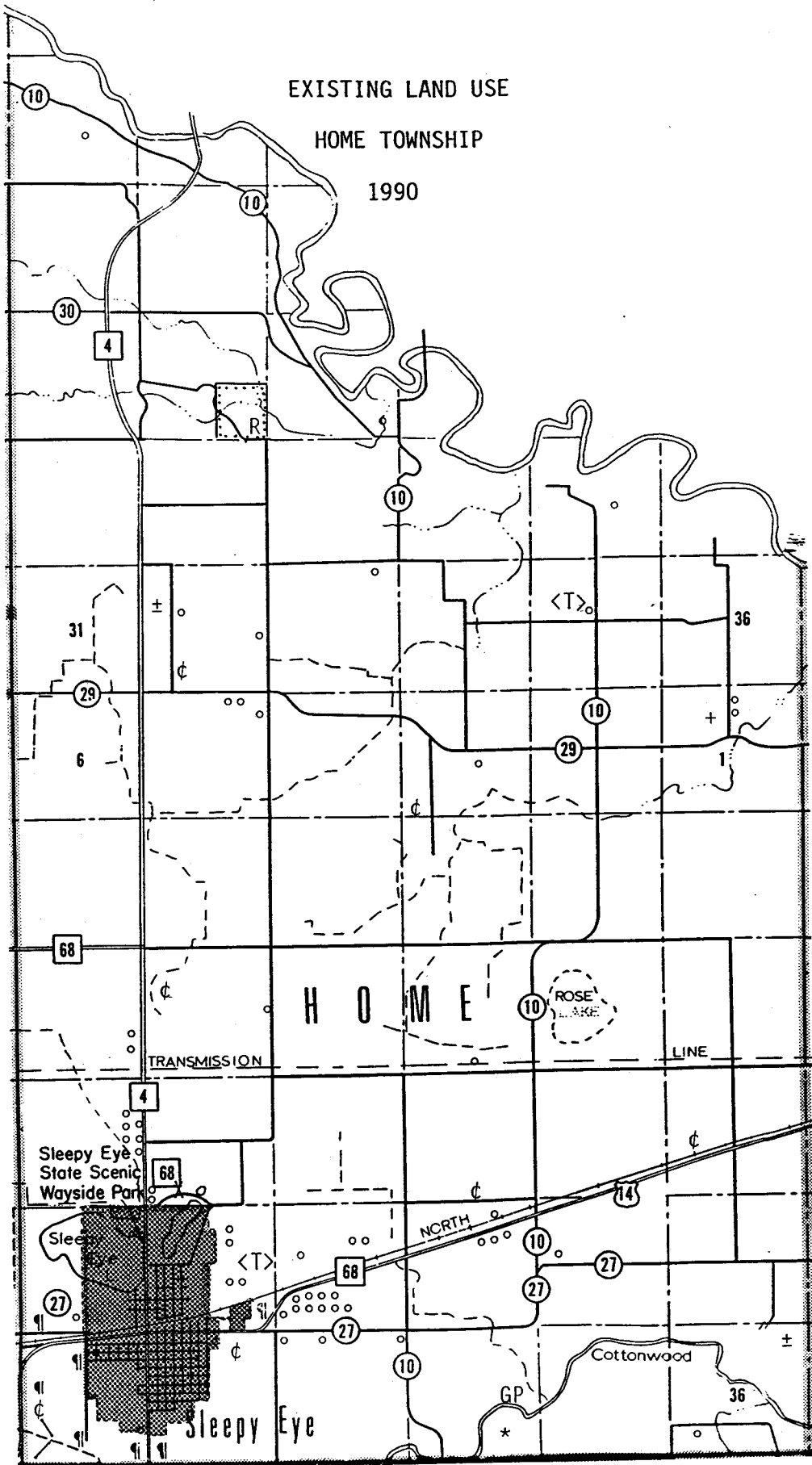
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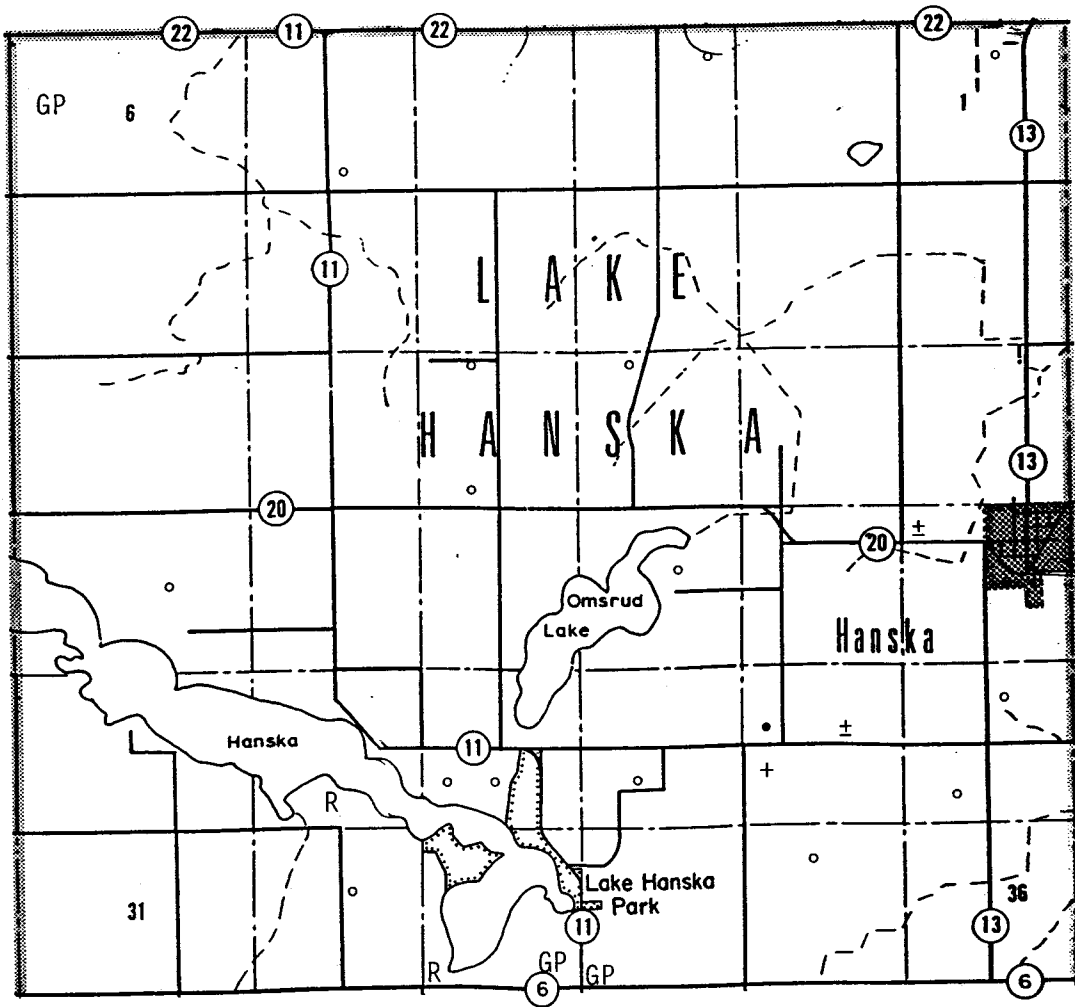
EXISTING LAND USE

HOME TOWNSHIP

1990

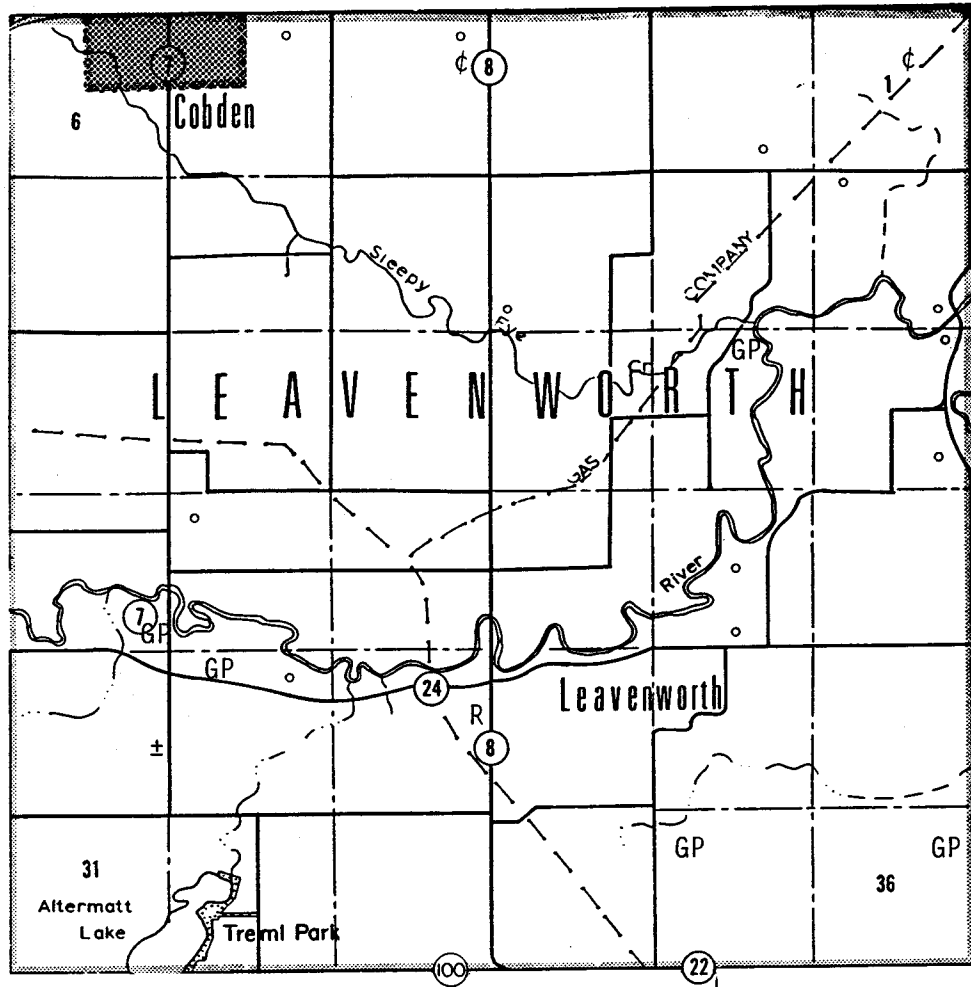


EXISTING LAND USE
LAKE HANSKA TOWNSHIP
1990



EXISTING LAND USE
LEAVENWORTH TOWNSHIP

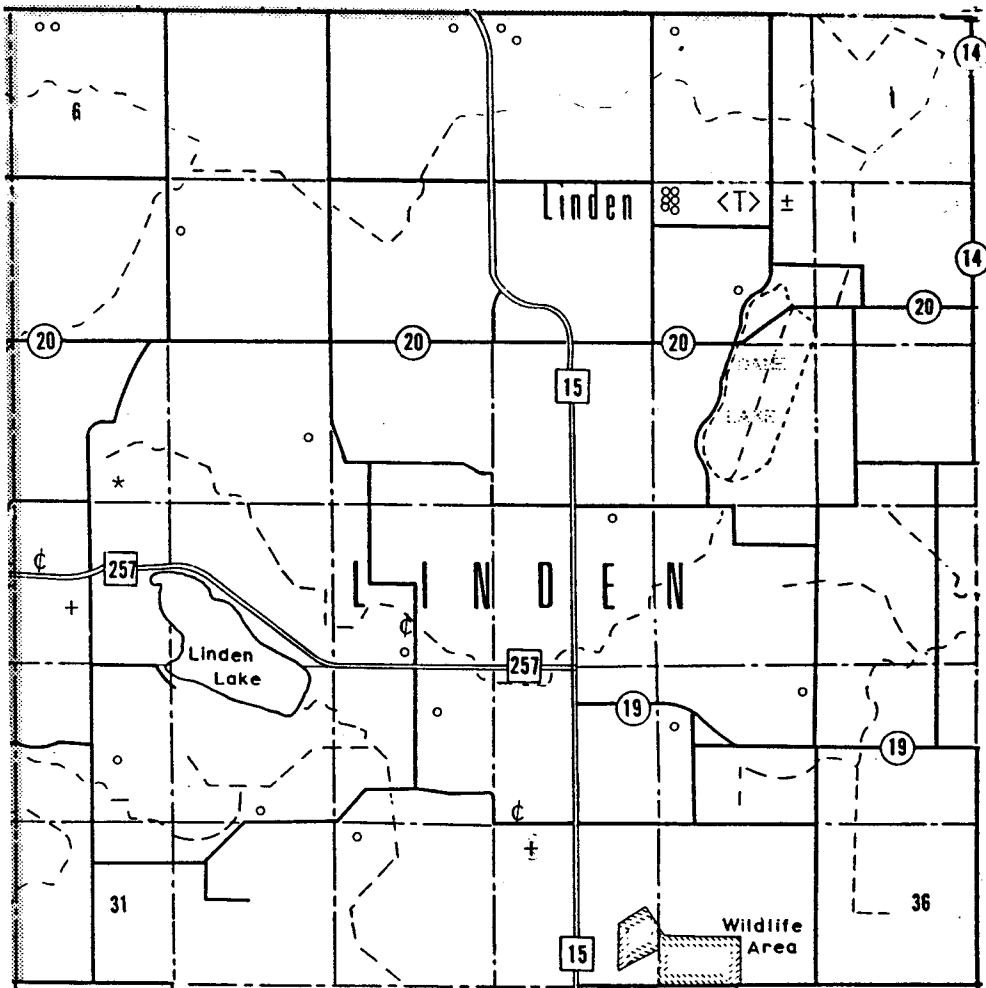
1990



EXISTING LAND USE

LINDEN TOWNSHIP

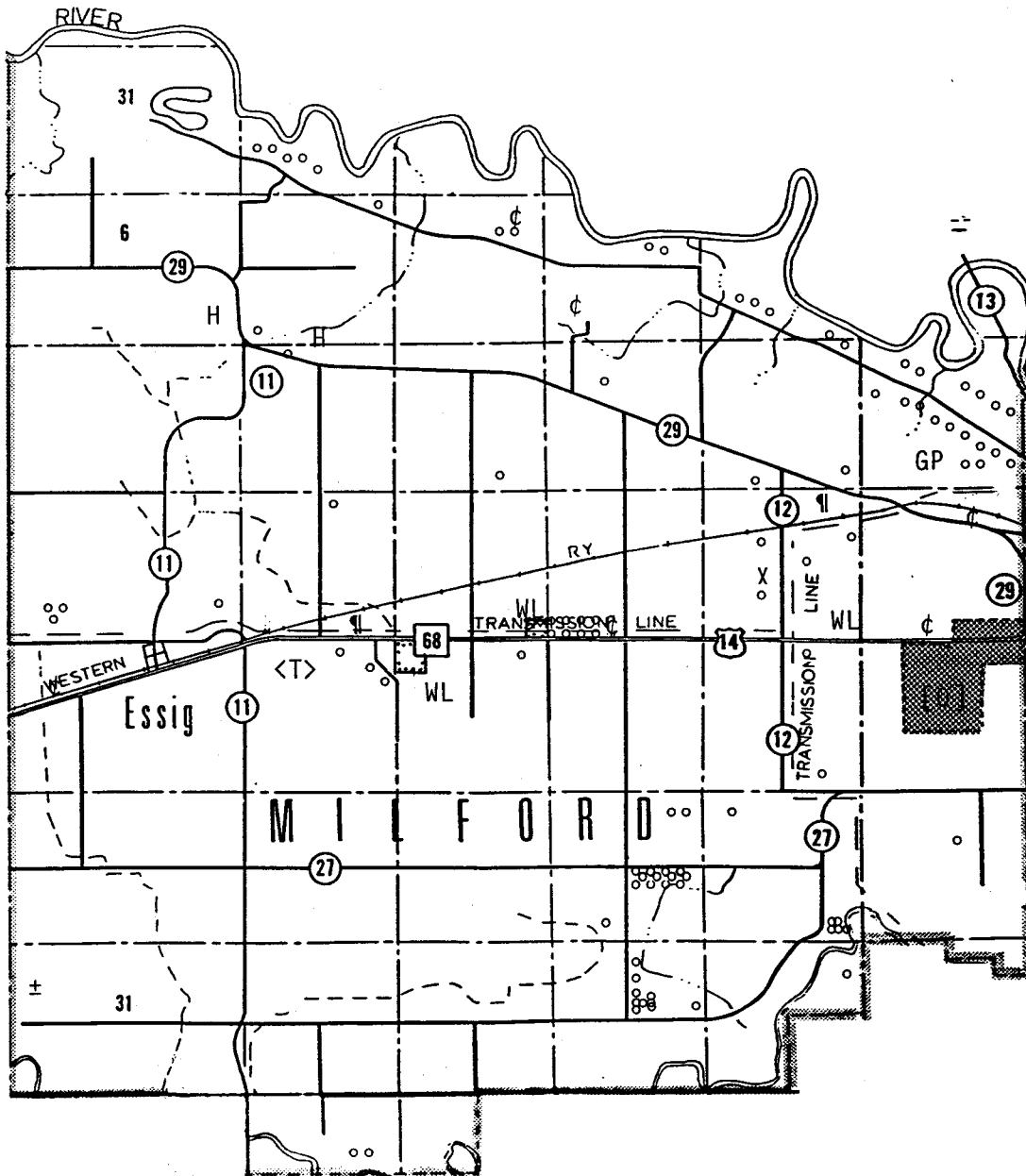
1990



EXISTING LAND USE

MILFORD TOWNSHIP

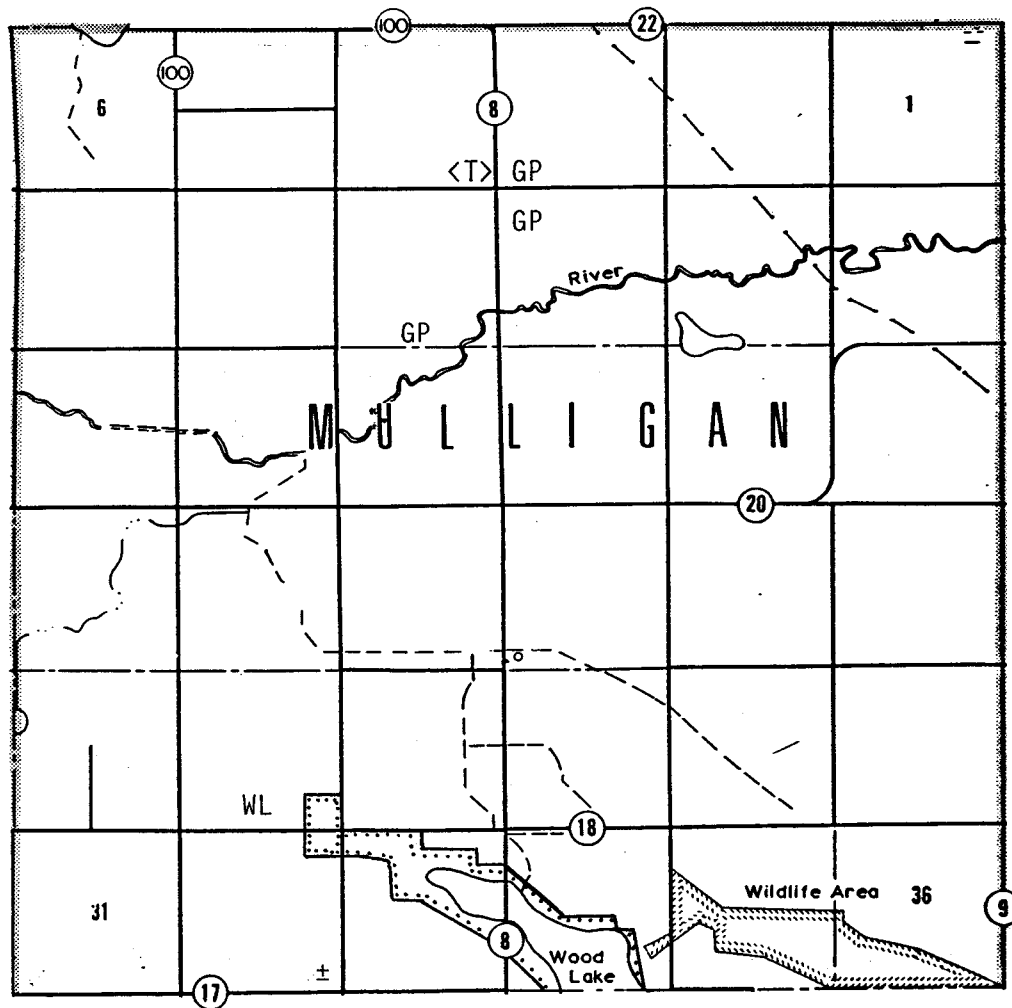
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EXISTING LAND USE

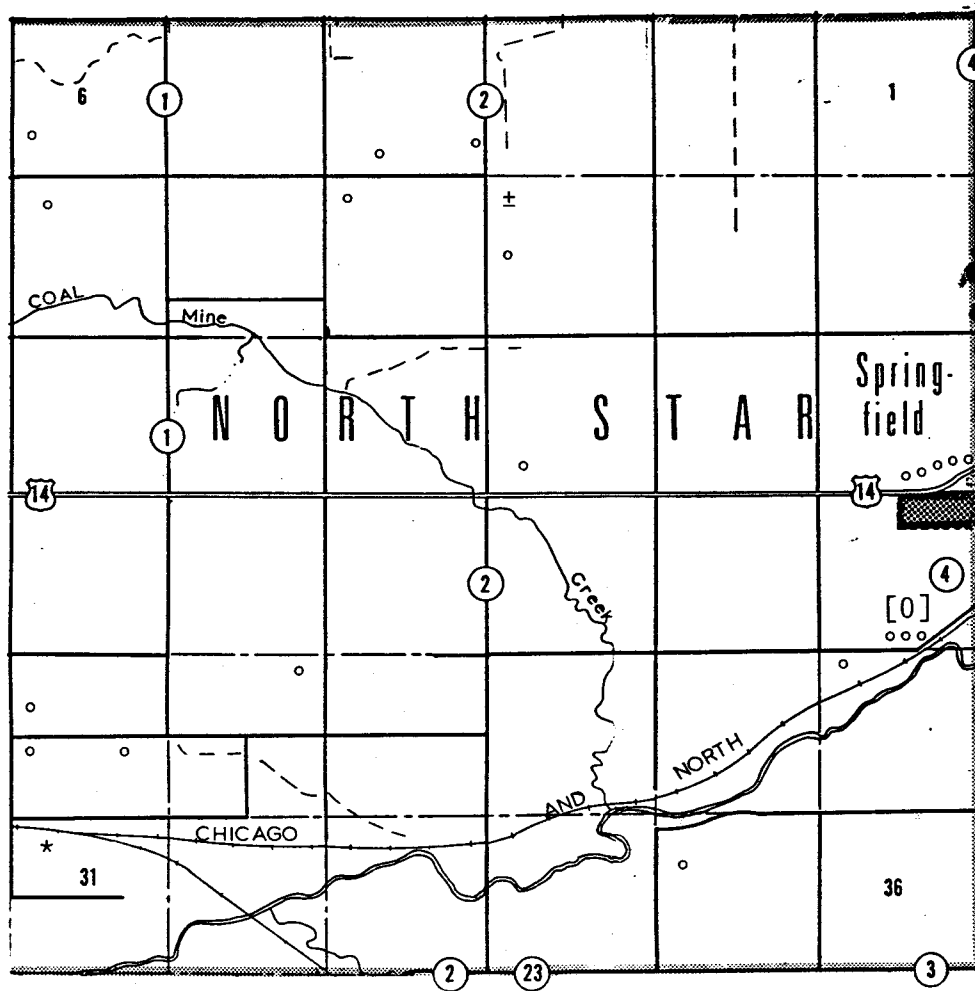
MULLIGAN TOWNSHIP

1990



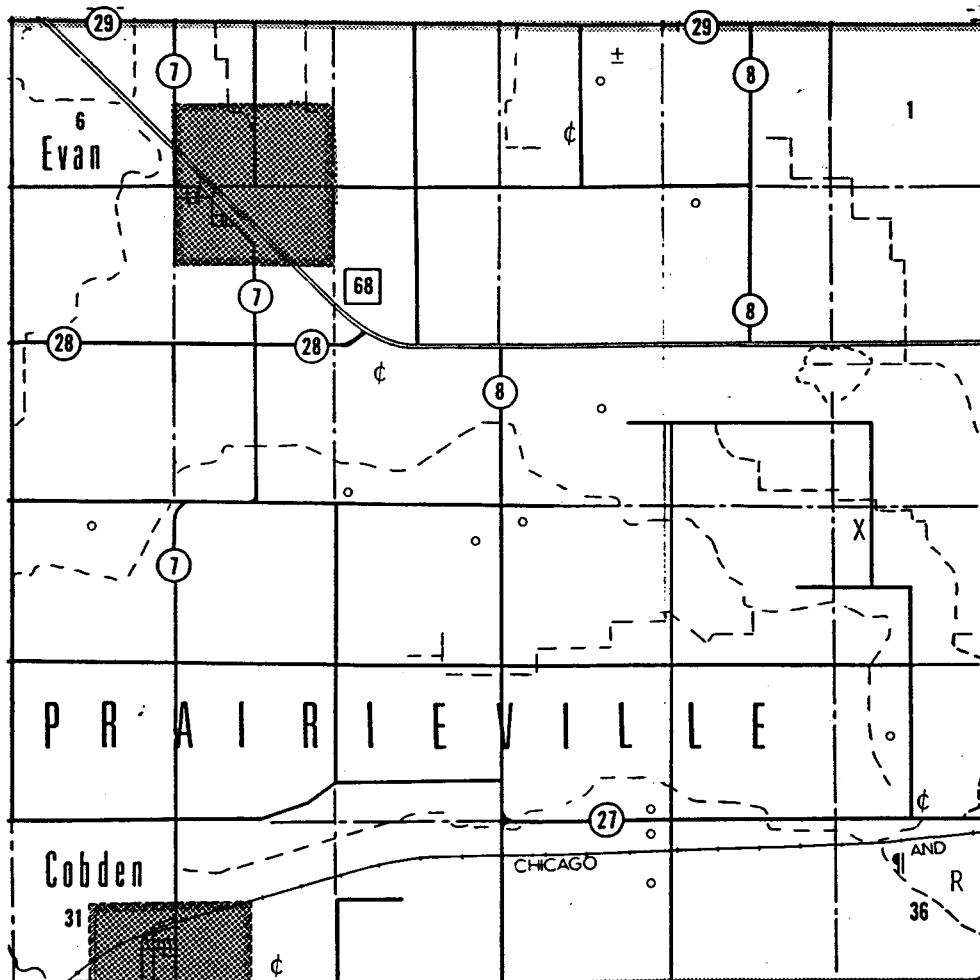
EXISTING LAND USE
NORTH STAR TOWNSHIP

1990



EXISTING LAND USE
PRAIRIEVILLE TOWNSHIP

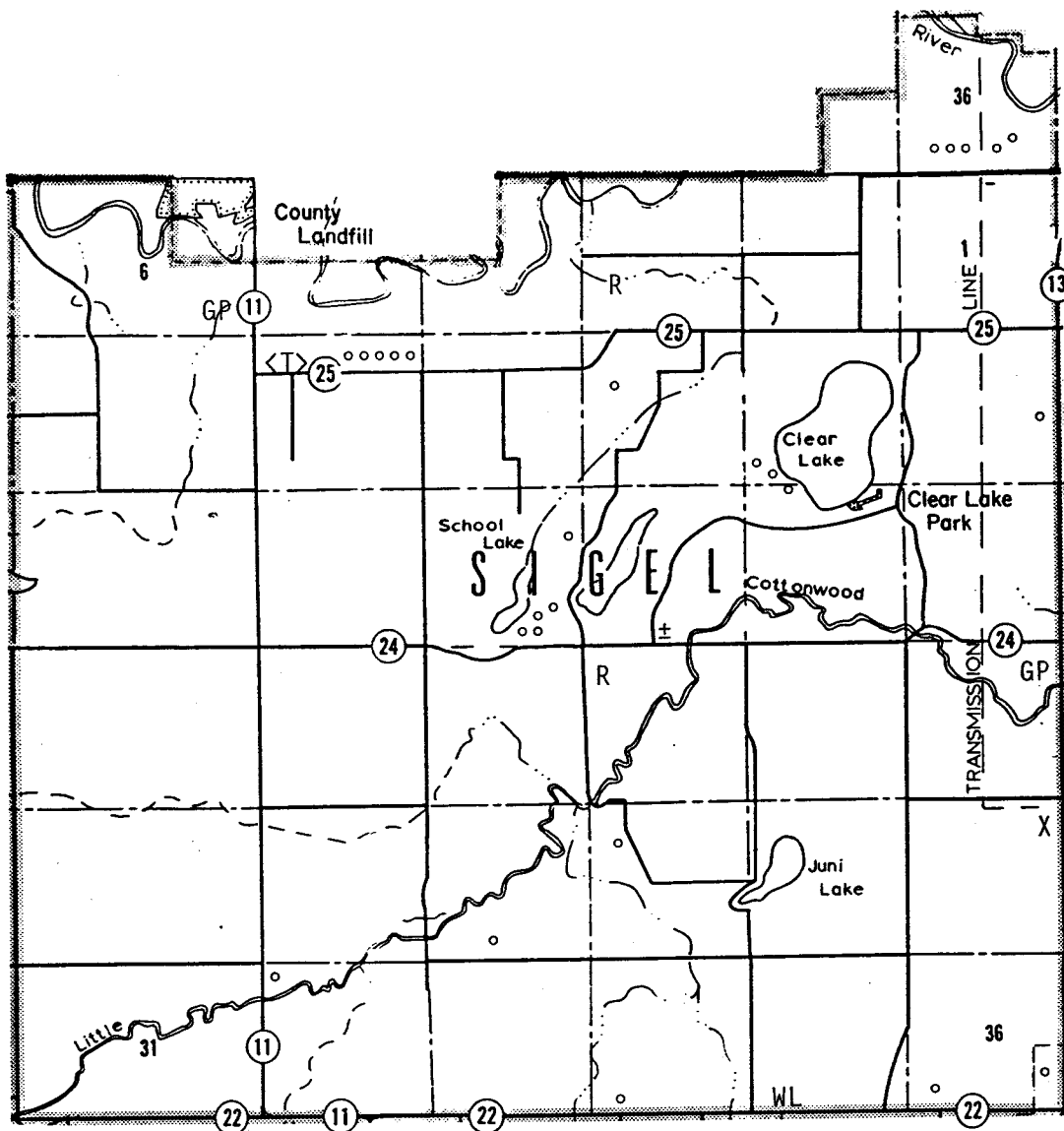
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EXISTING LAND USE

SIGEL TOWNSHIP

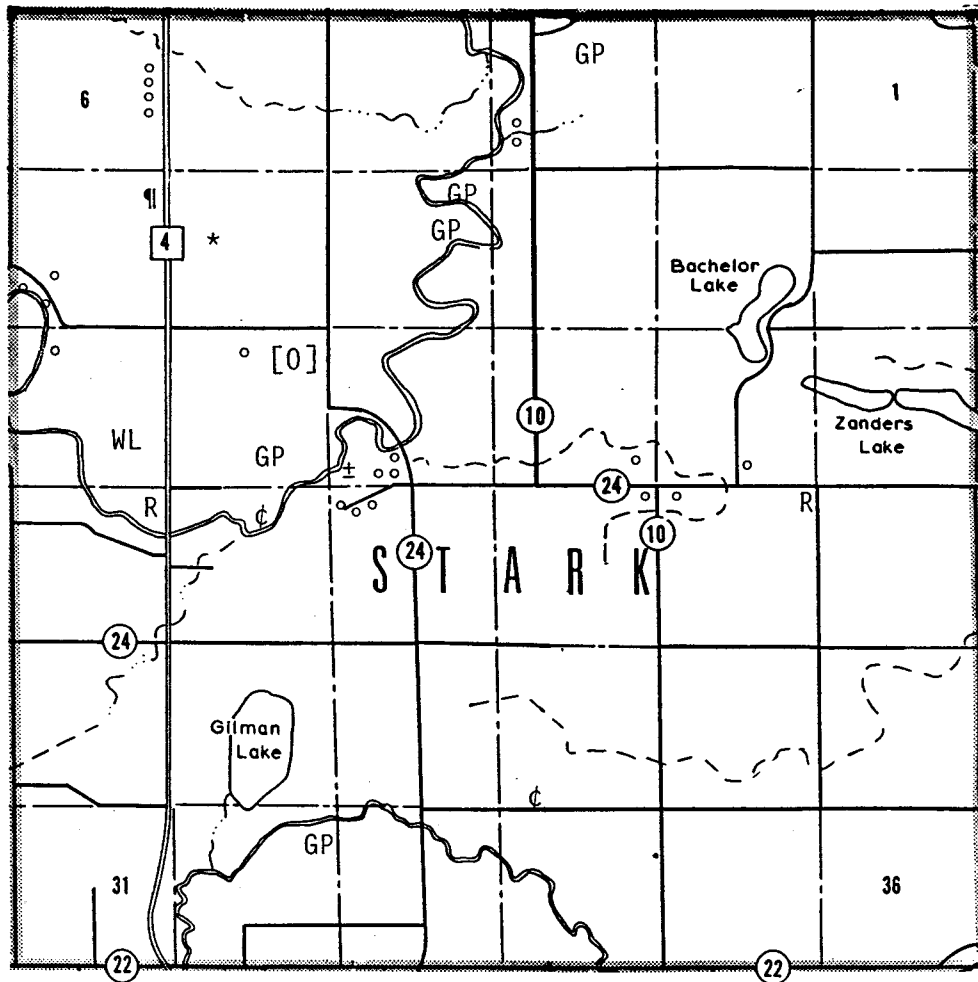
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EXISTING LAND USE

STARK TOWNSHIP

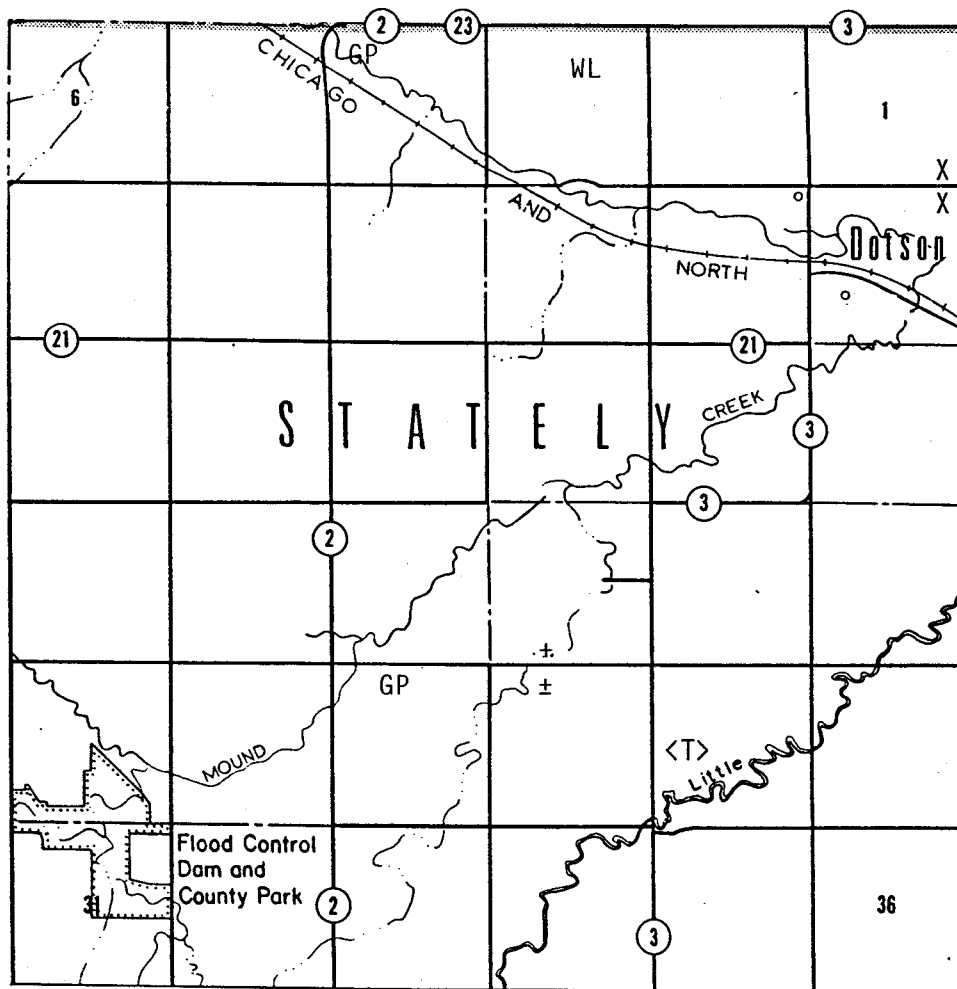
1990



EXISTING LAND USE

STATELY TOWNSHIP

1990



C. Existing Land Use - Unincorporated Communities

The existing land use patterns in the unincorporated communities of Brown County have also been analyzed. As these areas are included in the County's land use planning efforts, the established land use patterns are of interest.

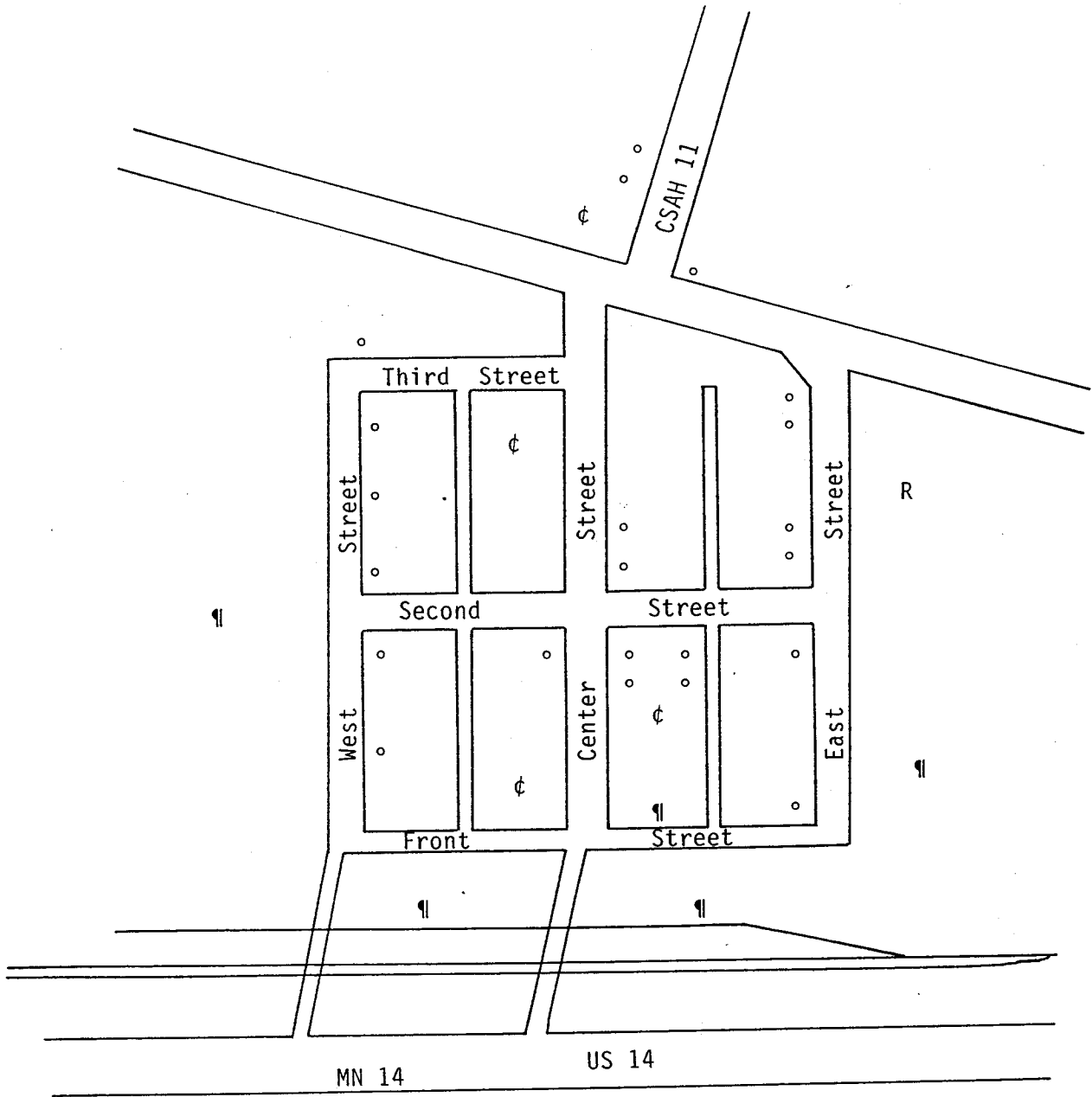
Information on existing land uses for the four unincorporated communities in Brown County can be found on the following pages. These unincorporated communities include:

- Essig (Milford Township)
- Godahl (Albin Township)
- Leavenworth (Leavenworth Township)
- Searles (Cottonwood Township)

EXISTING LAND USE

ESSIG

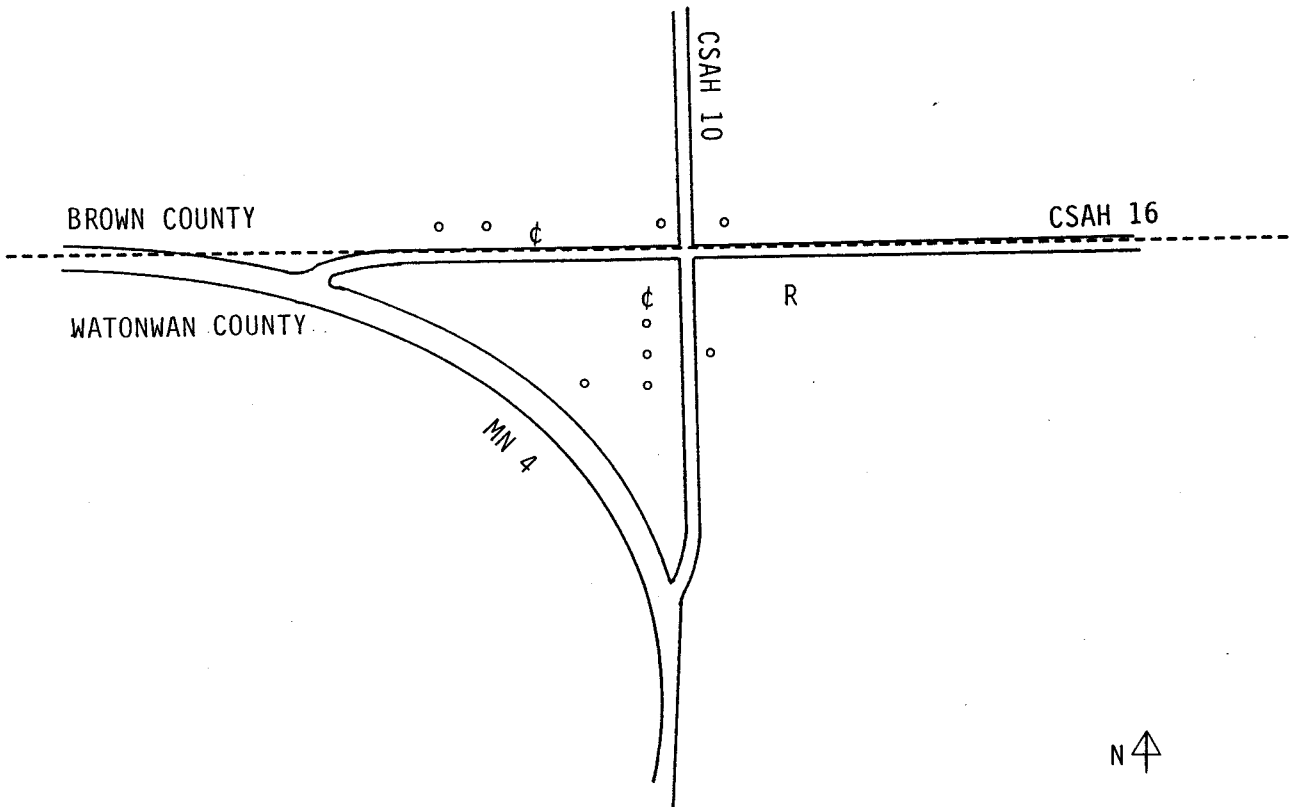
1990



EXISTING LAND USE

GODAHL

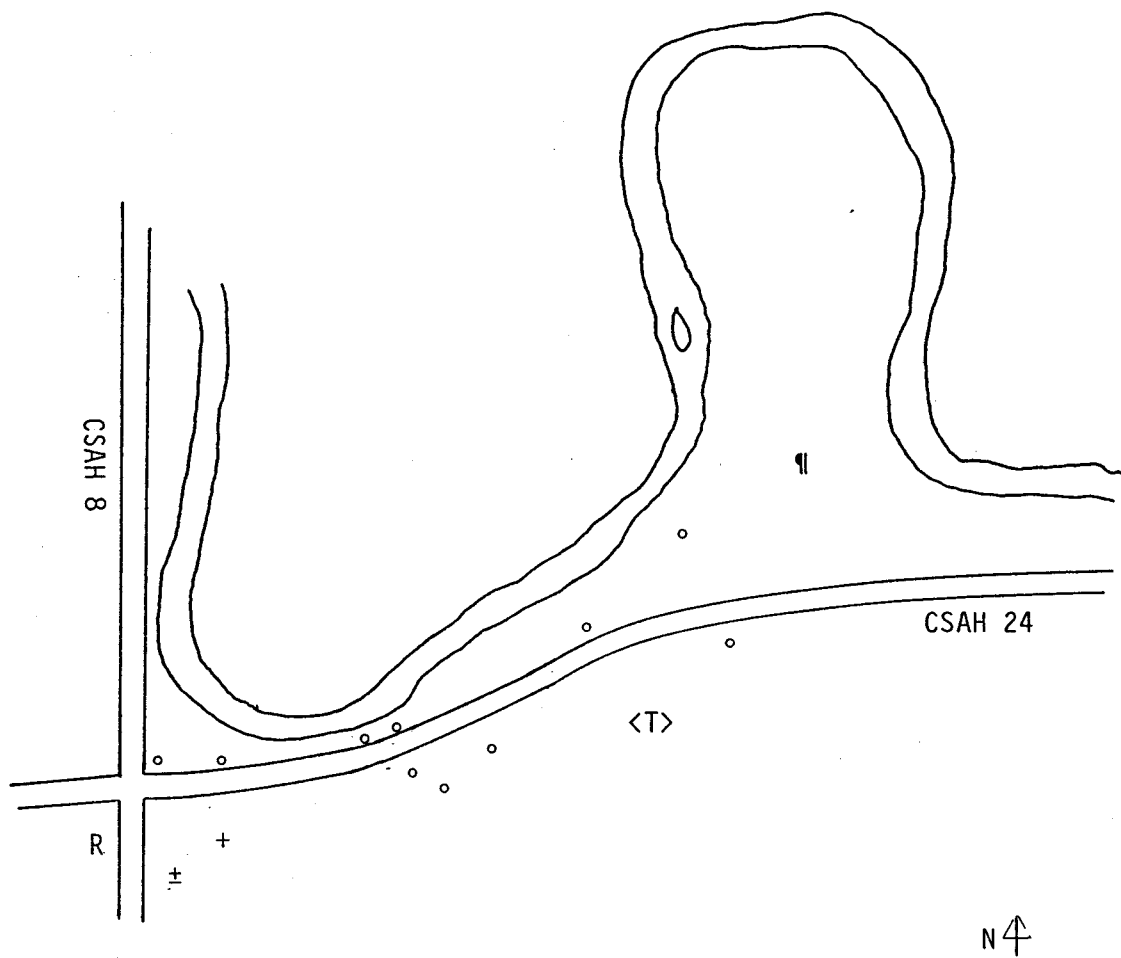
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EXISTING LAND USE

LEAVENWORTH

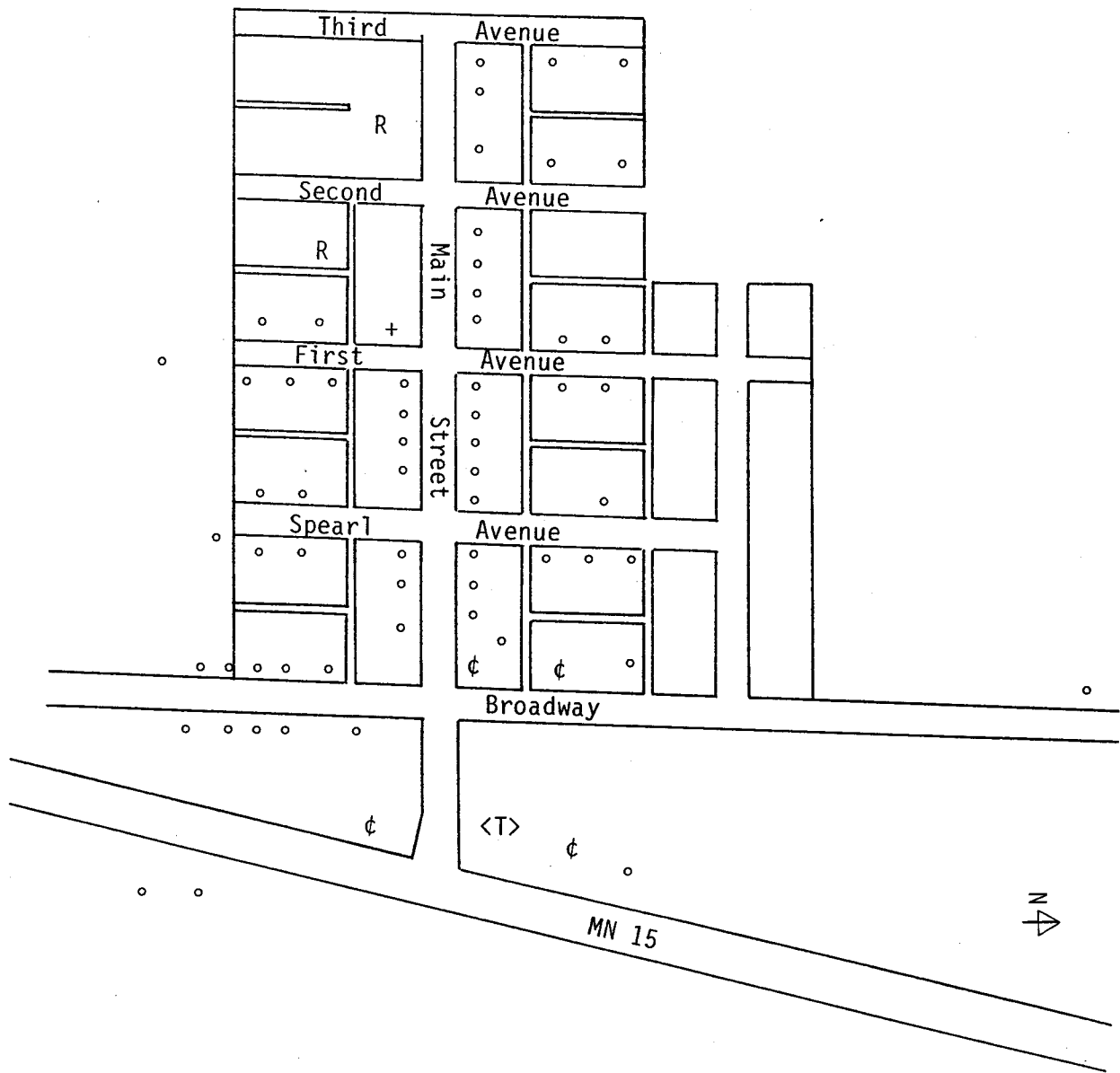
1990



EXISTING LAND USE

SEARLES

1990



IV. LAND USE PLAN

A. Policy Plan

The Brown County Land Use Plan is a policy plan. The purpose of this policy plan is to provide guidelines for the future development of land within the County. The policies outlined in this plan serve as the basis for County land use decisions and provide the legal foundation for the adoption of official controls.

In the development of this land use plan, several assumptions were made. These assumptions are:

- The vast majority of land in Brown County will continue to be used for agricultural purposes.
- The strongest development pressure will occur adjacent to the urban centers, especially in the New Ulm area.
- There will be increased development pressure for non-farm residential development in scenic areas.
- There will be increased demand for recreational facilities.
- The rural population will continue to decrease.
- The greatest population increases will occur in the New Ulm area and surrounding townships.

The planning process is advisory in nature. The policies recommended in this land use plan have no legal force until approved and incorporated into existing official controls. Implementation of this plan through the zoning ordinance and subdivision regulations will be required to guide future development in accordance with this plan. The goals, objectives, and policies included in this plan provide direction for formulating these land use controls and delineating future land uses.

The Brown County Land Use Plan outlines numerous policies that will provide for orderly land use development in the County. The plan includes goals and objectives, as well as specific policies. A goal is a broad statement upon which the County's development policies are based. A goal is an ideal that progress is made towards. An objective is a measurable accomplishment that is pursued in order to achieve a goal. A policy is a general principle that guides the actions necessary to meet the objectives and goals.

The six goals of the Land Use Plan are:

1. Promote appropriate uses of land throughout the County.
2. Preserve agricultural land, especially those areas designated as prime farmland.
3. Protect environmentally sensitive areas.
4. Protect the quality of surface water and groundwater.
5. Conserve the natural and scenic beauty of the County.
6. Provide citizens with adequate public facilities and services in an efficient manner.

These six goals, along with objectives and policies for each goal, are outlined in the next section.

B. Goals and Objectives

Goal 1: Promote Appropriate Uses of Land Throughout the County.

Objectives:

- (1) Maintain communication with other jurisdictions regarding development issues.
 - * Work with urban communities to address urban related development.
 - * Notify counties and cities of changes in zoning districts adjacent to their boundaries.
 - * Coordinate review of development plans with affected jurisdictions.
- (2) Allow for urban growth.
 - * Encourage urban communities to consider development of annexation polices.
 - * Consider limiting strip development along highways to within a specific distance from the corporate limits of the adjacent community.
- (3) Avoid mixing land uses.
 - * Encourage clustering of similar development, such as residential subdivisions and industrial parks.
 - * Prohibit agricultural industrial development near residential development.
 - * Control strip development along highways in the agricultural protection district.
 - * Provide buffer zones to separate conflicting land uses where necessary.
- (4) Avoid spot zoning.
 - * Consider allowing agriculture industrial uses in the agricultural protection district as a conditional use.
 - * Allow special zoning in order to protect environmentally sensitive areas.
 - * Direct new development into areas with existing compatible development.

- (5) Continue enforcement of zoning ordinance.
 - * Monitor criteria for granting conditional use permits.
 - * Continue use of conditional use permits where compatibility of uses is questionable.
 - * Continue enforcement of performance standards.
- (6) Periodically review and update the County's zoning ordinance and subdivision regulations.
 - * Determine compliance with State Statutes.
 - * Determine consistency with adopted plans.

Goal 2: Preserve Agricultural Land, Especially Those Areas Designated as Prime Farmland.

Objectives:

- (1) Identify lands designated as prime farmland.
 - * Utilize the Soil Survey of Brown County.
- (2) Control non-farm development in agricultural areas.
 - * Consider implementing an agricultural transition zone or urban expansion zone around urban communities.
 - * Consider implementing an agricultural exclusive zone.
 - * Consider developing an agricultural preservation plan.
- (3) Limit non-farm residential development in agricultural areas.
 - * Restrict scattered non-farm residential development.
 - * Require all non-farm residential development in the agricultural protection zone to comply with performance standards for non-farm residential development.
- (4) Utilize zoning to preserve existing agricultural land.
 - * Consider adopting a policy that allows rezoned agricultural land to revert back to agricultural protection district zoning if it is not developed within a specific period of time.
 - * Consider allowing agricultural industrial uses in the agricultural protection district as a conditional use.
 - * Continue enforcement of land reclamation standards for mining and extraction.

- (5) Recognize the importance of the agricultural economy.
- * Maintain agricultural land values by controlling adjacent land uses.
 - * Encourage utility easement locations which minimize impact on farming operations.
 - * Encourage siting of public facilities to minimize impact on farming operations.
 - * Promote agriculture.

Goal 3: Protect Environmentally Sensitive Areas.

Objectives:

- (1) Identify environmentally sensitive areas.
- * Utilize aerial photos, topographic data, FIRM maps, and related information to identify wetlands, floodplains, shorelands, woodlands, and other environmentally sensitive areas.
- (2) Utilize special zoning to protect environmentally sensitive areas.
- * Continue implementation of Project Riverbend.
 - * Continue enforcement of shoreland regulations.
 - * Continue enforcement of floodplain district regulations.
- (3) Control development in environmentally sensitive areas.
- * Prohibit or restrict commercial and industrial development in these areas.
 - * Further limit residential development in these areas.
- (4) Lessen the effects of development on environmentally sensitive areas.
- * Consider adopting a tree and woodland preservation policy.
 - * Require adequate setback distance along bluff areas.
 - * Promote practices which reduce erosion.
 - * Encourage clustering of residential development.
 - * Consider adopting a wetland preservation policy.
 - * Promote development levels which relate to the level of environmental sensitivity.

- (5) Promote recreational uses in environmentally sensitive areas.
 - * Continue lake and river restoration activities.
 - * Consider further ways to preserve rivers as recreational waterways and wildlife habitat areas.
 - * Allow recreational uses as a permitted use in these areas.

Goal 4: Protect the Quality of Surface Water and Groundwater.

Objectives:

- (1) Continue implementation of County Comprehensive Water Plan.
 - * Review zoning ordinance and subdivision regulations for consistency with water plan.
- (2) Determine the effect of agricultural practices on water quality.
 - * Encourage fertilizer application rates which do not exceed the recommended crop nutrient requirements.
 - * Support practices which reduce run-off.
 - * Support feedlot management practices which protect water resources.
 - * Monitor practices which have an adverse effect on water quality.
- (3) Identify and eliminate non-conforming septic systems.
 - * Monitor septic system installation.
 - * Enforce codes regarding individual on-site wastewater treatment systems (septic systems).
 - * Encourage the development of centralized wastewater collection and disposal systems.
- (4) Identify and eliminate improperly sealed abandoned wells.
 - * Perform well site area inspections when performing feedlot and septic system inspections.
- (5) Identify potentially hazardous waste generators.
 - * Require commercial and industrial developments to meet existing regulations regarding chemical storage and disposal.

- * Verify that hazardous waste generators are permitted by MPCA.
 - * Consider regulating the use of underground storage tanks with permit process.
- (6) Continue implementation of County comprehensive solid waste management plan.
- * Review zoning ordinance and subdivision regulation for consistency with comprehensive solid waste management plan.

Goal 5: Conserve the Natural and Scenic Beauty of the County.

Objectives:

- (1) Identify areas of natural and scenic beauty.
- (2) Encourage the elimination of blighted areas.
- * Encourage removal of substandard and unused buildings.
 - * Encourage removal of non-operable machinery.
 - * Promote management practices that reduce the negative impact of scrapyards and junkyards on the scenic beauty of the county.
- (3) Protect the scenic beauty of the county.
- * Consider adopting ordinances which restrict or reduce development in areas of scenic beauty.
 - * Discourage storage of junked cars and machinery on residential and agricultural property.
 - * Continue enforcement of screening and fencing requirements in industrial zones.
 - * Continue enforcement of performance standards.
 - * Continue enforcement of land reclamation standards for mining and extraction.
- (4) Promote recreational uses in areas of natural and scenic beauty.
- * Allow recreational uses as a permitted use in these areas.
- (5) Preserve and enhance places of historic and cultural importance.

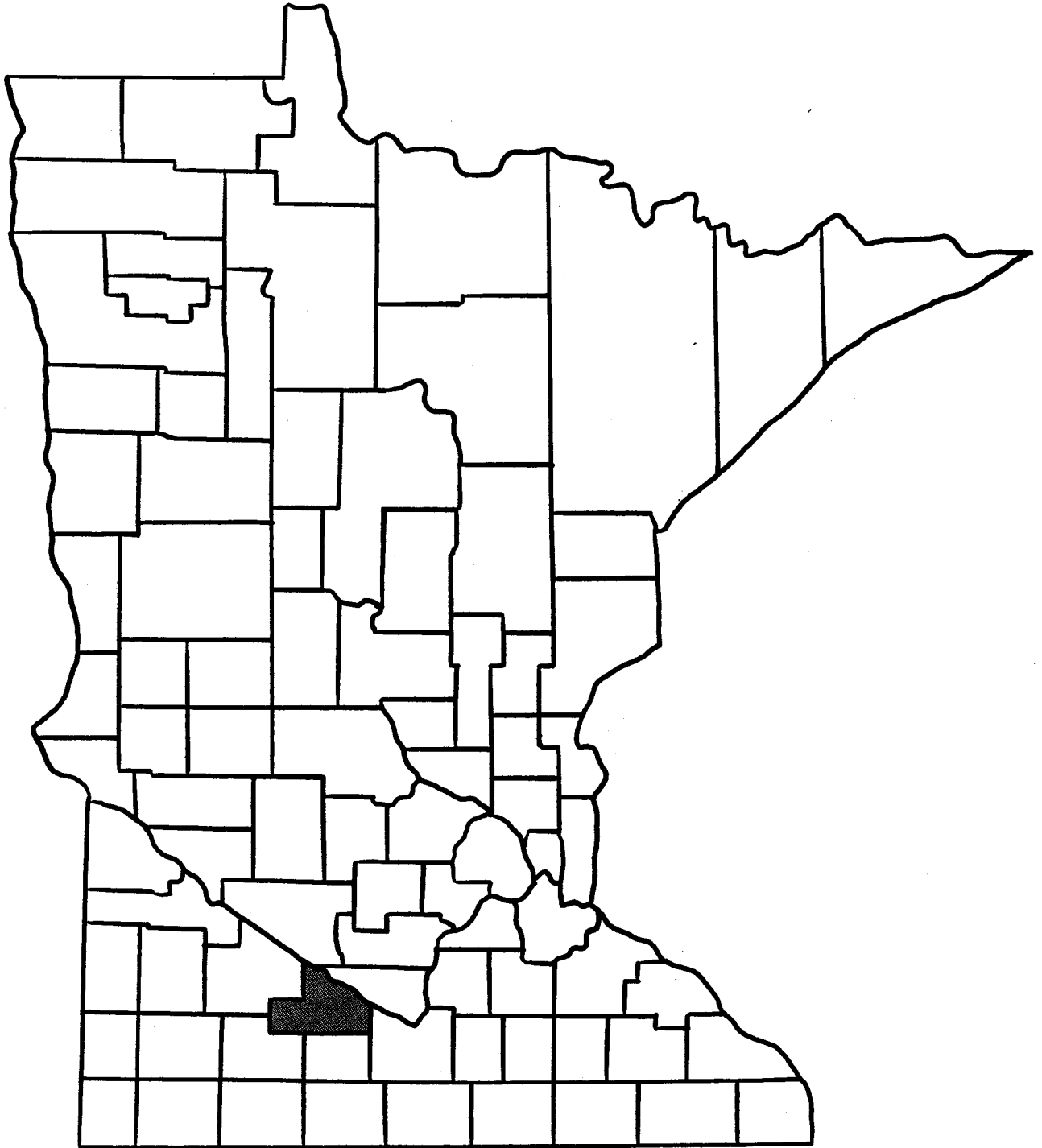
Goal 6: Provide Citizens With Adequate Public Facilities and Services in an Efficient Manner.

Objectives:

- (1) Stabilize expenditures for public facilities.
 - * Direct development into areas served by adequate public facilities.
- (2) Maintain a safe and efficient transportation system.
 - * Control access to major routes which would result in increased congestion and hazards.
 - * Continue enforcement of performance standards regarding service and frontage roads in the highway business district.
 - * Consider adopting performance standards regarding service and frontage roads in the industrial districts.
- (3) Encourage the development of centralized water distribution systems in developed areas.
- (4) Encourage the development of centralized wastewater collection and disposal systems in developed areas.
 - * Provide technical assistance as needed.
- (5) Encourage orderly transition from rural to urban land uses.
 - * Support the siting of public facilities to promote development in desired growth patterns.
- (6) Provide recreation facilities for persons of all ages.
 - * Continue development of a county park system.

MAP 1

LOCATION OF BROWN COUNTY IN MINNESOTA

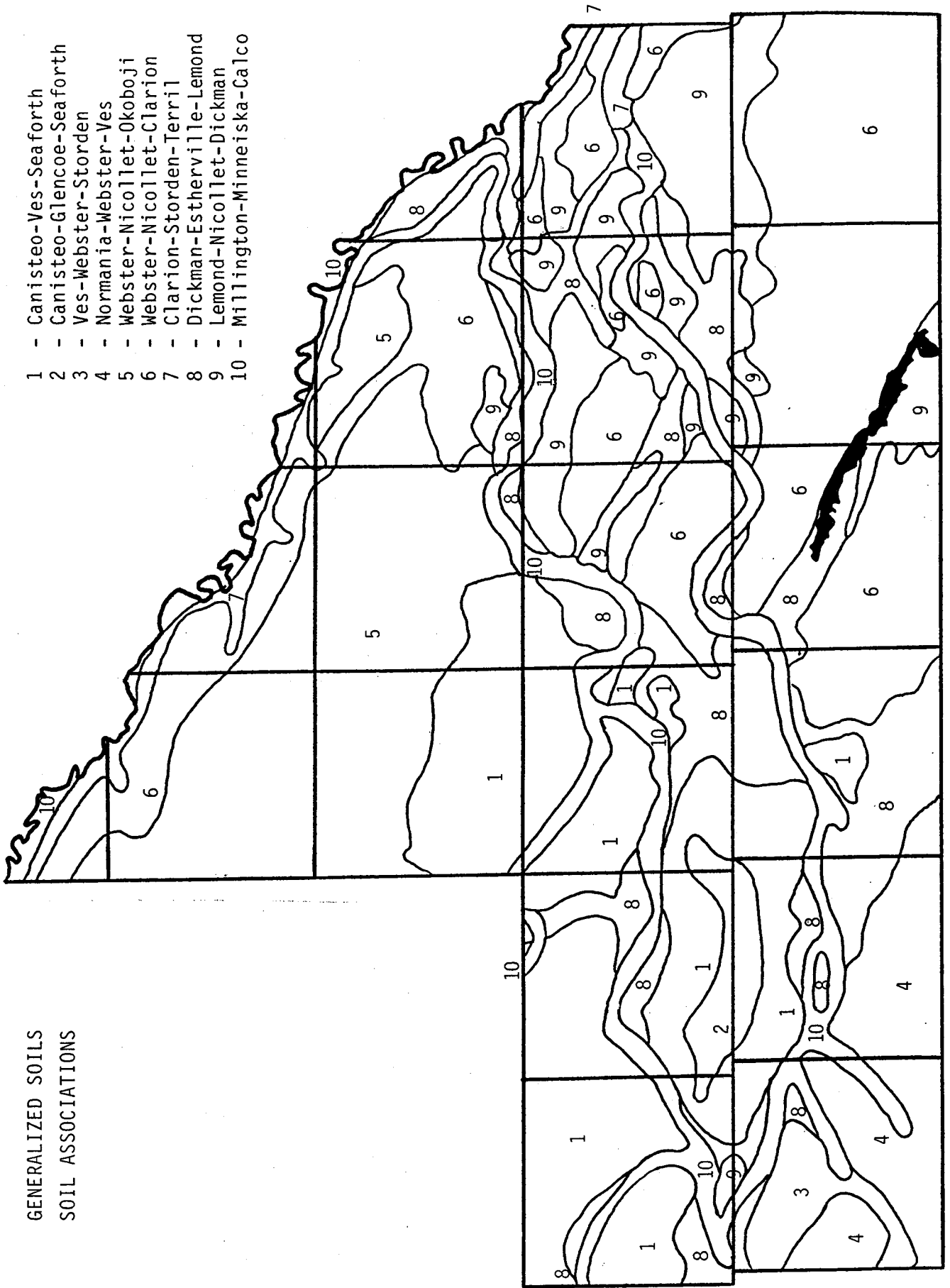


MAP 3

GENERALIZED SOILS
SOIL ASSOCIATIONS

LEGEND:

- 1 - Canisteo-Ves-Seaforth
- 2 - Canisteo-Glencoe-Seaforth
- 3 - Ves-Webster-Storden
- 4 - Normania-Webster-Ves
- 5 - Webster-Nicollet-Okoboji
- 6 - Webster-Nicollet-Clarion
- 7 - Clarion-Storden-Terril
- 8 - Dickman-Estherville-Lemond
- 9 - Lemond-Nicollet-Dickman
- 10 - Millington-Minneiska-Calco



MAP 4

WATERSHEDS/RIVERS/LAKES

507
217
1866

