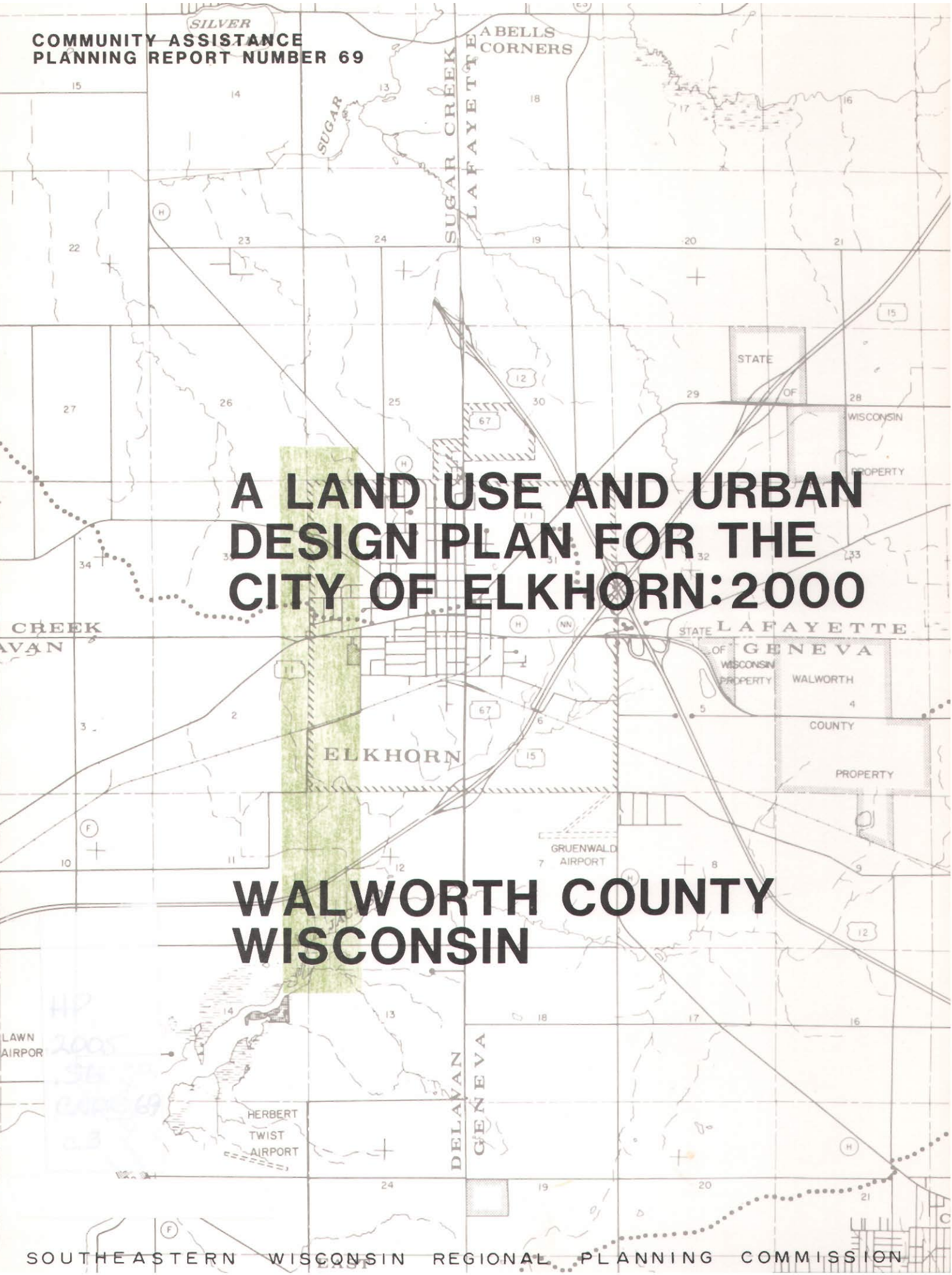
COMMUNITY ASSISTANCE
PLANNING REPORT NUMBER 69



A LAND USE AND URBAN DESIGN PLAN FOR THE CITY OF ELKHORN: 2000

WALWORTH COUNTY WISCONSIN

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Special acknowledgement is due former City Administrator Michael S. Copp for his assistance in the conduct of this study and his support of the city planning effort in the City of Elkhorn.

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Special acknowledgment is due Mr. Patrick J. Meehan, AIA, Principal Planner, for his contribution to the preparation of this report.

COMMUNITY ASSISTANCE PLANNING REPORT
NUMBER 69

A LAND USE AND URBAN DESIGN PLAN FOR THE CITY OF ELKHORN: 2000

City of Elkhorn
Walworth County, Wisconsin

Prepared by the

Southeastern Wisconsin Regional Planning Commission
P. O. Box 769
Old Courthouse
916 N. East Avenue
Waukesha, Wisconsin 53187-1607

January 1985

Inside Region: $5.00
Outside Region: $10.00

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SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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January 31, 1985

The Honorable Gerhardt D. Immega
Mayor of the City of Elkhorn and Members of
the Common Council and City Plan Commission
City of Elkhorn
9 S. Broad Street
Elkhorn, Wisconsin 53121-1797

Ladies and Gentlemen:

By letter dated June 8, 1979, the City of Elkhorn requested the Southeastern Wisconsin Regional Planning Commission to prepare a land use and urban design plan along with related plan implementation devices for the City. The planning effort was initiated in 1980, and the Regional Planning Commission staff, working with city officials, has now completed the requested plan, which is presented in this report.

In addition to setting forth an adopted land use plan and supporting plan implementation devices for the City, this report presents pertinent information on the present stage of development of the City, including information on population and employment levels; on existing land use; on sanitary sewerage, water supply, and transportation system development; and on the topography and drainage pattern, soils, woodlands, wetlands, wildlife habitat areas, prime agricultural areas, and environmental corridors of the City and environs, all of which constitute important considerations in any local planning effort. In addition, urban design analyses and recommendations are presented relating to the City of Elkhorn central business district.

Based upon certain stated assumptions concerning probable future population and employment levels in the City, the report sets forth a series of alternative land use plans and the plan selected by the City for adoption, and outlines a recommended zoning ordinance and map for the City. The plan as presented in this report is intended to serve as a point of departure for the making of day-to-day development decisions by city officials and as a basis for developing more detailed plans and plan implementation devices over time.

The Regional Planning Commission is appreciative of the assistance offered by the Common Council, City Plan Commission, City Administrator, and City Engineer in the preparation of this report. The Commission staff stands ready to assist the City in presenting the information contained in this report to the public and in implementing the plan set forth herein.

Sincerely,

Kurt W. Bauer
Executive Director

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TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF MAPS

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Chapter I

INTRODUCTION

BACKGROUND

The state municipal planning enabling act, as set forth in Section 62.23 of the Wisconsin Statutes, provides for the creation of municipal plan commissions and charges those commissions with the duty and function of making and adopting a "master"--or comprehensive--plan for the physical development of the municipality, including any areas outside its boundaries which bear relation to the development of the municipality. The scope and content of the comprehensive plan, as set forth in the Statutes, are very broad, extending to all aspects of the physical development of a community. The Statutes indicate that the master plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the municipality that will, in accordance with existing and future needs, best promote the public health, safety, morals, order, prosperity, and general welfare, and promote efficiency and economy in the process of development.

Perhaps the most basic and important element of any comprehensive plan is the land use plan, for it forms the basis for all of the other elements of the plan, such as the transportation, sanitary sewerage, water supply, park and open space, and storm water drainage elements. Recognizing this importance and acting in accordance with its statutory charge, the City of Elkhorn on June 8, 1979, requested the Regional Planning Commission to assist the city Plan Commission in the development of a land use plan for the City, together with implementing ordinances. This report sets forth the findings and recommendations of the planning effort undertaken in response to the city request. It is intended to assist in defining the land use development objectives of the City and in identifying and attaining a spatial distribution of land use development in the City and its environs that will achieve these objectives over time.

The planning effort involved extensive inventories and analyses of the factors and conditions affecting land use development within the planning area, including extensive inventories of the existing cultural and natural resource base of the City and surrounding area, the formulation of a set of recommended land use development objectives for the City, the preparation of forecasts of population and economic activity in the planning area, the preparation of alternative land use plans which could accommodate the forecast population and employment levels, and the selection of a recommended plan which best meets the city objectives. The plan, when adopted by the City Plan Commission and the Common Council, is intended to serve as a guide to the making of land use development decisions within the planning area. The work also included the preparation of proposed amendments to the city zoning ordinance and zoning district map that are required to help carry out the recommended land use plan over time.

The Planning Area

The planning area considered herein consists of the City of Elkhorn and the unincorporated area lying generally within one-and-one-half miles of the city limits. The City is located in the geographic center of Walworth County. As

shown on Map 1, the city proper is bordered by the Town of LaFayette on the northeast, the Town of Sugar Creek on the northwest, the Town of Delavan on the southwest, and the Town of Geneva on the southeast. The total study area consists of U. S. Public Land Survey Sections 19 through 21, and Sections 28 through 33 in Township 3 North, Range 17 East; Sections 22 through 27 and Sections 34 through 36 in Township 3 North, Range 16 East; Sections 1 through 3 and Sections 10 through 15 in Township 2 North, Range 16 East; and Sections 4 through 9 and Sections 16 through 18 in Township 2 North, Range 17 East. The total study area encompasses an area of approximately 36 square miles.

Regional Influences

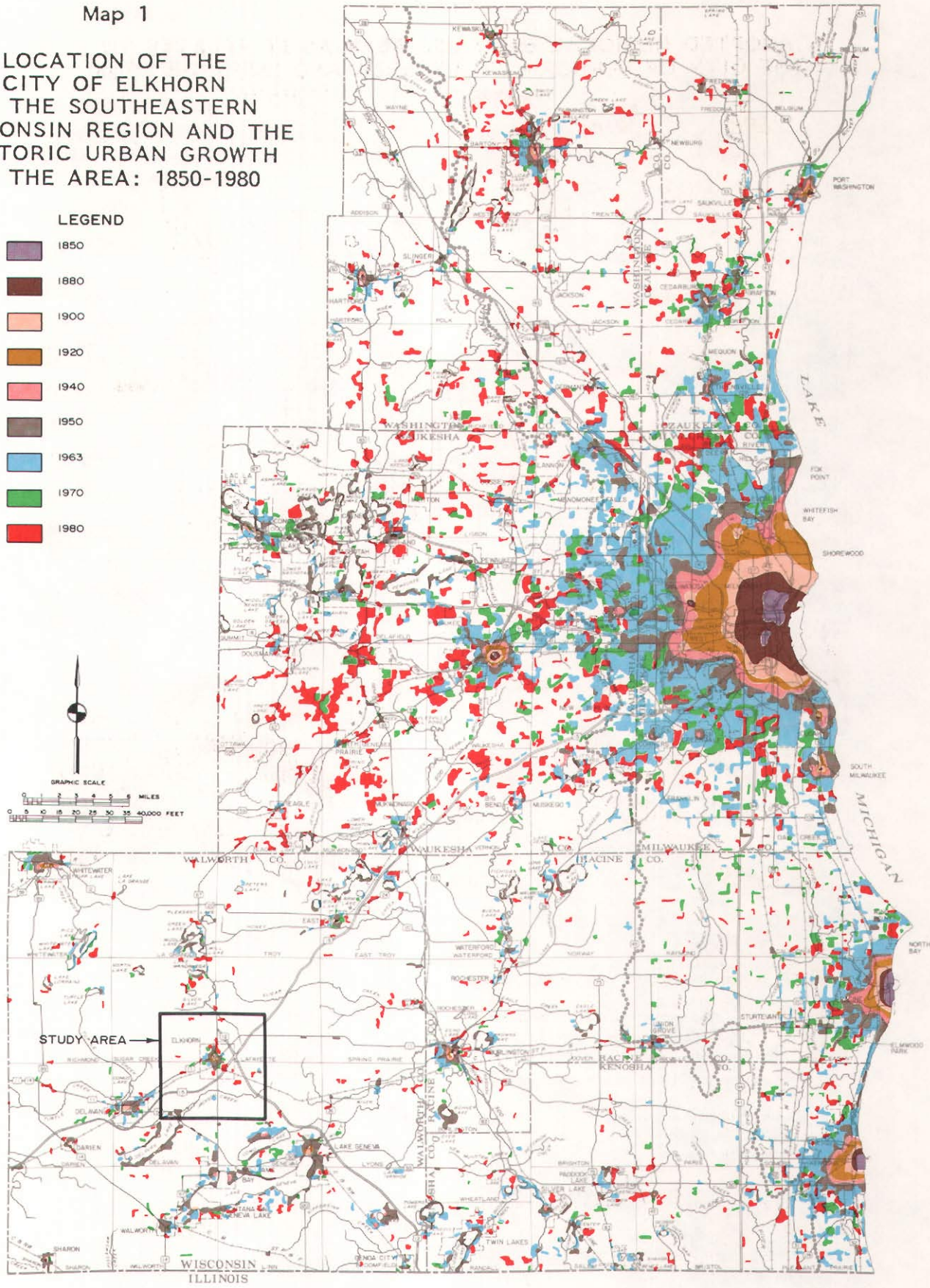
Sound planning practice dictates that local plans should be prepared within the framework of adopted areawide plans. The Southeastern Wisconsin Regional Planning Commission is the official areawide planning agency for the seven-county Southeastern Wisconsin Region, which includes Walworth County and the City of Elkhorn. The Commission has, since its creation in 1960, pursued the preparation of an advisory plan for the development of the Region through the systematic formulation of those elements of such a plan most important to the units and agencies of government operating within the Region. The salient recommendations of the adopted regional plan elements applicable to the City of Elkhorn and the unincorporated area within one-and-one-half miles of the City are shown on Maps 2, 3, and 4.

The adopted regional land use plan, as set forth in SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, provides recommendations with respect to the amount, spatial distribution, and general arrangement of the various land uses required to serve the needs of the existing and anticipated future resident population and economic activity levels within the Region. Particularly pertinent to the preparation of a land use plan for the City of Elkhorn area are those recommendations contained within the adopted regional land use plan for the preservation of the primary environmental corridors and the prime agricultural lands of the Region, and for the encouragement of compact urban development in those areas of the Region that are covered by soils suitable to such use; that are not subject to special hazards, such as flooding; and that can be readily served by public sanitary sewerage and water supply facilities. These three major recommendations of the regional land use plan provide the basic framework around which the city land use plan recommended herein was developed. The adopted regional land use plan, as it pertains to the City of Elkhorn study area and environs, is shown on Map 2.

The adopted regional transportation system plan, as described in SEWRPC Planning Report No. 25, provides recommendations as to how the regional land use plan can best be served by highway and transit facilities. It recommends a functional and jurisdictional system of arterial streets and highways to serve the Region through the design year 2000, together with a functional network of various types of transit lines. The regional transportation system plan was developed on the basis of careful quantitative analyses of existing and projected traffic volumes and existing highway and transit system capacity and use. As presented herein, the regional arterial street and highway system is recommended to be developed to serve and support the recommended land use plan for the study area. The adopted regional transportation plan, as it pertains to the City of Elkhorn study area and environs, is shown on Map 3.

Map 1

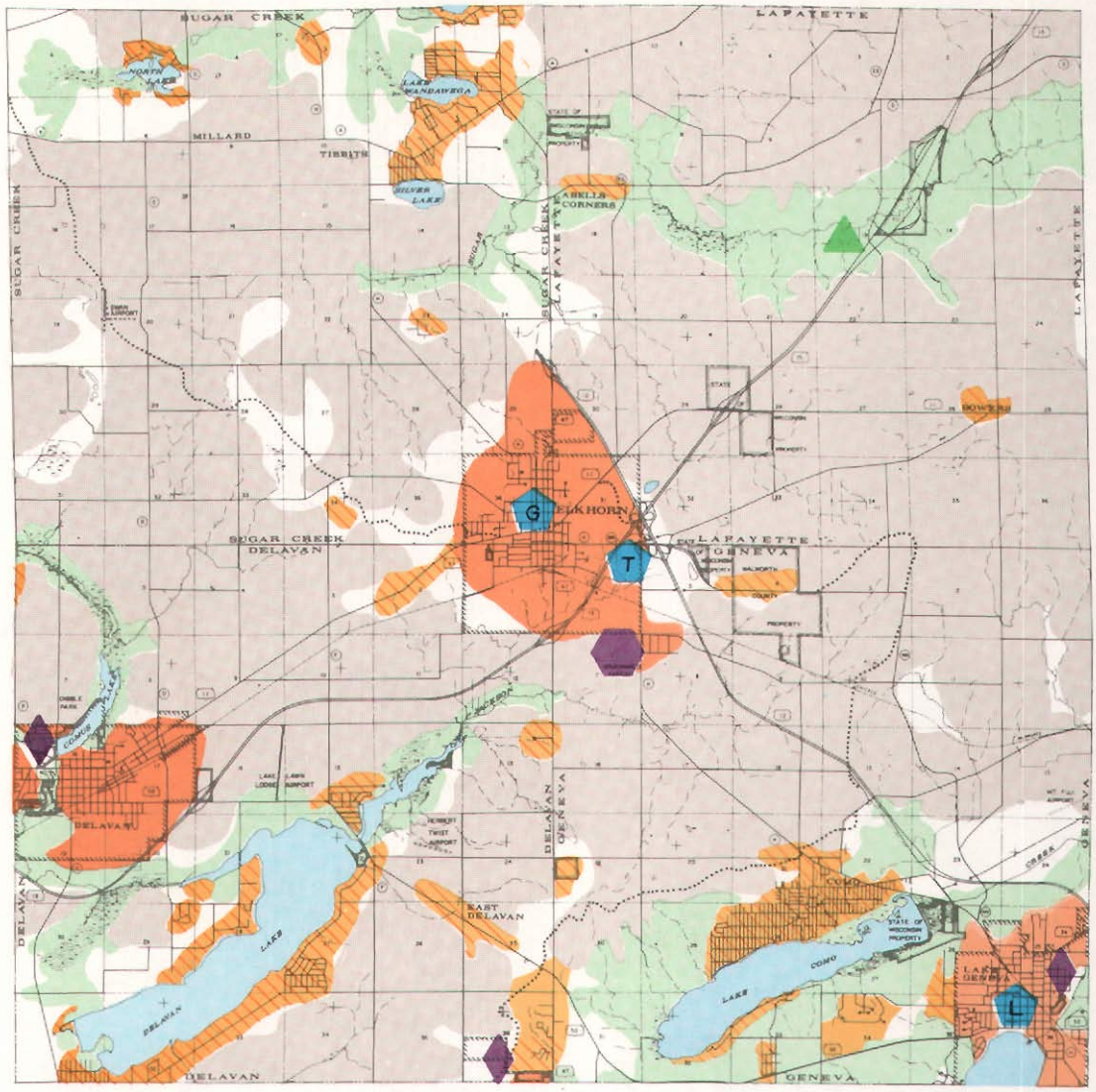
LOCATION OF THE CITY OF ELKHORN IN THE SOUTHEASTERN WISCONSIN REGION AND THE HISTORIC URBAN GROWTH IN THE AREA: 1850-1980



Source: SEWRPC.

Map 2

ADOPTED REGIONAL LAND USE PLAN AS IT RELATES TO THE CITY OF ELKHORN STUDY AREA AND ENVIRONS: 2000



LEGEND

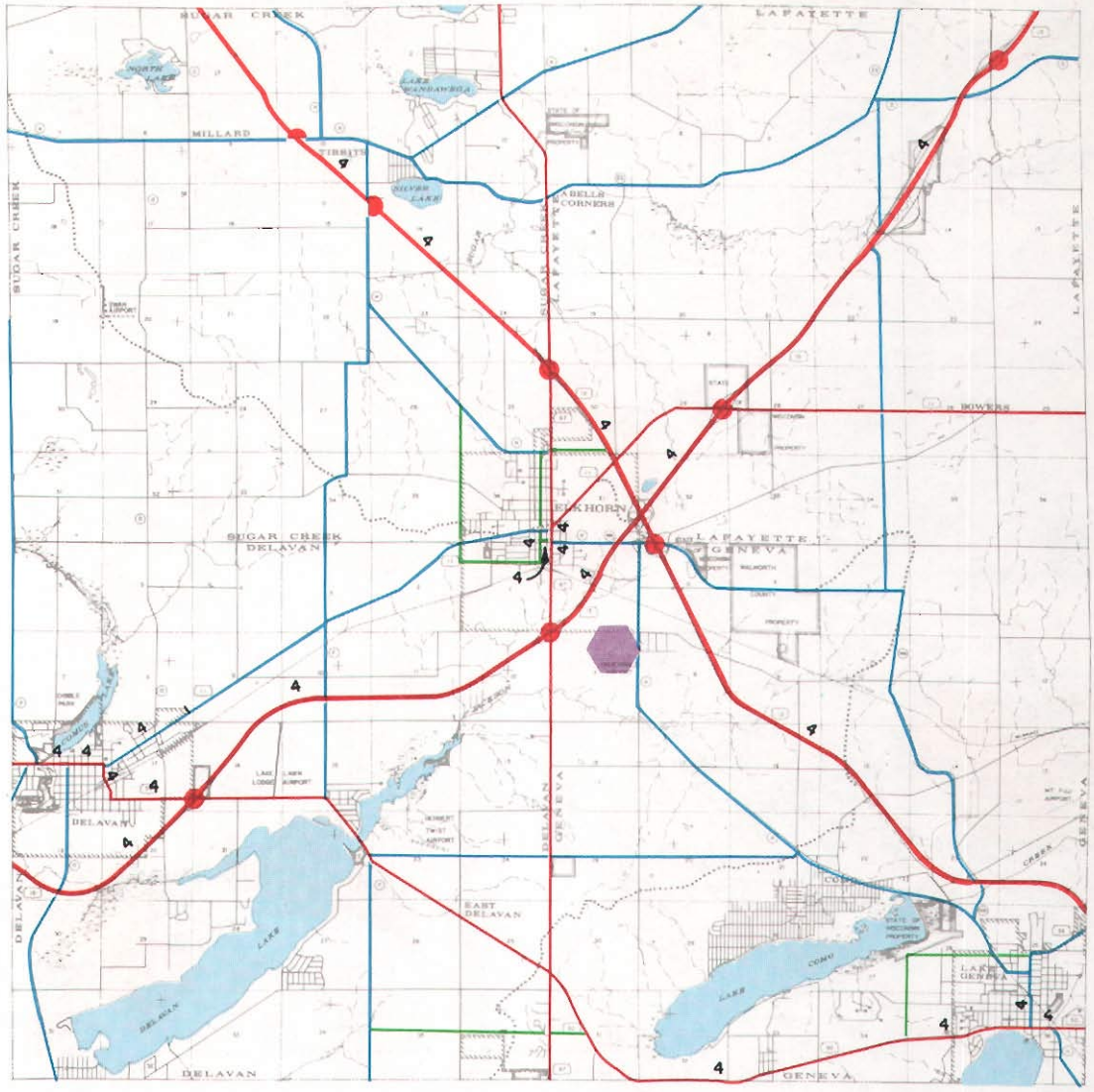
- SUBURBAN RESIDENTIAL (0.2-0.6 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- LOW DENSITY RESIDENTIAL (0.7-2.2 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- MEDIUM DENSITY RESIDENTIAL (2.3-6.9 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- A MAJOR PUBLIC OUTDOOR RECREATION CENTER MULTI-USE SITE
- MAJOR TRANSPORTATION CENTER AIRPORT
- MAJOR UTILITY CENTER PUBLIC SEWAGE TREATMENT PLANT
- MAJOR GOVERNMENTAL OR INSTITUTIONAL CENTER G-COUNTY, STATE, OR FEDERAL ADMINISTRATIVE OFFICE T-TECHNICAL/VOCATIONAL L-LIBRARY
- PRIMARY ENVIRONMENTAL CORRIDOR
- PRIME AGRICULTURAL LAND
- OTHER AGRICULTURAL AND RURAL LAND
- WATER

GRAPHIC SCALE
0 1 2 MILES
0 2,000 4,000 8,000 12,000 FEET

Source: SEWRPC.

Map 3

ADOPTED REGIONAL TRANSPORTATION SYSTEM AS IT RELATES TO THE CITY OF ELKHORN STUDY AREA AND ENVIRONS: 2000



LEGEND

ARTERIAL STREET AND HIGHWAY SYSTEM JURISDICTIONAL CLASSIFICATION

- STATE TRUNK-FREEWAY
- STATE TRUNK-NON FREEWAY
- COUNTY TRUNK
- LOCAL TRUNK
- FREEWAY-NONFREEWAY, INTERCHANGE
- 4 NUMBER OF TRAFFIC LANES (TWO LANES WHERE UNNUMBERED)

AIRPORT SYSTEM CLASSIFICATION

- GENERAL UTILITY

GRAPHIC SCALE

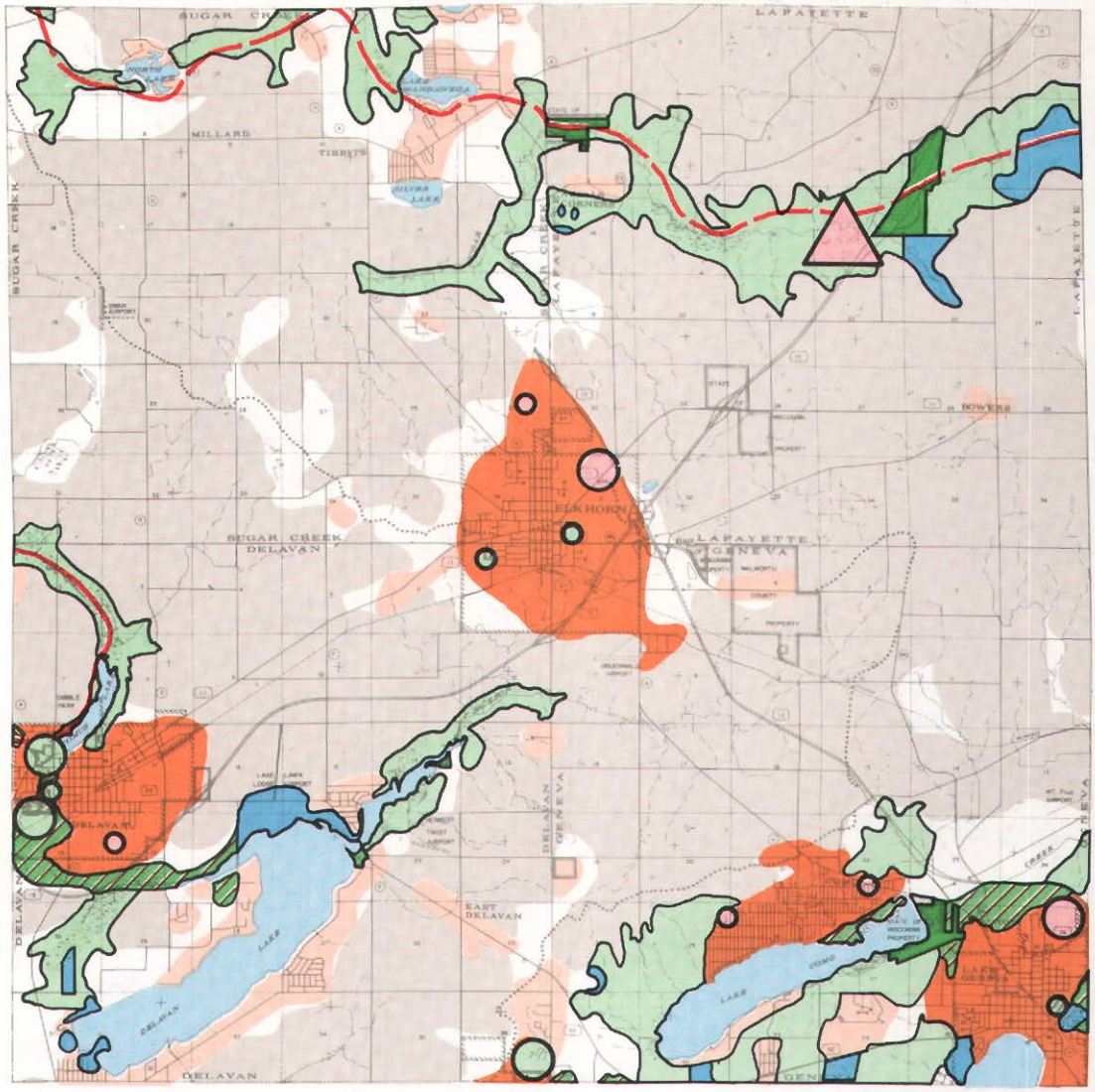
0 1 2 MILES

0 2,000 4,000 8,000 12,000 FEET

Source: SEWRPC.

Map 4

ADOPTED REGIONAL PARK AND OPEN SPACE PLAN AS IT RELATES TO THE CITY OF ELKHORN STUDY AREA AND ENVIRONS: 2000



LEGEND

OPEN SPACE PRESERVATION ELEMENT
PRIMARY ENVIRONMENTAL CORRIDOR COMPONENT

- EXISTING STATE OWNERSHIP
- PROPOSED STATE OWNERSHIP
- EXISTING LOCAL OWNERSHIP
- PROPOSED LOCAL OWNERSHIP
- EXISTING COMPATIBLE PRIVATE OUTDOOR RECREATION USE (PROPOSED TO BE PROTECTED THROUGH PUBLIC LAND USE REGULATION)
- PROPOSED TO BE PROTECTED THROUGH PUBLIC LAND USE REGULATION

PRIME AGRICULTURAL LAND COMPONENT

- PROPOSED TO BE PROTECTED THROUGH PUBLIC LAND USE REGULATION

OUTDOOR RECREATION ELEMENT
RESOURCE ORIENTED COMPONENT
MAJOR PUBLIC PARK SITE-TYPE 1 (250 OR MORE ACRES)

- PROPOSED LOCAL OWNERSHIP

RECREATION CORRIDOR (TRAIL)

- PROPOSED STATE RESPONSIBILITY
- PROPOSED LOCAL RESPONSIBILITY

URBAN ORIENTED COMPONENT

- EXISTING OR PLANNED URBAN DEVELOPMENT REQUIRING TYPE III AND IV PUBLIC PARK SITES

MAJOR PUBLIC PARKSITE-TYPE III (25-99 ACRES)

- EXISTING
- PROPOSED

OTHER PUBLIC PARK SITES-TYPE IV (5-24 ACRES)

- EXISTING
- PROPOSED

OTHER OUTDOOR RECREATION SITE OR LAND USE

- EXISTING OTHER STATE OUTDOOR RECREATION OR OPEN SPACE SITE
- EXISTING OTHER LOCAL OUTDOOR RECREATION OR OPEN SPACE SITE
- OTHER EXISTING URBAN DEVELOPMENT
- OTHER RURAL LAND
- WATER

Source: SEWRPC.

The adopted regional park, outdoor recreation, and related open space plan, as described in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, identifies the park and open space needs of the Region, and recommends programs to meet those needs over time. The report includes inventories and analyses of the Region's socioeconomic and natural resource base, existing outdoor recreation facilities and sites and their use, existing county and local park and open space plans, the administrative structure for the provision of parks and open space plans, the laws and regulations relating to the provision of parks and open spaces, and the potential park and open space sites in the Region. Park and related open space acquisition and development objectives, principles, and standards are set forth in the plan and are applied to existing and forecast population levels to identify existing and probable future needs within the Region for open space, for large regional resource-oriented parks, for recreational corridors, and for smaller urban parks, and their attendant recreation facility requirements. The adopted regional park, outdoor recreation, and related open space plan as it pertains to the City of Elkhorn study area and environs is shown on Map 4.

While the recommendations contained in the adopted regional land use, transportation system, and park and open space plans were considered of primary importance to the formulation of the land use plan for the City of Elkhorn, the adopted regional housing plan and the regional water quality management plan also provided guidance in formulating the land use plan documented herein. The regional housing plan, described in SEWRPC Planning Report No. 20, A Regional Housing Plan for Southeastern Wisconsin, identifies existing housing needs within the Region and recommends steps which would help to meet that need. The report includes data on the existing housing stock in the Region, the cost of buying and occupying new housing, housing financing and technology, governmental activity in housing, housing need, constraints on the availability of housing, alternative housing allocation strategies, and a recommended regional housing plan. In addition to considering the housing problems in the Region as a whole, the report addresses itself to the housing problems and needs of smaller subregional areas. The recommended land use plan for the study area reflects certain of the specific housing recommendations contained in the regional housing plan for the study area.

Major findings and recommendations of the water quality management planning program for southeastern Wisconsin are described in Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000. The report sets forth the basic principles and concepts underlying the areawide water quality management planning program, together with a description of the existing man-made and natural resource base features which affect, and are affected by, water quality; describes existing water quality conditions in the Region and identifies sources of pollution; sets forth recommended water use objectives and supporting water quality standards; analyzes population, economic activity, and land use trends; presents and evaluates alternative plans; and recommends a water quality management plan for the Region. The plan documented in this report consists of a land use and sanitary sewer service area element, a wastewater sludge management element, and a water quality monitoring element. The report also sets forth a plan implementation strategy. Certain of the water quality management plan recommendations, particularly those related to the delineation of a sanitary sewer service area for the study area, are reflected in this recommended land use plan.

The findings and recommendations of the aforementioned regional and local plan elements have important implications for any land use planning effort for the City of Elkhorn and environs. Pertinent recommendations of these plan elements are included in the land use plan presented herein by reference, and are considered further in the inventory and analysis section of this report.

DEFINITION OF STUDY PURPOSE

The primary purpose of the City of Elkhorn planning program is to provide the City with one of the key elements of a comprehensive community development plan--a land use plan. This plan, while intended to meet local development objectives, is also intended to carry the regional plan elements into greater depth and detail as necessary for sound planning at both local and regional levels. This planning effort was conducted to meet the following five basic objectives:

1. The identification of the physical development constraints and opportunities imposed upon the study area by the existing cultural and natural resource bases.

2. The identification of the land use development objectives of the City of Elkhorn.

3. The determination of the future land use requirements of the City of Elkhorn study area to the year 2000.

4. The formulation of alternative recommended land use plans for the study area.

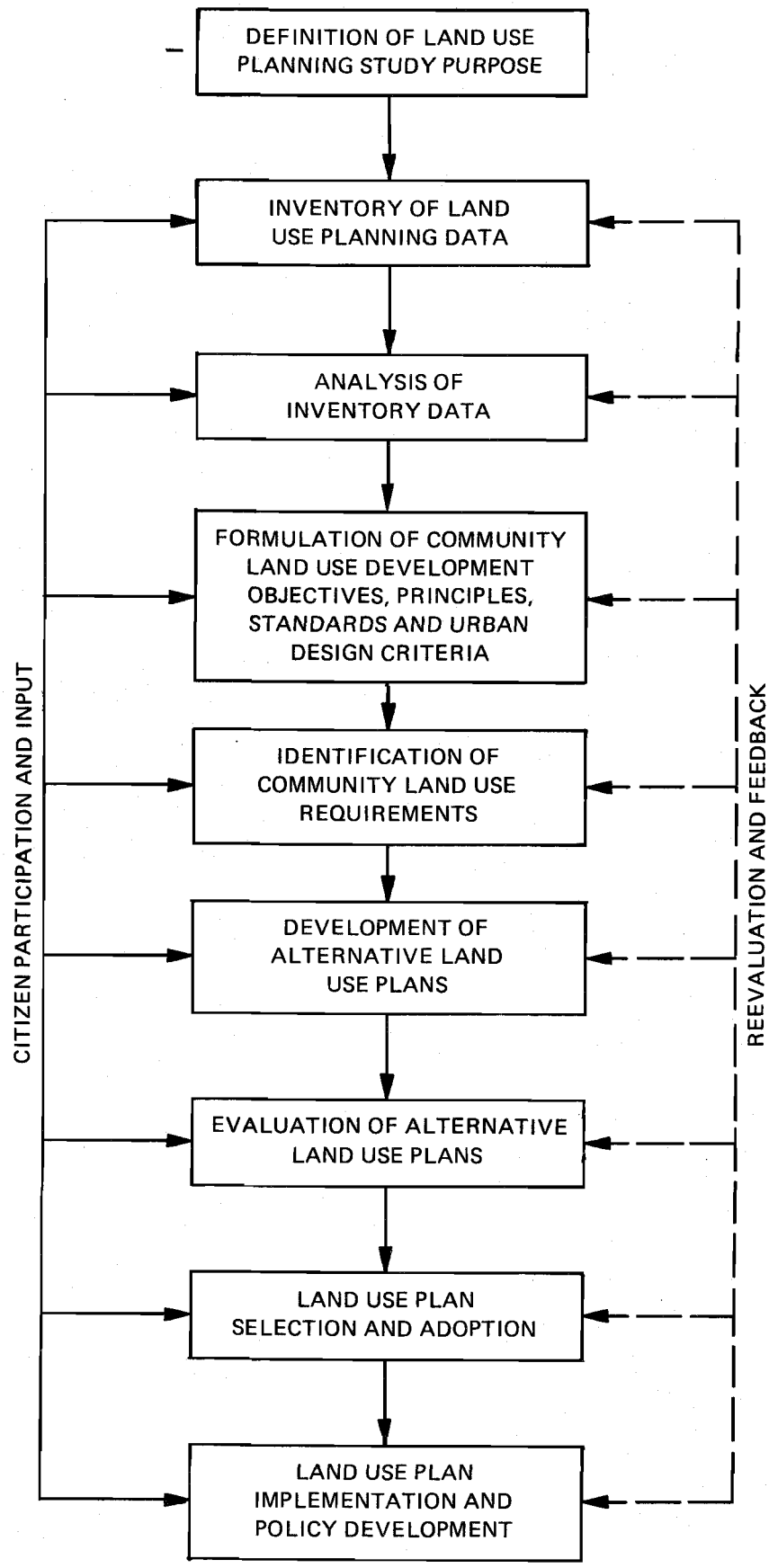
5. The selection of one of the alternative land use plans for the study area as the recommended land use plan and the preparation of related implementation strategies.

THE COMMUNITY LAND USE PLANNING PROCESS

The recommended land use plan and alternative plans presented herein were developed through a planning process consisting of the following steps: 1) inventory of the factors affecting land use development in the planning area; 2) analysis of inventory data and identification of problems relating to land use development; 3) formulation of community land use development objectives, principles, standards, and urban design criteria; 4) identification of community land use requirements in the City and environs through the year 2000, based upon the community land use development objectives, principles, standards, and urban design criteria developed in step three; 5) development of alternative land use plans; 6) the evaluation of alternative land use plans; 7) land use plan selection and adoption; and 8) land use plan implementation and policy development. The land use planning process is graphically summarized in Figure 1. Imperative to any sound community planning process is the active participation of citizens in each stage of the process. Also imperative to the process is the need to continually reevaluate adopted community land use plans and alternatives thereto based upon the emergence of new planning data and citizen input.

Figure 1

THE COMMUNITY LAND USE PLANNING PROCESS



Source: SEWRPC.

Inventory and Analysis

Reliable basic planning and engineering data, collected on a uniform, areawide basis, are absolutely essential to the formulation of workable development plans. Consequently, inventory and analysis becomes one of the first operational steps in the planning process. The crucial nature of factual information in the planning process should be evident, since no intelligent forecasts can be made, or alternative courses of action evaluated, without knowledge of the current state of the system being planned. The sound formulation of a land use plan for the City of Elkhorn and environs requires that factual data be developed on the existing land use pattern, on the potential demand for each of the various major land use categories, on the major determinants of these demands, and on local development objectives and constraints, as well as on the ability of the underlying natural resource and public utility base to support land use development.

The necessary inventory and analysis not only provides data describing existing conditions, but also provides a basis for identifying existing and potential problems in the planning area, and for identifying the opportunities and potentials for good land use development in the planning area. The inventory data are also crucial to the forecasting of community land use needs, formulating alternative land use plans, and evaluating such alternative plans.

Formulation of Community Land Use Planning Objectives, Principles, and Standards and Urban Design Criteria

An objective is a goal or end toward the attainment of which plans and policies are directed. Planning is a rational process for formulating and attaining objectives. The objectives developed serve as a guide to the preparation of alternative plans and provide an important basis for the selection of a recommended plan from among the alternatives considered. Objectives may change as new information is obtained or as a final plan is selected from among alternative plans. The formulation of objectives should involve the active participation of both citizens and elected and appointed public officials. The community land use plan should relate its physical design to clearly defined objectives, principles, standards, and urban design criteria as described in Chapter III of this report.

Identification of Community Land Use Requirements

Although the preparation of forecasts is not planning, a land use plan must anticipate future land use requirements as a basis for the development of alternative plans. In the planning effort, forecasts are required of future events and conditions which are outside the scope of the system to be planned. The future demand for land will depend primarily upon the size of the future population and the nature of future economic activity within the study area. Control of changes in population and economic activity levels, however, lie largely outside the scope of government activity at the local level, and therefore outside the scope of the local planning process. Future population and economic activity levels must, therefore, be forecast. These levels, in turn, can be used to determine the probable future demand for each of the various

categories of land use. This is not to say, however, that governmental policies at the local level cannot influence the course of economic development and, consequently, of population growth.

Development and Evaluation of Alternative Land Use Plans and Selection and Adoption of a Recommended Plan

Having estimated the probable future demand for each of the various categories of land use, alternative land use plans can be developed which meet the land use demand. The alternative plans should be evaluated based upon their relative ability to attain the agreed-upon development objectives, and the plan which is judged best to meet those objectives should be selected for adoption. The evaluation should be made by the City Plan Commission, whose members consist of knowledgeable citizens as well as of important elected and appointed public officials. Such evaluation and selection involves the use of data obtained during the inventory and analysis stages of the planning process.

Land Use Plan Implementation

The implementation of the adopted land use plan requires the use of several planning tools of a legal nature. Land subdivision regulations should be applied to ensure that any proposed land subdivision plats and certified survey maps conform to the plan both with respect to the proposed land uses to be accommodated and with respect to such details as street, block and lot layout, and required improvements. A zoning ordinance and accompanying zoning map should be used to legally ensure that land use development and redevelopment are in conformance with the adopted land use plan. The zoning regulations should govern not only the types of land uses permitted in various parts of the community but the height and arrangement of buildings on the land, the intensity of the use of land, and the needed supporting facilities which are required to carry out the intent of the land use plan. An official map should be used to ensure that the land required for the streets, parkways, parks, and playgrounds required to serve the land use pattern recommended in the plan is reserved for future public use. Implementation of the plan is also achieved through the formulation of public policies which will ensure plan implementation. A capital improvement program is one particularly effective expression of such policies.

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Chapter II

INVENTORY AND ANALYSIS

INTRODUCTION

As already indicated, basic planning data collected on a uniform and areawide basis are essential to the formulation of sound land use plans. Therefore, an inventory of pertinent man-made and natural resource base elements in the study area becomes the first operational step in any land use planning process. The crucial nature of factual information in the planning process should be evident, since intelligent forecasts cannot be made, nor alternative courses of action selected, without knowledge of the existing characteristics and conditions of the area being planned. The required planning data consist of information concerning population characteristics, economic activity levels, soils, surface drainage and floodland features, wetlands, woodlands, wildlife habitat areas, principal topographic features, existing land use, and community utilities and facilities. The inventory not only should provide definitive data on existing conditions, but should enable the identification of specific existing development problems and issues.

HISTORY

Early Community History[1]

The original Town of Elkhorn was one of five civil towns organized by an act of the Territorial Legislature on January 2, 1838, and embraced the four U. S. Public Land Survey townships in the northwest quarter of the County--which were known as Whitewater, La Grange, Richmond, and Sugar Creek, and which together comprised an area of about 144 square miles. The Town was divided by an act of the Territorial Legislature on August 13, 1840, the Town of Whitewater being formed from the two western townships, now Whitewater and Richmond Townships. On March 21, 1843, the Town of La Grange was detached from the remaining Town of Elkhorn area, now the Town of Sugar Creek. On February 2, 1846, by another act of the Territorial Legislature, the Village of Elkhorn was incorporated, embracing one section of the original Town of Elkhorn, and three additional sections of land--Section 1 in the Town of Delavan, Section 6 in the Town of Geneva, and Section 31 in the Town of LaFayette.

The Center of the Town of Elkhorn was selected as the county seat of Walworth County in the fall of 1838. According to the Western Historical Company's account of Elkhorn:

> There were no special advantages which indicated Elkhorn as a favorable location for a village. There was no water power nor was it in the line of travel between any settled points; nor a converging point favorable to trade: nothing but its position as the geographical center of the county

[1]The history of the City of Elkhorn study area was derived, in part, from: Western Historical Company, History of Walworth County, Chicago, 1881, pp. 472-478; and Elkhorn Historical Club, History of Elkhorn, Wisconsin, Elkhorn Independent, Elkhorn, 1976, pp. 5-14.

> gave it any prominence or promise as the site of a future village--indeed, the location was handicapped with many serious disadvantages . . . . Nevertheless, owing to dissensions and jealousies between the other competing points, added to the fact that it had next to no population of its own to raise enmity, it was selected as the seat of justice, and consequently as the central village of the county.[2]

At this time, Geneva and Delavan were competing for the county seat. An unincorporated village was platted in August of 1842.

The Town of Elkhorn was first settled in February 1837, the year following the U. S. Public Land Survey of the area. LeGrand Rockwell, a Milwaukee man, along with Daniel E. Bradley, L. J. Higby, Alan W. Hutch, and J. S. Rockwell, organized a company which purchased four quarter-sections of land, one square mile, at the center of Walworth County and immediately began a dairy farm. This was done in speculation that the new Walworth County seat would be located in the geographic center of Walworth County which, as was pointed out earlier, it was in 1838. In August of 1842, there were nine buildings in the Town of Elkhorn, including two stores, a hotel, and a log jail. Also in August of 1842, there were nine families and a population of 53 residents in the Town of Elkhorn. The population of the Town of Elkhorn increased to 539 in 1849, an increase of about 917 percent. In 1894, the Village of Elkhorn became a city with three wards.

Planning History

The City of Elkhorn has never officially had a land use plan to guide its growth. However, in 1955 the City of Elkhorn was used as a model for small community land use planning in an urban planning textbook authored by L. Hilberseimer.[3] The following text, and Figure 2, are from this textbook:

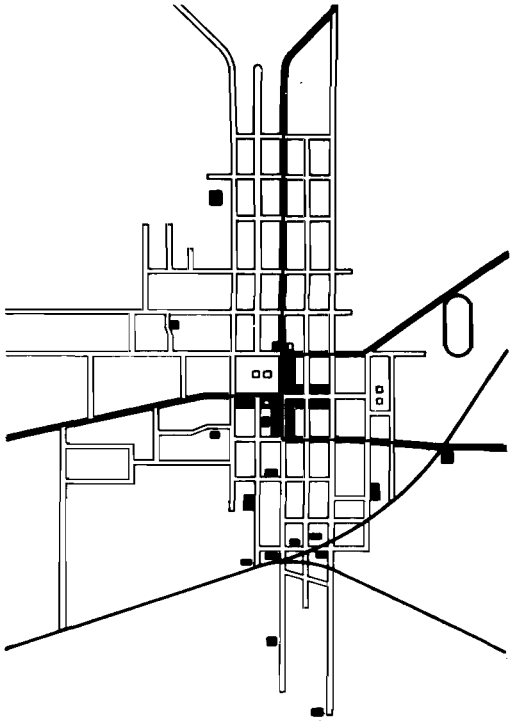
> The town we have chosen is Elkhorn, Wisconsin, the county seat and market center for the adjoining agricultural area whose fairgrounds are also located here. Elkhorn is quite a nice town. It has no slums, and it has many trees. There is only one thing wrong with it: the highways which pass through the town and cross each other in its commercial area. Once those highways were an advantage to the town; today they are a dangerous nuisance. Plans under way for rebuilding of these roads provide an opportunity to remove them to the outskirts of the town. Secondary roads could be provided to make these highways still convenient for the people of Elkhorn.
>
> This secondary road connecting with the highway should be so placed as to connect all other residential streets and to make all streets within the town closed-end streets. This could be easily achieved by taking out some of the residential streets and closing the rest of them. There would be no more through traffic, and yet each house in the town could be reached by car.

[2]Ibid.

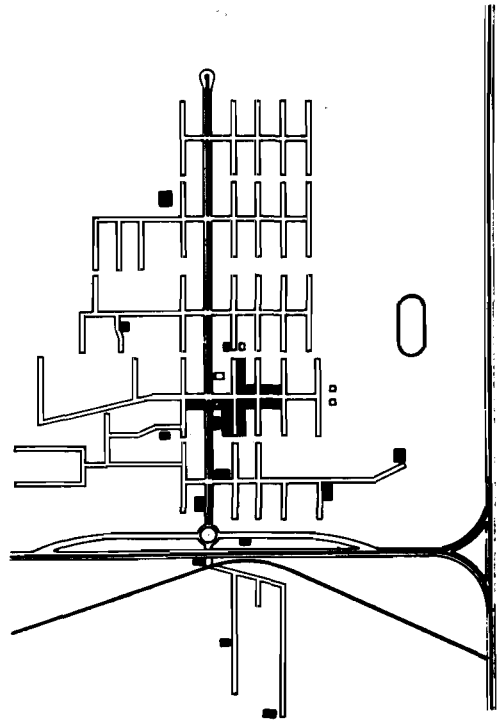
[3]L. Hilberseimer, The Nature of Cities: Origin, Growth, and Decline-Pattern and Form-Planning Problems, Paul Theobald and Company, Chicago, 1955, pp. 230, 232, and 233.

Figure 2

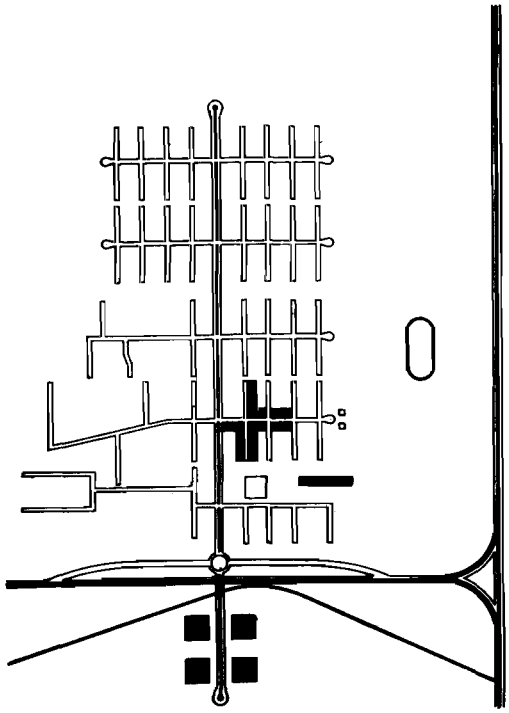
1955 MODEL PLAN FOR THE CITY OF ELKHORN



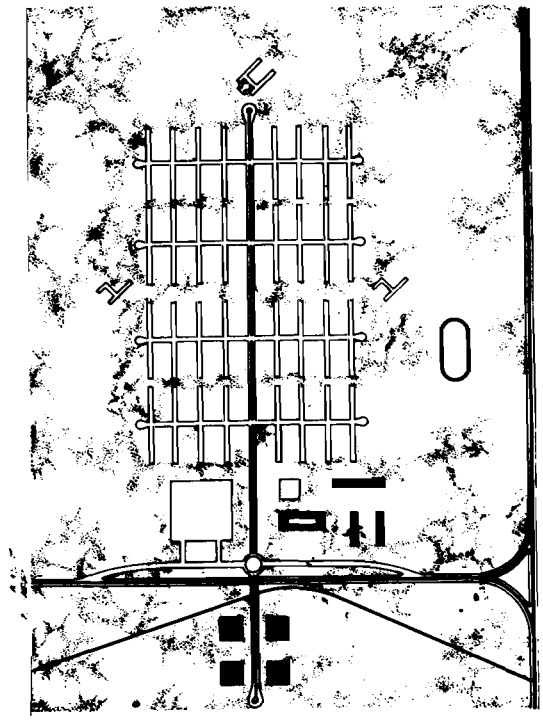
STAGE 1



STAGE 2



STAGE 3



STAGE 4

Source: L. Hilberseimer, The Nature of Cities: Origin, Growth, and Decline-Pattern and Form-Planning Problems, Paul Theobald and Company, Chicago, 1955, p. 233.

The industries, now dispersed within the town, could be grouped and placed across the railroad tracks where they belong according to their function.

The small outmoded commercial area needs renovation. Perhaps all these small business establishments could be placed in a single building, similar to a shopping center. Such unification would combine the advantages of the big store and the small store. Shoppers would find everything under one roof but the small shopkeeper could still have his own business and could have his independence by cooperation. Our plan shows such a building and some other commercial and public buildings between the town and the highway. A parking space for shoppers from out of town might be provided. Such a parking area placed close to the commercial area would relieve the town of all except local traffic, and even local traffic would be reduced to a minimum because every part of the town would be within walking distance of every other part. The town would be surrounded by a park in which schools would be placed. If the community needed to expand it could do so toward the east. All these changes could be brought about gradually. Each step taken would be an improvement in itself and each step would bring a better future nearer. All that is needed is a clear concept of what the town might become, and a firm community will to make that concept reality.

Although this early model plan was an academic exercise, two of its proposals have been incorporated into the existing 1980 urban framework of the Elkhorn area. STH 15 has been relocated in a manner similar to the scheme shown in Figure 2, and the new Elkhorn industrial park has been located south of the Chicago, Milwaukee, St. Paul & Pacific Railroad right-of-way. Renovation of the Elkhorn central business district has not, however, been realized by the community.

Platting History

Historic subdivision plats recorded for the City of Elkhorn study area in the years 1920 through 1980 are listed in Table 1. Since 1950, 398 lots have been platted within the City, which represent about 31 percent of the total number of lots platted in the study area since 1920. Since 1920, the number of lots per gross acre has averaged 2.2, including street rights-of-way. The net lot size has averaged approximately 18,367 square feet.

POPULATION

Population Forecasting

Information on the size, characteristics, and distribution of the resident population of the City and surrounding area, and on anticipated changes in these demographic factors over time, is essential to sound local planning since, in the final analysis, the purpose of any local planning program is to benefit the resident population of the community by maintaining and enhancing living and working conditions in the area. Moreover, certain of the land use requirements and needs which a land use plan seeks to meet are directly related to the existing and probable future resident population levels of the planning area.

Table 1

HISTORIC RESIDENTIAL LAND SUBDIVISION IN THE CITY OF ELKHORN STUDY AREA: 1920-1980

Subdivision Name	Year Recorded	U. S. Public Land Survey Location				Number of Lots	Gross Acres	Net Acres	Average Lot Size (square feet)	Lots		
		Township	Range	Section	Quarter Section					Developed	Undeveloped	Per Net Acre
Lake Lawn Subdivision[a]	1921	T2N	R16E	15	SE	8	13.08	3.45	24,000	8	0	2.32
Elkhorn Gardens	1922	T2N	R16E	1	NW	86	6.13	5.28	2,420	56	30	16.29
Fair View Addition	1922	T3N	R16E	36	SE	9	2.86	2.86	13,400	9	0	3.15
Inlet Oaks Annex[b]	1924	T2N	R16E	15	SE	43	11.50	10.10	10,250	18	8	4.26
Inlet Oaks Subdivision No. 3[c]	1925	T2N	R16E	15	SE	158	28.83	25.07	7,000	43	15	6.30
Olsen Addition	1926	T3N	R16E	36	SE	14	2.75	1.95	6,250	11	3	7.18
Inlet Oaks Subdivision No. 4	1927	T2N	R16E	15	SE	204	41.20	32.09	7,000	168	36	6.36
Holton Heights	1929	T3N	R16E	36	NE	8	1.77	1.77	8,910	8	0	4.52
Demes Subdivision	1946	T3N	R16E	36	SW	17	6.15	5.19	12,000	16	1	3.28
Ted's Addition to the City of Elkhorn	1946	T3N	R16E	36	SE	12	3.38	2.71	13,720	12	0	4.43
Mann Brothers Addition	1950	T3N	R16E	36	SE	17	6.60	5.77	13,720	14	3	2.95
Elkwood	1952	T2N	R16E	13	SE	34	37.25	32.08	39,910	27	7	1.06
Jones James Addition	1953	T2N	R16E	1	NE	32	10.04	7.56	10,560	32	0	4.23
Bartelson Subdivision	1955	T3N	R16E	36	SW	15	5.66	4.38	12,600	15	0	3.42
Oakland Subdivision	1956	T3N	R16E	36	SW	18	5.80	5.04	12,040	14	4	3.57
Edgewood Subdivision	1958	T3N	R16E	36	NE	17	5.66	3.89	9,900	16	1	4.37
Inlet Oaks Subdivision No. 5	1958	T2N	R16E	15	SE	49	25.71	20.63	18,000	3	46	2.38
Jones James Addition No. 2[d]	1958	T2N	R16E	1	NW	68	24.34	18.93	10,800	28	12	3.59
Landmark Subdivision	1958	T3N	R16E	36	SW	19	6.08	4.65	10,080	18	1	4.09
Tree Towns Subdivision	1958	T3N	R17E	31	NW	22	8.12	5.82	12,000	20	2	3.78
Edgewood Addition No. 1	1960	T3N	R16E	36	NE	26	10.11	7.66	11,220	24	2	3.39
Fairlane Subdivision	1962	T3N	R17E	31	NW	14	5.28	3.76	10,460	14	0	3.72
Green Acres Subdivision	1962	T2N	R17E	8	NW	58	38.35	31.47	22,050	46	12	1.84
Twin Heights Estates Subdivision	1962	T3N	R16E	23	SW	15	8.28	6.75	18,700	5	10	2.22
Harmony Acres Subdivision	1965	T2N	R17E	6	NW	12	4.86	4.19	14,250	10	2	2.86
Edgewood Addition No. 2	1967	T3N	R16E	36	NE	10	3.28	2.63	11,050	9	1	3.80
Bartelsons Addition No. 1	1968	T3N	R16E	36	SW	10	4.76	3.64	16,000	7	3	2.74
Rolling Green Subdivision	1968	T3N	R16E	34	SE	8	9.40	8.00	43,500	6	2	1.00
Oakwood	1969	T2N	R17E	8	NW	20	21.05	16.72	33,170	10	10	1.20
Harmony Acres Subdivision, 1st Addition	1970	T2N	R17E	6	NW	17	8.67	6.86	11,420	17	0	2.48
Edgewood 3rd Addition	1971	T3N	R16E	36	NE	13	3.18	3.18	10,480	12	1	4.09
Landmark Subdivision, Addition No. 1	1971	T3N	R16E	36	SW	23	21.50	15.95	10,800	21	2	1.44
Fairlane Addition No. 2	1973	T3N	R17E	31	NW	24	11.08	8.66	15,200	15	9	2.77
Pinehurst	1973	T3N	R16E	23	SW and SE	8	16.66	14.41	65,600	6	2	1.56
Evergreen Estates[e]	1974	T3N	R17E	19	NE and NW	138	120.25	96.52	22,380	23	69	1.43
Rolling Green Subdivision, Addition No. 1	1975	T3N	R16E	34	SE	8	15.09	12.70	61,200	3	5	0.63
Royal Oaks	1975	T2N	R16E	34	SE	11	15.85	13.51	43,840	6	5	0.81
Cleverdon Subdivision	1976	T3N	R16E	36	NE	1	0.64	0.64	27,950	1	1	1.56
Edgewood Estates	1978	T3N	R16E	36	NE	6	1.75	1.75	12,510	2	4	3.43
Total	--	--	--	--	--	1,272	572.95	458.22	18,367	773	309	2.77

[a] Only 5 percent of the subdivision is located within the study area.

[b] Only 60 percent of the subdivision is located within the study area.

[c] Only 55 percent of the subdivision is located within the study area.

[d] Only 60 percent of the subdivision is located within the study area.

[e] Only 63 percent of the subdivision is located within the study area.

Source: SEWRPC.

The preparation of population forecasts for a small community, such as the City of Elkhorn, located in a dynamic region is a particularly difficult task, fraught with uncertainties and subject to periodic revision as new information becomes available. The population forecasts presented in this report were developed from regional and county forecasts prepared by the Commission using a combination of demographic and economic activity projection techniques. Consequently, two alternative future scenarios were developed for southeastern Wisconsin--a moderate growth scenario and a stable or declining growth scenario.

Two important considerations involved in the preparation of the forecasts and of the alternative future scenarios on which the forecasts were based are the forecast target date and the forecast accuracy requirements. Both the land use pattern and the supporting transportation and utility systems must be planned for the demand anticipated at some point in time. The design year is usually established by the expected life of the first facilities to be constructed in implementation of the plan. This also permits forecasts to be more readily tempered by predictable changes in technology. Although it may be argued that the design year for land use development should be extended farther into the future than that for supporting transportation and utility facilities because of the basic irreversibility of many land development decisions, practical considerations dictate that the land use planning design year be scaled to the facilities. Twenty years is normally required for land use planning purposes; thus, for the land use plan for the City of Elkhorn and environs, the year of 2000 was selected as the plan design year.

Each of the alternative future scenarios used as a basis for the preparation of the forecasts to this design year was intended to represent a reasonable combination of the possible range in factors which, while operating external to the Region, may be expected to influence development in the Region. Thus, the alternative futures considered are intended to present a range of future conditions in the Southeastern Wisconsin Region and in the Elkhorn area which could occur over the next 20 years. The alternative scenarios for these external factors, as defined in Table 2, may be expected to lead to quite different population and economic activity levels and land use development patterns within the Region. The development of the alternative futures involved first the development of alternative future scenarios of the external factors influencing development in the Region. This was followed by the postulation of the amount of growth and decline in regional population and employment which may be expected to be attendant to each of the two scenarios. Finally, alternative centralized and decentralized population forecasts were developed for each scenario.

Key External Factors: The key external factors influencing the future development of the Region and study area were identified as energy, population life styles, and economic conditions. Factors attendant to energy were assumed to include: 1) the future cost and availability of energy, particularly of petroleum and petroleum-based fuels; and 2) the degree to which energy conservation measures are implemented, particularly with respect to automobile travel. These energy-related factors may be expected to affect travel costs and future levels of tripmaking in the Region and study area, thereby influencing the future level and distribution of employment and population in the Region and in the study area, as well as the future number and lengths of trips generated by that population and employment.

Table 2

ALTERNATIVE FUTURE SCENARIOS

Key External Factor	Moderate Growth Scenario	Stable or Declining Growth Scenario
Energy		
The future cost and availability of energy, particularly of petroleum	Oil price to converge to world oil price which will increase at 5 percent annual rate to $72 per barrel in year 2000 (1979 dollars)	Oil price to converge to world price which will increase at 2 percent annual rate to $39 per barrel in year 2000 (1979 dollars)
	Petroleum-based motor fuel to increase to $2.30 per gallon by year 2000 (1979 dollars)	Petroleum-based motor fuel to increase to $1.50 per gallon by year 2000 (1979 dollars)
	Assumes some potential for major and continuing disruptions in oil supply	Assumes no major or continued disruptions in oil supply
The degree to which energy conservation measures are implemented, particularly with respect to the automobile	Low degree of conservation in all sectors resulting in an increase in energy use of 3 percent	High degree of conservation in all sectors resulting in an increase in energy use of 2 percent or less
	Automobile fuel efficiency of 27.5 miles per gallon	Automobile fuel efficiency of 32 miles per gallon
Population Lifestyles		
The degree to which the changing role of women affects the composition of the labor force	Female labor force increases to 51 percent and total labor force participation is 62 percent	Female labor force increases to 70 percent and total labor force participation is 72 percent
The future change in fertility rates	A continuation of below replacement fertility rates during the next decade, followed by an increase to replacement level by the year 2000	A continuation of below replacement fertility rates to the year 2000
The future change in household sizes	Average household size stabilizes	Average household size continues to decline
Economic Conditions		
The future change of real income	Continued increase envisioned as a result of increased proportion of population in work force ages, increased population labor force participation, and increased worker productivity	Continued increase envisioned as a result of increased proportion of population in work force ages, and increased population labor force participation
The degree to which the Region will be able to compete for the preservation and expansion of its economic base in relation to other parts of the nation	Relatively high attractiveness and competitiveness of the Region	Relatively low attractiveness and competitiveness of the Region

Source: SEWRPC.

Factors attendant to population lifestyles were assumed to include: 1) the degree to which the changing role of women in society will affect the composition of the labor force; 2) future changes in fertility rates; and 3) future changes in household size. These factors may be expected to affect land use needs in the study area by influencing future levels of population, employment, and households, which together are important determinants of the level of certain land use demands. Future fertility rates will be a significant factor determining the future level of population in the Region and the study area. Future household size will be an important determinant of the future number of households. Future household size and labor force participation will be an important determinant of the future level of income available to the area population, and thereby of the demand for goods and services.

Factors attendant to economic conditions were assumed to include: 1) future changes in real income as influenced by productivity through changes in capital investment, governmental regulation, research, and development; and 2) the degree to which the Region and study area will be able to compete for the preservation and expansion of their economic base in relation to other parts of the nation. Through their effect on area employment, these factors will affect resident population levels in the study area and, in time, total demand for land use in the area. Future levels of income will have an additional effect on land use in the area, as they may be expected to have an impact on future levels of property ownership and to influence choice in housing.

Moderate Growth Scenario: The moderate growth scenario was developed to represent the most optimistic conditions for future primary transit system development. The moderate growth scenario assumes a severe energy situation, and, as its name implies, moderate growth in regional employment and population. Under this scenario, energy conservation is marked by only limited success, and alternative fuel sources are only moderately successful in reducing the demand for petroleum-based fuels. Consequently, there is a continued high degree of dependency upon petroleum as a source of energy accompanied by continued high levels of petroleum imports. The use of energy in the nation is assumed to continue to increase at a rate of 3 percent per year to the year 2000, and average automobile fuel efficiency is assumed to reach 27.5 miles per gallon.

With respect to population lifestyles, a modest return to more traditional family patterns is assumed under this future. This is largely as a result of the assumption under this future that the "baby boom" population, following a period of postponement of marriage and childbearing, will enter family formation and adopt more traditional family lifestyle patterns. However, some increase in the participation of women in the labor force is seen--from its level in 1970 of about 43 percent to a level of about 51 percent in the year 2000. The continued increase in the labor force participation of women is projected to keep the level of childbearing somewhat below that which would be attained under a full return to a more traditional family lifestyle. The period of postponement of family formation by the "baby boom" cohort is envisioned as contributing to this reduction in childbearing. As a result, a continuation of below-replacement-level fertility is assumed under this future during the next decade, followed by an increase to about replacement level by the year 2000. The moderate growth scenario assumes a strong and expanding regional and national economy. Lower rates of interest and price inflation are seen, promoting capital investment and a reversal in trends of recent years in worker productivity. Increases in worker real income are projected, and such increases

are assumed to improve conditions for full utilization of industrial capacity. Increases in real income are anticipated under this scenario, as greater proportions of the population which will be in the work force age groups, and, as already mentioned, there will be an increase in the participation of women in the labor force. And importantly, the Region is assumed to be able to compete with other areas in the nation for the maintenance and expansion of its economic base.

The Stable or Declining Growth Scenario: The stable or declining growth scenario represents the combination of levels of motor fuel availability and price and population and economic activity that would be least oriented to transit use in the future. The stable or declining growth scenario envisions a moderate increase in petroleum prices, no major disruptions in the supply of petroleum, and a high degree of conservation in all sectors of the economy. Under this scenario, efforts to conserve energy are successful, and there is a substantial substitution of coal, synthetic fuels, and other fuel sources for petroleum fuels. The use of coal and electricity generated through coal and nuclear power plants is assumed to double by the year 2000. Continued reliance on oil imports, but at a reduced level, is anticipated under this future, and average automobile fuel efficiency is projected to reach 32 miles per gallon in the year 2000.

The continuation of recent trends in nontraditional family pattern lifestyles is also assumed under this future. Importantly, the role of women is anticipated to continue to change, with female labor force participation reaching 70 percent in the year 2000, nearly that anticipated for males in the future. Therefore, the total labor force participation rate in the Region would be about 72 percent in the year 2000 under this scenario. This continued shift toward nontraditional roles in the labor force for women is anticipated to be accompanied by a continuation of below-replacement-level fertility rates during the next two decades. The continuation of lower fertility rates and of recent trends toward smaller, nontraditional households of only one person, married couples with no children, and single-parent households is assumed to result in continuing declines in average household size in the Region. As a consequence, the demand for high-density housing in the Region is anticipated to increase under this future.

This scenario envisions a lack of growth in regional employment. The study area and the Region are assumed to be unable to compete effectively with other parts of the nation for economic preservation and expansion. National economic growth is also assumed to be limited under this future. The small increase in population envisioned as a result of the continuing trend toward nontraditional family pattern lifestyles is anticipated to result in only a small increase in demand for goods and services. Because greater proportions of the population will be of work force age under this scenario, and because the labor force participation rate for women is assumed to increase, somewhat higher levels of income are assumed to be available to the population. The assumed continued increases in energy price are seen as influencing continued high rates of interest and inflation and, thereby, limiting productivity and real income gains of workers and resulting in lower population levels and national and regional employment levels. However, real income gains will be limited by the continued increases in energy price.

LAND USE DEVELOPMENT PATTERNS ATTENDANT TO ALTERNATIVE FUTURE SCENARIOS

Within each of the two scenarios presented, two alternative population forecasts were made: a centralized alternative population forecast and a decentralized alternative population forecast. The centralized alternative population forecast under the moderate growth scenario is the basis upon which the currently adopted regional land use plan is based. In order to set these alternative population forecasts in perspective for the study area, the historic population levels of the Region, the County, and the City of Elkhorn are presented in Table 3. This table indicates that there has been a slow but steady increase in population in the City of Elkhorn since 1950.

Forecast Population Size

As shown in Table 4, under the centralized land use plan-moderate growth scenario, the Region's resident population may be expected to increase from a 1980 level of 1,764,919 persons to 2,219,300 by the year 2000--an increase of about 454,380 persons, or approximately 26 percent, over the 20-year period. The population increase anticipated under this scenario will be almost exclusively a function of natural increase. The lack of any significant contribution to regional population change by net migration represents a continuation of the Region's net migration history of the 1960's, and is consistent with the assumption under the moderate growth scenario that the Region will remain reasonably attractive and competitive with other regions of the nation and will, therefore, not be subject to significant population out-migration.

Under the centralized land use plan-moderate growth scenario, Walworth County's population would increase from 71,507 in 1980 to about 99,600 in the year 2000--an increase of about 28,093 persons, or about 39 percent, over the 20-year period. At the same time, the City of Elkhorn study area's population would increase from 6,610 in 1980 to about 10,690 in the year 2000, representing an increase of about 4,080 persons, or about 61.7 percent over the 20-year period. The population of the City of Elkhorn within the City of Elkhorn sanitary sewer service area would increase from 4,605 in 1980 to about 8,100 in the year 2000 under the centralized land use plan-moderate growth scenario, an increase of about 3,495 persons, or about 76 percent, over the 20-year period.

As also shown in Table 4, under the centralized land use plan-stable or declining growth scenario, the Region's resident population may be expected to decrease from a 1980 level of 1,764,919 persons to 1,690,000 persons by the year 2000--a decrease of about 74,900 persons, or of approximately 4 percent, over the 20-year period. At the same time, the population of Walworth County would decrease from 71,507 in 1980 to about 70,000 in the year 2000--a decrease of about 1,510 persons, or about 2 percent, over the 20-year period. The City of Elkhorn study area population would increase from 6,610 in 1980 to about 6,940 in the year 2000 under the centralized land use plan-stable or declining growth scenario, representing an increase of 330 persons, or about 5 percent. The population of the City of Elkhorn sanitary sewer service area would increase from 4,605 in 1980 to about 5,950 in the year 2000 under the centralized land use plan-stable or declining growth scenario, representing an increase of about 1,350 persons, or about 29 percent.

Table 3

HISTORIC POPULATION LEVELS FOR THE CITY OF ELKHORN, WALWORTH COUNTY, THE REGION, AND WISCONSIN: 1850-1980

Year	City of Elkhorn		Walworth County	
	Population Level	Percent Change from Previous Period	Population Level	Percent Change from Previous Period
1850	42[a]	--	17,862	--
1860	1,081[a]	2,473.8	24,947	39.6
1870	1,205[a]	11.5	25,972	4.1
1880	1,122[b]	-6.9	26,249	1.1
1890	1,447	29.0	27,860	6.1
1900	1,731[c]	19.6	29,259	5.0
1910	1,707	-1.4	29,614	1.2
1920	1,991	16.6	29,327	-1.0
1930	2,340	17.5	31,058	5.9
1940	2,382	1.8	33,103	6.6
1950	2,935	23.2	41,584	25.6
1960	3,586	22.2	52,368	25.9
1970	3,992	11.3	63,444	21.2
1980	4,605	15.4	71,507	12.7

Year	Region		Wisconsin	
	Population Level	Percent Change from Previous Period	Population Level	Percent Change from Previous Period
1850	113,389	--	305,391	--
1860	190,409	67.9	775,881	154.1
1870	223,546	17.4	1,054,670	35.9
1880	277,119	24.0	1,315,497	24.4
1890	386,774	39.6	1,693,330	28.7
1900	501,808	29.7	2,069,042	22.2
1910	631,161	25.8	2,333,860	12.8
1920	783,681	24.2	2,632,067	12.8
1930	1,006,118	28.4	2,939,006	11.7
1940	1,067,699	6.1	3,137,587	6.8
1950	1,240,618	16.2	3,434,575	9.5
1960	1,573,620	26.8	3,952,771	15.1
1970	1,756,086	11.6	4,417,933	11.8
1980	1,764,919	0.5	4,705,335	6.5

[a]Town of Elkhorn.

[b]The Town of Elkhorn was incorporated as the Village of Elkhorn subsequent to 1870.

[c]The Village of Elkhorn was incorporated as the City of Elkhorn subsequent to 1890.

Source: U. S. Bureau of the Census and SEWRPC.

Table 4

COMPARISON OF HISTORIC AND FORECAST POPULATION LEVELS FOR THE CITY OF ELKHORN, THE CITY OF ELKHORN STUDY AREA, WALWORTH COUNTY, AND THE REGION: 1960-2000

Year	Type of Data	City of Elkhorn			City of Elkhorn Study Area		
		Population	Percent Change	Percent of Walworth County	Population	Percent Change	Percent of Walwoth County
1960	Actual	3,586	22.2	6.8	--	--	--
1970	Actual	3,992	11.3	6.3	6,471	--	10.2
1980	Actual	4,605	15.3	6.4	6,610[a]	2.1	9.2
2000	Forecast A[b]	8,100	75.9	8.1	10,690	61.7	10.7
	Forecast B[c]	8,970	94.8	8.4	10,470	--	9.8
	Forecast C[d]	5,950	29.2	8.5	6,940	5.0	9.9
	Forecast D[e]	5,800	26.0	7.3	6,740	--	8.4

Year	Type of Data	Walworth County			Region	
		Population	Percent Change	Percent of Region	Population	Percent Change
1960	Actual	52,368	25.9	3.3	1,573,620	26.8
1970	Actual	63,444	21.2	3.6	1,756,083	11.6
1980	Actual	71,507	12.7	4.1	1,764,919	0.5
2000	Forecast A[b]	99,600	39.3	4.5	2,219,300	25.7
	Forecast B[c]	106,600	49.0	4.8	2,219,300	25.7
	Forecast C[d]	70,000	-2.1	4.1	1,690,000	-4.2
	Forecast D[e]	80,000	11.9	4.7	1,690,000	-4.2

[a]SEWRPC estimate, based upon 1980 land use inventory dwelling unit counts, estimated family size, and U. S. Bureau of the Census figures.

[b]The adopted regional land use plan forecast -- centralized land use plan - moderate growth scenario.

[c]Based upon the decentralized land use plan-moderate growth scenario.

[d]Based upon the centralized land use plan-stable or declining growth scenario.

[e]Based upon the decentralized land use plan-stable or declining growth scenario.

Source: SEWRPC.

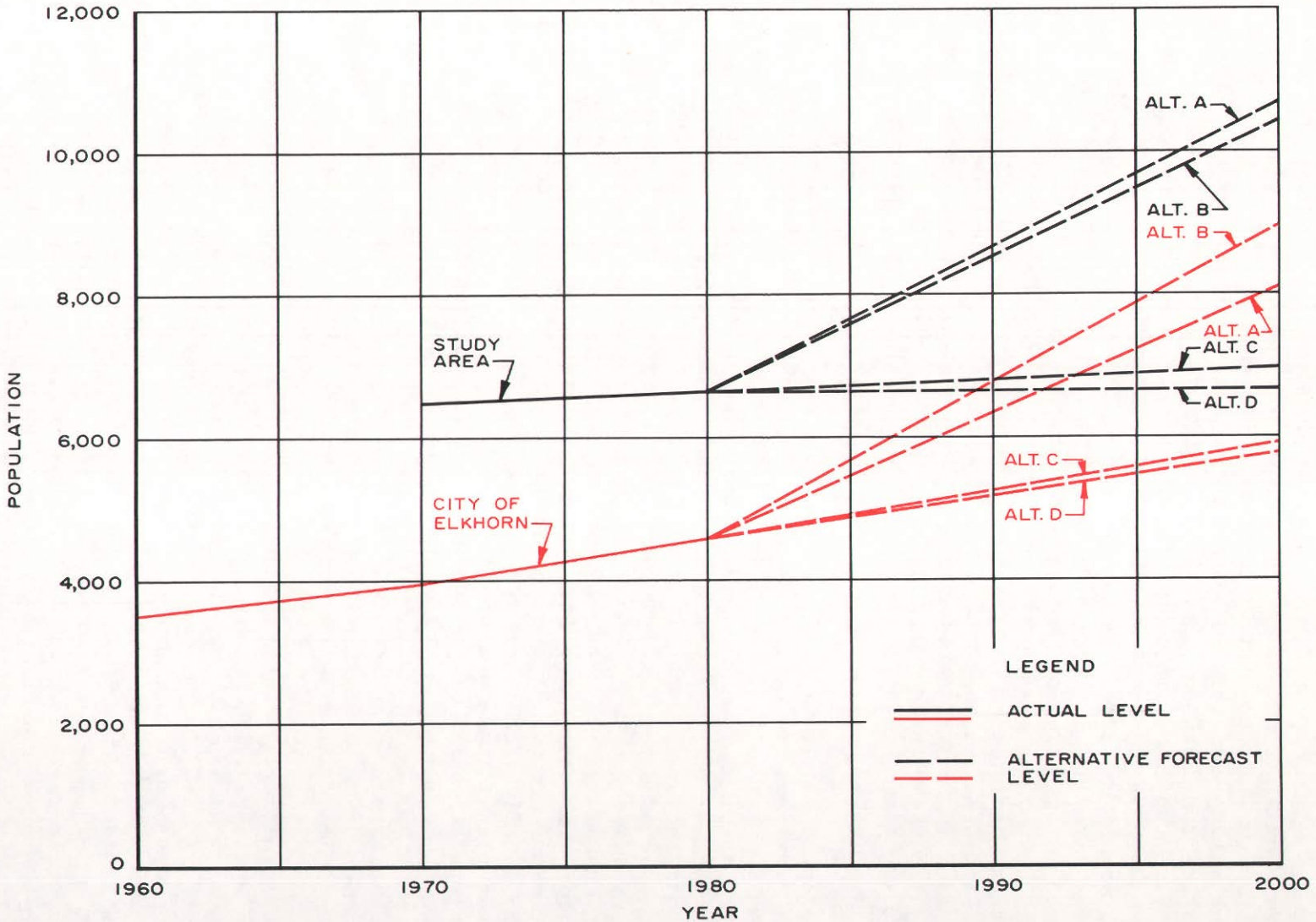
The spatial distribution of population within a planning area such as southeastern Wisconsin can be influenced--but not completely controlled--through the planning process. The land use plans developed as part of the alternative futures process can recommend that shifts in the spatial distribution of the forecast year population be made in the public interest, such recommendations taking the form of both stated land use development objectives and a recommended land use plan. In this regard, both centralized and decentralized land use plan population forecasts have been developed for each of the two alternative future scenarios, as shown in Table 4. Since the overall trend of population distribution in the Region for at least the last four decades has been one of increasing decentralization of the population, a more centralized distribution of the Region's resident population under a moderate population growth scenario will require that these long-standing trends in population redistribution be modified and that the redistribution be guided by sound land use development objectives. Accordingly, further decentralization of population is not reflected in the adopted regional land use plan. Assuming regional land use plan implementation therefore precludes use of the decentralized land use plan population forecasts shown in Table 4 as a basis for local land use planning.

In the adopted regional land use plan, all new urban development within the Region is encouraged to occur within areas which are now, or which readily can be, served by public sanitary sewer and water supply facilities. Residential development in rural areas is not expected to be served by such facilities and, therefore, should not be encouraged to occur in such areas. If such development is to occur in rural areas, it should be permitted only at net densities of five acres or more per dwelling unit. Since the population forecasts for the study area under the centralized land use plan-moderate growth scenario--the regional land use plan forecasts--are somewhat higher than the population forecasts under the other three land use plan-scenarios presented, this forecast represents the maximum population growth which may be reasonably expected for the Elkhorn study area. Therefore, a prudent approach to the preparation of a land use plan for the Elkhorn area would utilize the adopted regional land use plan population forecasts--the forecasts for the centralized land use plan-moderate growth scenario. Such an approach would take into account the maximum growth that could be expected over the next 20 years. Should actual growth be somewhat less than this maximum, the design year of the plan can simply be moved back without significantly affecting the plan. Figure 3 shows the actual and alternative forecast populations for the City of Elkhorn study area.

The actual and forecast population distribution by age group for the City of Elkhorn, the City of Elkhorn study area excluding the City, and the total study area, based upon regional land use plan forecasts, is shown in Table 5 for the years 1970 to 2000. The table indicates distinctly different population growth rates for the various age groups. The school-age population for the total study area is expected to increase by 387 persons over the 1970 figure of 1,646 persons, an increase of about 24 percent over the 30-year period. The population of those persons 65 years of age and older in the City of Elkhorn may be expected to increase from the 1970 figure of 525 persons to 1,288 persons in the year 2000, representing an increase of about 145 percent over the 30-year period. These figures suggest that, in terms of community services and facilities, the City of Elkhorn study area will have to continue to meet the needs of a relatively slowly increasing school-age population while also meeting the needs of a rapidly increasing elderly population.

Figure 3

ACTUAL AND ALTERNATIVE FORECAST POPULATION LEVELS FOR THE CITY OF ELKHORN STUDY AREA: 1960-2000



Alternative A is based on the adopted regional land use plan forecast--the centralized land use plan-moderate growth scenario.
Alternative B is based on the decentralized land use plan-moderate growth scenario.
Alternative C is based on the centralized land use plan-stable/declining growth scenario.
Alternative D is based on the decentralized land use plan-stable/declining growth scenario.

Source: SEWRPC.

Table 5

ACTUAL, ESTIMATED, AND FORECAST POPULATION DISTRIBUTION BY AGE GROUP IN THE CITY OF ELKHORN STUDY AREA: 1970-2000

Age Group	1970 Census Population				1980 SEWRPC Estimate			
	City	Area Excluding City	Total Study Area	Percent of Total	City[a]	Area Excluding City	Total Study Area	Percent of Total
Under 5	299	186	485	7.5	341	148	489	7.4
5	73	45	118	1.8	92	40	132	2.0
6-9	322	201	523	8.1	336	146	482	7.3
10	103	64	167	2.6	115	50	165	2.5
11	73	45	118	1.8	78	34	112	1.7
12-13	162	99	261	4.0	161	70	231	3.5
14	66	40	106	1.6	78	34	112	1.7
15-17	215	134	349	5.4	235	102	337	5.1
18	75	47	122	1.9	74	32	106	1.6
19-64	2,079	1,291	3,370	52.1	2,446	1,064	3,510	53.1
65 and Older	525	327	852	13.2	649	285	934	14.1
Total	3,992	2,479	6,471	100.0	4,605	2,005	6,610	100.0

Age Group	Forecast Population							
	1990				2000			
	City	Area Excluding City	Total Study Area	Percent of Total	City	Area Excluding City	Total Study Area	Percent of Total
Under 5	466	165	631	7.3	583	186	769	7.2
5	134	48	182	2.1	178	57	235	2.2
6-9	415	147	562	6.5	462	148	610	5.7
10	153	55	208	2.4	186	60	246	2.3
11	102	36	138	1.6	122	39	161	1.5
12-13	191	69	260	3.0	203	65	268	2.5
14	108	39	147	1.7	138	44	182	1.7
15-17	306	109	415	4.8	356	114	470	4.4
18	83	29	112	1.3	73	23	96	0.9
19-64	3,465	1,232	4,697	54.3	4,511	1,442	5,953	55.7
65 and Older	957	341	1,298	15.0	1,288	412	1,700	15.9
Total	6,380	2,270	8,650	100.0	8,100	2,590	10,690	100.0

[a]Estimate based in part upon 1980 U. S. Bureau of the Census data.

Source: U. S. Bureau of the Census and SEWRPC.

Table 6 compares historic and forecast regional land use plan household sizes in Walworth County and the City of Elkhorn study area from 1960 to the year 2000. This table indicates that in 1970, the average household size in the City was 2.92 persons, compared with 3.23 in the study area and 3.16 in the County. The table indicates that the average household size in the study area and the County may be expected to decline. Changes in average household size have particularly important implications for housing and residential land use planning, since average household size is a basic factor used to convert population forecasts to the number of dwelling units needed over the planning period. Based upon the population and household size forecasts for the City of Elkhorn, an additional 1,250 housing units may be expected to be needed by the year 2000 to serve the housing needs of the forecast city population of 8,100 persons.

The housing and population characteristics for the City of Elkhorn, as summarized in Table 7, indicate a steady growth in housing units as well as in the population of the City over the period 1960 to 1980. The average number of persons per housing unit decreased from 2.92 persons in 1970 to 2.45 persons in 1980. This change is consistent with recent regional, state, and national trends of significant reductions in household size.

Table 8 provides a summary of the building permits issued in the City of Elkhorn from 1970 to 1980. The bulk of the building permits issued during this period were for multiple-family dwelling construction. The table shows 1971 as the peak year of building activity in the City of Elkhorn during the decade. An average of about 40 dwelling units were constructed each year.

ECONOMY

In 1970, median family income in the City of Elkhorn was $10,378, as indicated in Table 9. That is, 50 percent of the families in the City had a yearly family income of more than $10,378 and 50 percent of the families had an income of less than $10,378. According to federal guidelines, low- and moderate-income families are defined as families having an income less than 80 percent of the median family income of the area--with certain adjustments for family size. Based upon the data shown in Table 9, in 1970 there were 433 low-income families in the City, or approximately 40 percent of the total. These families had a yearly income of $8,874 or less. Very low-income families are defined as those with a yearly income of less than 50 percent of the median family income, or less than $5,189 for the City of Elkhorn in 1970. Based upon the information in Table 9, there were 158 very low-income families in the City of Elkhorn in 1970, or 15 percent of the total.

In 1970 approximately 1,797 persons, or 45 percent of the city population, were in the labor force. Only 3 percent of the total labor force was unemployed in 1970. Table 10 provides information on the employed population 14 years old and older by occupation and sex in the City of Elkhorn in 1970. According to Table 10 and U. S. Bureau of the Census definitions, white collar workers--including professional, technical, and kindred workers, managers and administrators (except farm), sales workers, and clerical and kindred workers--represented about 45 percent of the employed population. Blue collar workers--including craftsmen and kindred workers, operatives (except transport), transport equipment operatives, and laborers (except farm)--represented about 33 percent of the employed population. Service workers, including private household workers,

Table 6

COMPARISON OF HISTORIC AND FORECAST POPULATION PER OCCUPIED HOUSING UNIT IN WALWORTH COUNTY AND THE CITY OF ELKHORN STUDY AREA: 1960-2000

Year	Walworth County	City of Elkhorn Study Area[a]	City of Elkhorn
1960	3.28	3.22	3.01[b]
1970	3.16	3.23	2.92[b]
1980	3.13	3.19[c]	2.45[c]
1990	3.10	3.15	2.68[d]
2000	3.08	3.11	2.81[d]

[a]The figures used for the City of Elkhorn study area are derived from data for SEWRPC Planning Analysis Area 58.

[b]U. S. Bureau of Census figure.

[c]U. S. Bureau of the Census 1980 census data based upon the number of persons per total housing units, not the number per occupied housing units.

[d]Ratio of study area family size to Planning Analysis Area 58 family size.

Source: SEWRPC.

Table 7

POPULATION AND HOUSING CHARACTERISTICS OF THE CITY OF ELKHORN: 1960-1980

Characteristic	Year[a]			1970-1980	
	1960	1970	1980[b]	Change	Percent
Total Population.....	3,586	3,992	4,605[a]	613	15.4
Total Housing Units	1,217	1,423	1,873[b]	450	31.6
Persons per Occupied Housing Unit.....	3.01	2.92	2.45[c]	-0.48	-16.4
Owner-Occupied Housing Units..	828	945	N/A	N/A	N/A
Renter-Occupied Housing Units	362	420	N/A	N/A	N/A
Vacant Housing Units.....	27	58	N/A	N/A	N/A

NOTE: N/A indicates data not available during the study period.

[a]U. S. Bureau of the Census and SEWRPC data.

[b]U. S. Bureau of the Census 1980 data.

[c]Based upon the number of persons per total housing units, not the number per occupied housing units.

Source: U. S. Bureau of Census and SEWRPC.

Table 8

RESIDENTIAL BUILDING PERMITS ISSUED IN THE CITY OF ELKHORN: 1970-1980

Year	Type and Number of Dwelling Units Authorized by Building Permits			
	Single Family	Two Family	Multiple Family	Total
1970	13	8	8	29
1971	23	18	51	92
1972	5	--	26	31
1973	7	2	16	25
1974	19	2	8	29
1975	8	--	--	8
1976	14	--	54	68
1977	15	2	--	17
1978	15	--	69	84
1979	15	4	--	19
1980	--	2	4	6
Total	134	38	236	408

Source: City of Elkhorn.

Table 9

FAMILY INCOME IN THE CITY OF ELKHORN: 1970

Income	City of Elkhorn	
	Number of Families	Percent
Less than $ 1,000	7	0.65
$ 1,000 - $ 1,999	32	2.96
$ 2,000 - $ 2,999	21	1.94
$ 3,000 - $ 3,999	30	2.77
$ 4,000 - $ 4,999	63	5.82
$ 5,000 - $ 5,999	28	2.59
$ 6,000 - $ 6,999	73	6.75
$ 7,000 - $ 7,999	89	8.23
$ 8,000 - $ 8,999	103	9.52
$ 9,000 - $ 9,999	71	6.56
$10,000 - $11,999	127	11.74
$12,000 - $14,999	158	14.60
$15,000 - $24,999	189	17.47
$25,000 - $49,999	70	6.47
$50,000 or More	21	1.94
Total	1,082	100.00
Median	$10,378	

Source: U. S. Bureau of Census and SEWRPC.

represented about 16 percent of the employed population. Farm-related occupations and those not reporting represented the remaining 6 percent of the employed population.

Table 11 sets forth the forecast employment levels for the City of Elkhorn and study area to the year 2000. The 1972 figures in the table represent actual counts by the Wisconsin Department of Industry, Labor and Human Relations. The employment figures for the City of Elkhorn which appear in Table 11 are somewhat different than those in Table 10, which were obtained by the U. S. Bureau of Census. These differences may be attributed to the small sample size used by the Bureau of the Census to determine occupation. Overall employment for the City of Elkhorn is expected to increase by approximately 82 percent--from 2,975 to 5,426 jobs--and for the total study area by 80 percent--from 3,607 to 6,489 jobs--over the period 1972 to 2000. Occupation types are broken down into five categories, each of which can be directly related to various types of land use--retail; service; industry; government; and transportation, communication, and utilities. Each of these forecasts can be used later in the planning process to help allocate land to various land uses such as commercial, industrial, and governmental uses.

THE NATURAL RESOURCE BASE

Conservation and wise use of the natural resource base is vital to the physical, social, and economic development of any area and to the continued ability of the area to provide a pleasant and habitable environment for life. As a result of the relatively high rate of population growth forecast for the study area over the planning period, the natural resouce base of the area may be expected to be subject to substantial deterioration from improper land use development. Consequently, a sound land use plan for the area should identify areas having concentrations of natural resource values deserving of protection from intensive urban development, as well as areas having characteristics of the natural resource base that may impose severe limitations on urban development.

For the purposes of the planning program, the principal elements of the natural resource base were defined as 1) soil characteristics; 2) selected topographic and topographic-related features, including watershed and related subbasin boundaries, surface water, floodland areas, wetland areas, slopes, and scenic vistas; 3) woodland areas; 4) wildlife habitat areas; and 5) other natural resource base-related elements. Without a proper understanding and recognition of these elements and of the interrelationships that exist between them, human use and alteration of the natural environment proceeds at the risk of excessive costs in terms of both monetary expenditures and environmental degradation. The natural resource base is highly subject to grave misuse through improper land use and transportation facility development. Such misuse may lead to severe environmental problems which are difficult and costly to correct, and to the deterioration and destruction of the natural resource base itself. Intelligent selection of the most desirable land use plan from among the alternatives available must, therefore, be based in part upon a careful assessment of the effects of each plan upon the supporting natural resource base.

Table 10

EMPLOYED POPULATION 14 YEARS AND OLDER BY OCCUPATION AND SEX IN THE CITY OF ELKHORN: 1970

Occupation	Male		Female		Total	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Professional, Technical, and Kindred Workers	116	11.36	113	15.69	229	13.15
Managers and Administrators, (except farm)	137	13.42	32	4.44	169	9.71
Sales Workers	50	4.90	64	8.89	114	6.55
Clerical and Kindred Workers	51	5.00	216	30.00	267	15.34
Craftsmen, Foremen, and Kindred Workers	218	21.35	16	2.22	234	13.44
Operatives (except transportation)	119	11.66	118	16.39	237	13.61
Transport Equipment Operatives	35	3.43	--	--	35	2.01
Labor (except farm)	71	6.95	--	--	71	4.08
Farmers and Farm Managers	10	0.98	--	--	10	0.57
Farm Laborers and Foremen	4	0.39	--	--	4	0.23
Service Workers (except private household)	145	14.20	123	17.08	268	15.39
Private Household Workers	--	--	14	1.94	14	0.80
Occupation not Reported	65	6.37	24	3.33	89	5.11
Total	1,021	100.00	720	100.00	1,741	100.00

Source: U. S. Bureau of the Census and SEWRPC.

Table 11

ESTIMATED 1972 AND FORECAST 1990 AND 2000 EMPLOYMENT BY OCCUPATION TYPE IN THE CITY OF ELKHORN AND THE CITY OF ELKHORN STUDY AREA

Area and Year	Occupation Type					Total
	Retail	Service	Industry	Government	Transportation, Communication, and Utilities	
City of Elkhorn						
1972	259	645	1,357	631	83	2,975
1990	435	977	2,216	810	112	4,550
2000	533	1,162	2,693	910	128	5,426
Study Area Excluding City						
1972	37	17	94	406	78	632
1990	69	75	142	519	105	910
2000	86	107	169	581	120	1,063
Total City of Elkhorn Study Area						
1972	296	662	1,451	1,037	161	3,607
1990	504	1,052	2,358	1,329	217	5,460
2000	619	1,269	2,862	1,491	248	6,489

Source: Wisconsin Department of Industry, Labor and Human Relations; and SEWRPC.

Soils

Soil properties exert a strong influence on the manner in which man uses land. Soils are an irreplaceable resource, and mounting pressure upon land is making this resource more and more valuable. A need exists, therefore, in any planning effort to examine not only how land and soils are presently used but also how they can best be used and managed. This requires an areawide soil suitability study which maps the geographic locations of various kinds of soils; identifies their physical, chemical, and biological properties; and interprets these properties for land use and public facilities planning. The resulting comprehensive knowledge of the character and suitability of the soils is extremely valuable in every phase of the planning process. The soils information presented herein comprised a particularly important consideration in the preparation of the land use plan, being essential for the analysis of existing land use patterns, alternative plan synthesis and evaluation, and plan selection. The soil assessments are used in conjunction with the other data presented in developing and selecting a desirable spatial distribution pattern for residential, commercial, industrial, agricultural, and recreational land use development, and for various facility locations.

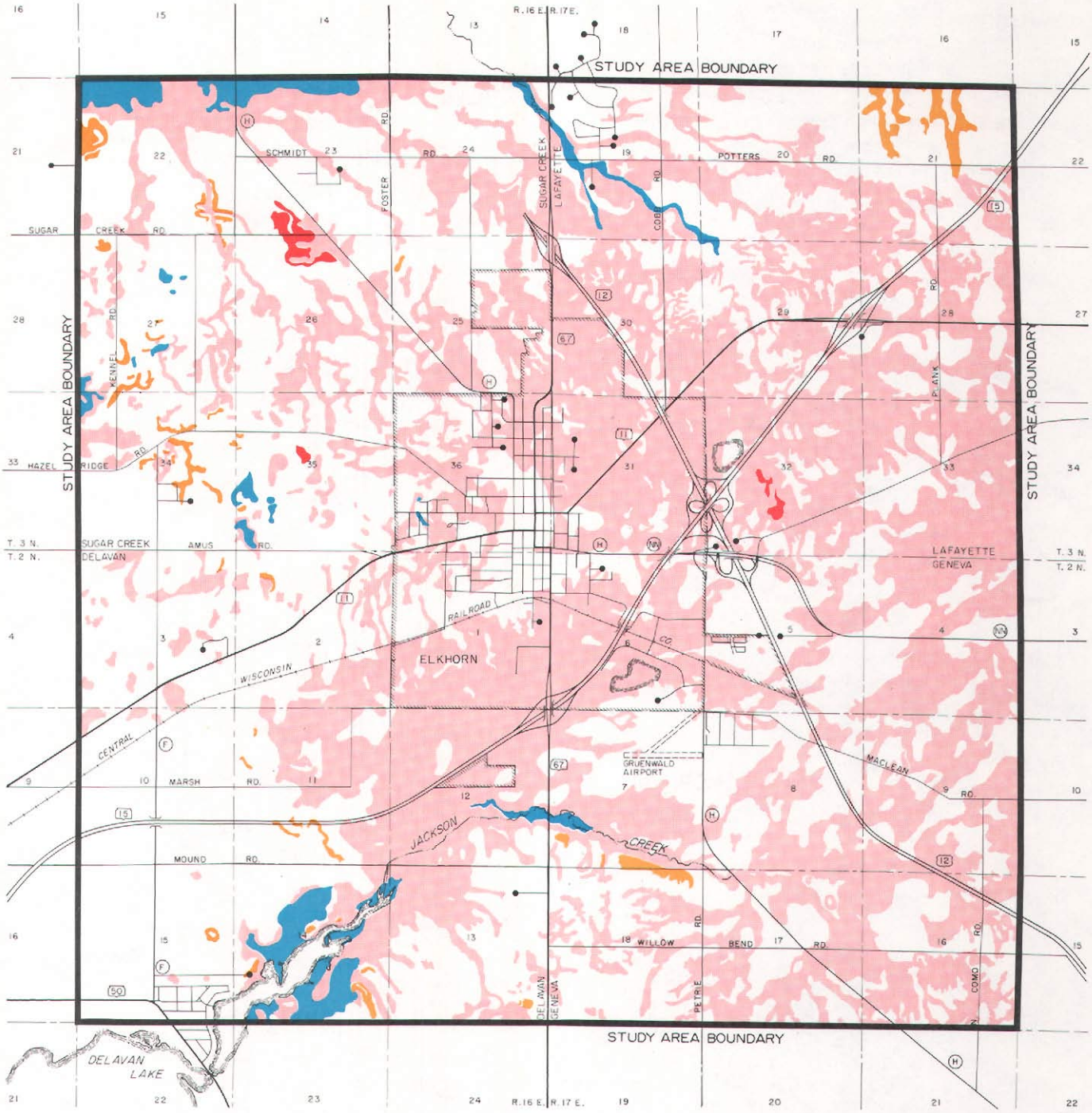
Map 5 shows the areas of the City of Elkhorn study area covered by soils having four selected characteristics: 1) a slow permeability rate; 2) a fluctuating or high water table or a tendency to be subject to ponding, overwash, or runoff hazard; 3) a tendency to be subject to flooding or overflow; and 4) slopes of 12 percent or greater.

Soils that have a slow permeability rate are found in the northern one-half of the Elkhorn study area. Soils that exhibit a fluctuating or high water table, or that are subject to ponding, are located primarily in the southwest and northeast portions of the study area. Soils subject to flooding or overflow are located along Jackson Creek and Sugar Creek, and around Delavan Lake, and in several other scattered areas of the northwest portion of the study area. Soils with slopes of 12 or more percent are located in scattered areas throughout the study area, but primarily in the extreme northeast corner and western edge of the study area.

As shown on Map 6, 11,345 acres, or about 49 percent of the study area, are covered by soils having severe or very severe limitations for residential development utilizing conventional onsite soil absorption sewage disposal systems (septic tanks) on lots one acre or more in size. Characteristically, these soils have slow permeability rates, a high or fluctuating water table, and a high shrink-swell ratio, and may be located on steep slopes and be subject to periodic flooding or surface ponding in low areas. All of these characteristics are detrimental to development for urban use and particularly for residential use utilizing septic tanks for sewage disposal. "Severe" limitations are indicative of soil problems which are difficult to overcome; resolution of these problems requires careful planning and above average design and management. "Very severe" soil limitations are defined as soils with problems which are very difficult to overcome; the costs of overcoming these problems are generally prohibitive, and major soil reclamation work is generally required. Soils with very severe limitations for urban use without sanitary sewer service are most abundant in the southwest one-quarter of the study area, and soils with severe limitations are scattered throughout the study area.

Map 5

SELECTED PHYSICAL CHARACTERISTICS OF SOILS IN THE CITY OF ELKHORN STUDY AREA



LEGEND

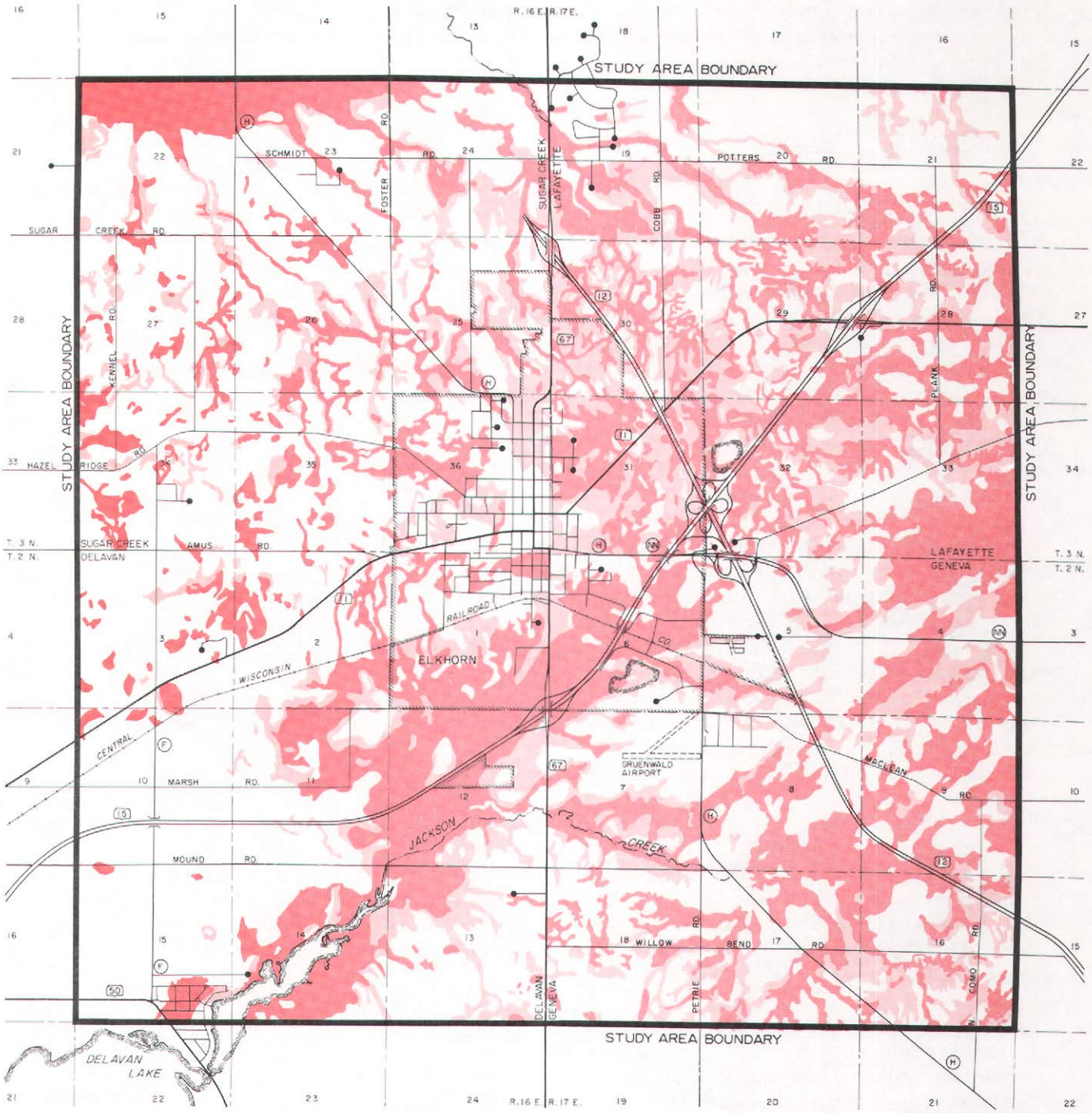
- SOILS THAT HAVE A SLOW PERMEABILITY RATE
- SOILS THAT HAVE A FLUCTUATING OR HIGH WATER TABLE OR ARE SUBJECT TO PONDING, OVERWASH, OR RUNOFF HAZARD
- SWAMPS, MARSHES, ORGANIC MATERIALS, OR SOILS THAT ARE SUBJECT TO FLOODING OR OVERFLOW
- SOILS HAVING A SLOPE OF 12% OR MORE
- OTHER SOILS

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

Map 6

SOIL LIMITATIONS FOR RESIDENTIAL LOTS ONE ACRE OR MORE IN SIZE NOT SERVED BY PUBLIC SEWER IN THE CITY OF ELKHORN STUDY AREA



LEGEND

- AREAS COVERED BY SOILS HAVING VERY SEVERE LIMITATIONS FOR RESIDENTIAL DEVELOPMENT WITH ONSITE SEWAGE DISPOSAL SYSTEMS ON LOTS LARGER THAN ONE ACRE
- AREAS COVERED BY SOILS HAVING SEVERE LIMITATIONS FOR RESIDENTIAL DEVELOPMENT WITH ONSITE SEWAGE DISPOSAL SYSTEMS ON LOTS LARGER THAN ONE ACRE
- OTHER SOILS

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

Map 7 shows the areas covered by soils poorly suited for residential development with public sanitary sewer service. About 7,325 acres, or about 32 percent of the total study area, are covered by soils which have severe and very severe limitations for such development. These soils are located primarily in the southwest quarter of the study area and in scattered locations throughout the balance of the study area.

Topographic Features

Watersheds, Subwatersheds, and Subbasins: As shown on Map 8, the study area is located within the Fox River and Rock River watersheds. The northern portion of the study area lies in the Fox River watershed. The southern portion of the study area lies in the Jackson Creek and the upper Turtle Creek subwatersheds of the Rock River watershed. As further shown on Map 8, the subwatersheds may be divided into individual drainage areas, termed subbasins. Subbasins in the Fox River watershed drain to Sugar Creek, which eventually drains into the Fox River. Subbasins within the Rock River watershed drain to Jackson Creek and to upper Turtle Creek.

Lakes and Streams: The lakes and streams in the study area are shown on Map 8. Lakes and streams constitute focal points for water-related recreational activities; provide an attractive setting for properly planned residential development; and, when viewed in the context of open space areas, greatly enhance the aesthetic quality of the environment. Lakes and streams are highly susceptible to deterioration through improper rural and urban land use development and management. Water quality can degenerate rapidly as a result of excessive nutrient loads from malfunctioning or improperly placed septic systems, inadequately sized and improperly operated sewerage facilities, and careless agricultural practices. Lakes and streams are also adversely affected by the over-development of lakeshore and riverine areas in combination with the filling of peripheral wetlands, which act as traps to remove nutrient and sediment loadings. Such over-development, moreover, adds significantly to the nutrient and sediment loads on the surface water bodies.

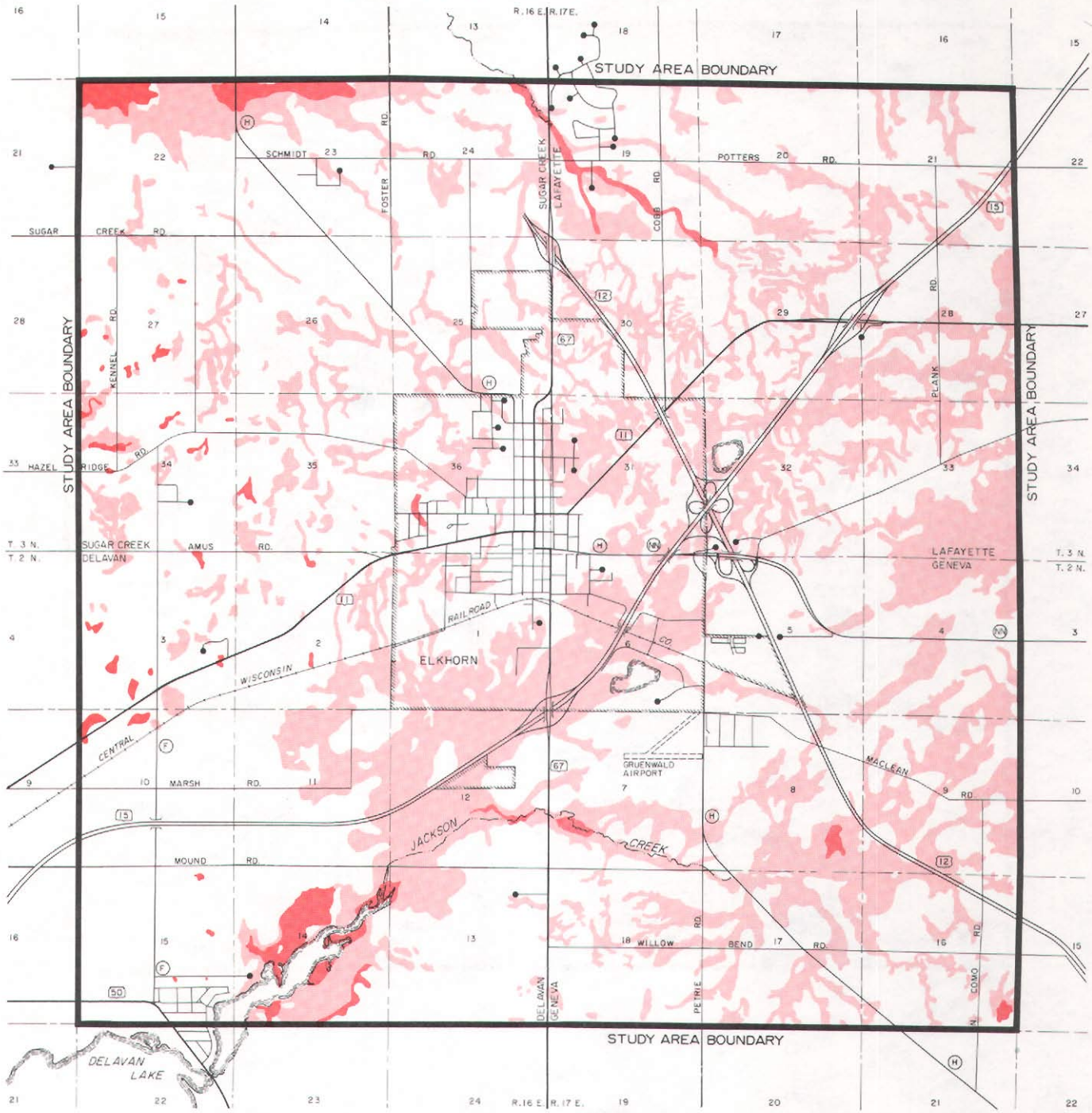
Lakes--Major lakes are defined herein as those lakes having 50 or more acres of surface water area. Lakes of this size are considered capable of supporting intensive recreational use with relatively little degradation of the resource. Minor lakes are defined herein as those lakes having less than 50 acres of surface water area. There are no major or minor lakes within the study area, with the exception of a small portion of Delavan Lake into which Jackson Creek drains.

Rivers and Perennial and Intermittent Streams--The rivers and perennial and intermittent streams in the study area are also shown on Map 8, along with a 50-foot shoreline area along their respective banks. Rivers and perennial streams are defined herein as those watercourses which maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. Jackson Creek is the only watercourse within the Elkhorn study area which meets this definition. Jackson Creek traverses the southern half of the study area and has a total length through the study area of about 6.34 miles.

Intermittent streams are defined herein as watercourses which do not have continuous flow throughout the year. The study area has a system of intermittent streams that serve a vital function in draining subbasin catchment areas during spring snow melts and heavy rains.

Map 7

SOIL LIMITATIONS FOR RESIDENTIAL DEVELOPMENT ON LOTS SERVED BY PUBLIC SANITARY SEWERAGE FACILITIES IN THE CITY OF ELKHORN STUDY AREA



LEGEND

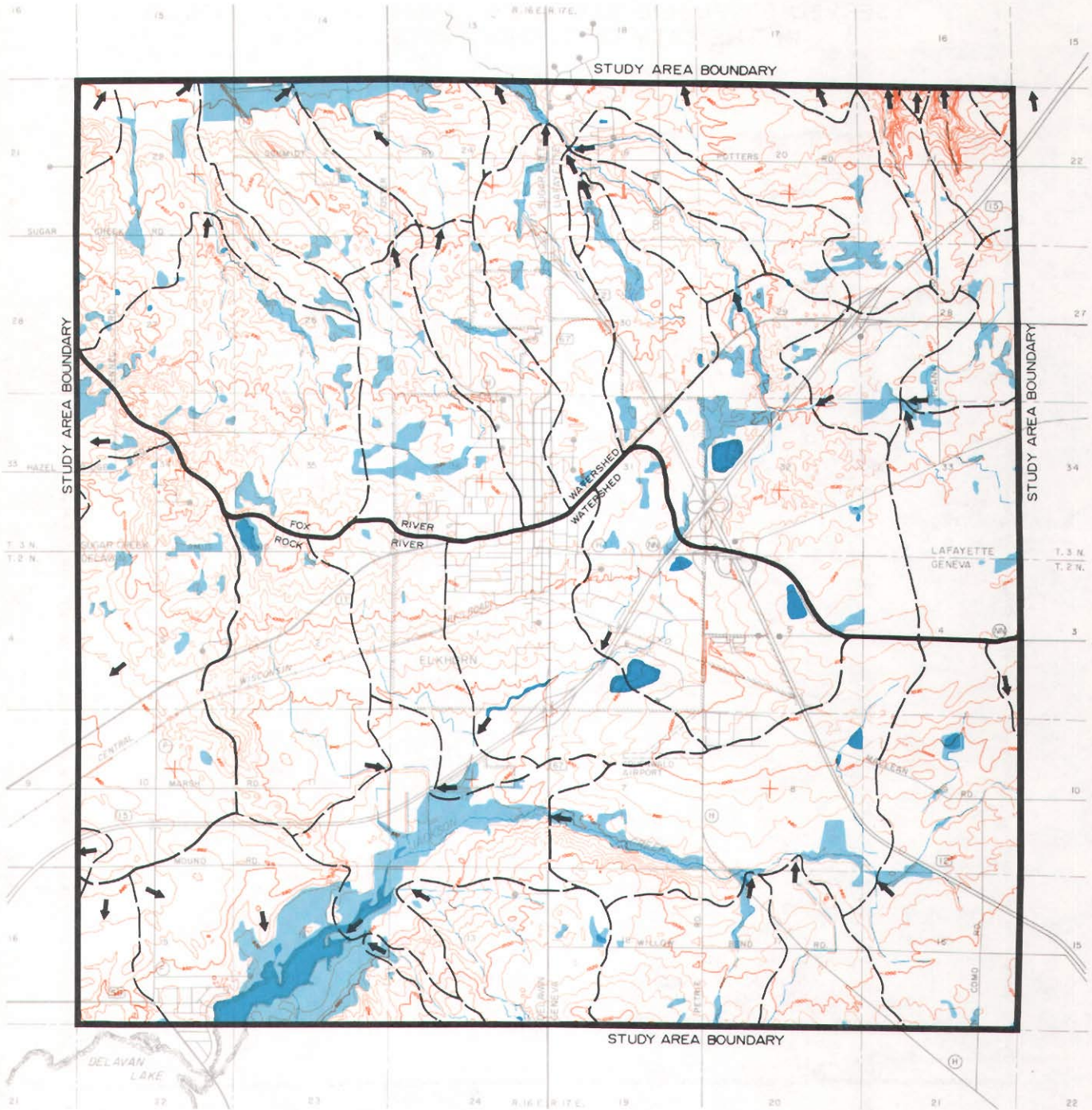
- SOILS HAVING VERY SEVERE LIMITATIONS FOR RESIDENTIAL DEVELOPMENT SERVED BY PUBLIC SANITARY SEWERS
- SOILS HAVING SEVERE LIMITATIONS FOR RESIDENTIAL DEVELOPMENT SERVED BY PUBLIC SANITARY SEWERS
- OTHER SOILS

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

Map 8

TOPOGRAPHY, SURFACE DRAINAGE, WETLAND AREAS, FLOODLANDS, AND WATERSHED FEATURES IN THE CITY OF ELKHORN STUDY AREA



LEGEND

- CONTOUR INTERVAL LINES--10 FEET
- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY
- SUBBASIN BOUNDARY
- INTERMITTENT STREAM OR WATERCOURSE
- FLOW DIRECTION
- WATER
- WETLANDS

GRAPHIC SCALE

0 1/2 1 MILE

0 2000 4000 6000 FEET

Source: SEWRPC.

Floodlands: The floodlands of a river or a stream are the wide, gently sloping areas contiguous to, and usually lying on both sides of, a river or stream channel. Most of the time, rivers and streams occupy their channels. However, when stream discharges increase beyond the conveyance capacity of the existing channel, the river or stream rises and spreads laterally over the floodlands. A flood event is then said to occur.

For planning and regulatory purposes, floodlands are normally defined as the areas, excluding the channel, subject to inundation by the 100-year recurrence interval flood event. This is the event that may be expected to be reached or exceeded on the average of once every 100 years. Stated another way, there is a 1 percent chance that such an event will be reached or exceeded in any given year. Commission studies indicate that from 7 to 10 percent of the total land area of any given watershed will be within the 100-year recurrence interval floodplain. The 100-year recurrence interval floodplain contains within its boundaries the areas inundated by floods of less severity, but of more frequent occurrence, such as the 50-, 25-, and 10-year recurrence interval flood events.

Floodland areas are generally not well suited to urban development, not only because of the flood hazard, but because of seasonably or perennially high water tables and the presence of soils poorly suited to urban use. The floodland areas, however, often contain important elements of the natural resource base such as high-value woodlands, wetlands, and wildlife habitat areas, and therefore constitute prime locations for needed park and open space areas. Thus, every effort should be made to discourage indiscriminate and incompatible urban development on floodlands, while encouraging compatible park and open space use.

Map 8 depicts the extent of the flood hazard areas within the study area, based upon the 100-year recurrence interval flood hazard area delineations set forth in SEWRPC Planning Report No. 12, A Comprehensive Plan for the Fox River Watershed (flood hazard areas associated with the Fox River watershed are located along Sugar Creek in Section 23, Township 3 North, Range 16 East, of the study area), and in federal flood insurance reports prepared by the U. S. Department of Housing and Urban Development, Federal Insurance Administration (now FEMA, the Federal Emergency Management Agency).

Wetlands: Wetlands are defined as areas that are inundated or saturated by surface water or groundwater at a frequency and with a duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include swamps, marshes, bogs, and similar areas. Both rain and snow provide water to wetlands, either by becoming surface water runoff, or by percolating through the soil to become groundwater seepage. Wetlands may receive mostly surface water (direct precipitation, overland flow, or lake and flood waters) or mostly groundwater (precipitation that infiltrates and moves through the ground). Surface water input is usually of a short, periodic duration, whereas groundwater inflow is usually continuous. The location of the wetland in the landscape affects the type of water received. Wetlands can occur in depressions or on slopes.

Wetlands located in the study area are also identified on Map 8. Wetlands have an important set of natural functions which make them particularly valuable resources. These functions may be summarized as follows:

1. Wetlands enhance water quality. Aquatic plants change inorganic nutrients such as phosphorus and nitrogen into organic material, storing it in their leaves or in the peat which is composed of their remains. The stems, leaves, and roots of these plants also slow the flow of water through a wetland, allowing suspended solids and related water pollutants to settle out. Thus, the destruction of wetlands may be expected to adversely affect the quality of surface waters in the area.

2. Wetlands regulate surface water runoff, storing water during periods of flood flows and releasing such waters during periods of dryer weather. Wetlands thus help to stabilize streamflows. One acre of marsh covered to a depth of 11 inches is capable of storing 300,000 gallons of water and, thus, helps protect the area against flooding and drought.

3. Wetlands provide essential breeding, nesting, resting, and feeding grounds and predator-escape cover for many forms of wildlife, and thus contribute to the overall ecological health and quality of the environment of the study area, as well as providing recreational, research, and educational opportunities and adding to the aesthetic quality of the community.

4. Wetlands may serve as groundwater recharge and discharge areas.

Recognizing the many environmental attributes of wetland areas, continued efforts should be made to protect this resource by discouraging costly, both in monetary and environmental terms, wetland draining, filling, and urbanization.

Generally, wetland areas within the Elkhorn study area are located along Jackson Creek, along Sugar Creek, and along the intermittent streams of the study area, as well as in small scattered areas throughout the study area, as shown on Map 8.

Scenic Vistas: Scenic vistas are areas that provide a panoramic or picturesque view comprised of a variety of natural resource features. There are two important components of a scenic vista: the picturesque view itself, which usually consists of a diversity of natural features, and the vantage point or viewpoint from which to observe the diversity of natural features. In identifying such viewpoints, it was determined that three basic criteria should be met: 1) the variety of features viewed should exist harmoniously in a natural or rural landscape; 2) there should be one dominant or particularly interesting feature, such as a river or lake, which serves as a focal point of the scenic area; and 3) the viewpoint should permit an unobstructed observation area from which the variety of natural features can be seen.

A special inventory of scenic viewpoints meeting the aforementioned criteria was conducted as part of the study. To permit an unobstructed observation area, it was determined that vantage points should have an elevated view of surrounding natural resource amenities. With the aid of 1" = 2000' scale, 10-foot contour interval topographic maps, areas in the Elkhorn study area with a relief greater than 30 feet and a slope of 12 percent or more were identified. Those areas of steep slope so identified having a ridge of at least 200 feet in length and a view of at least three natural resource features--including surface water, wetlands, woodlands, agricultural lands, or other significant

geological features--within approximately one-half mile of the ridge were identified as scenic viewpoints. Areas classified as scenic viewpoints under this methodology are located in the northern one-half of Section 21 in the Town of Lafayette.

Woodland and Wildlife Habitat Areas

Woodlands: Woodlands have value beyond any monetary return for forest products. Under good management woodlands can serve a variety of beneficial functions. In addition to contributing to clean air and water and regulating surface water runoff, the maintenance of woodlands within an area can contribute to the maintenance of a diversity of plant and animal life in association with human life. The existing woodlands of the study area, which required a century or more to develop, can be destroyed through mismanagement within a comparatively short time. The deforestation of hillsides contributes to rapid storm water runoff, the siltation of lakes and streams, and the destruction of wildlife habitat. Woodlands can and should be maintained for their total values: scenic, wildlife habitat, open space, educational, recreational, and air and water quality protection.

Primarily located on ridges and slopes, along lakes and streams, and in wetlands, woodlands provide an attractive natural resource of immeasurable value. Woodlands accentuate the beauty of streams and glacial land forms of the area, and, as already noted, they are essential to the maintenance of the overall environmental quality of an area.

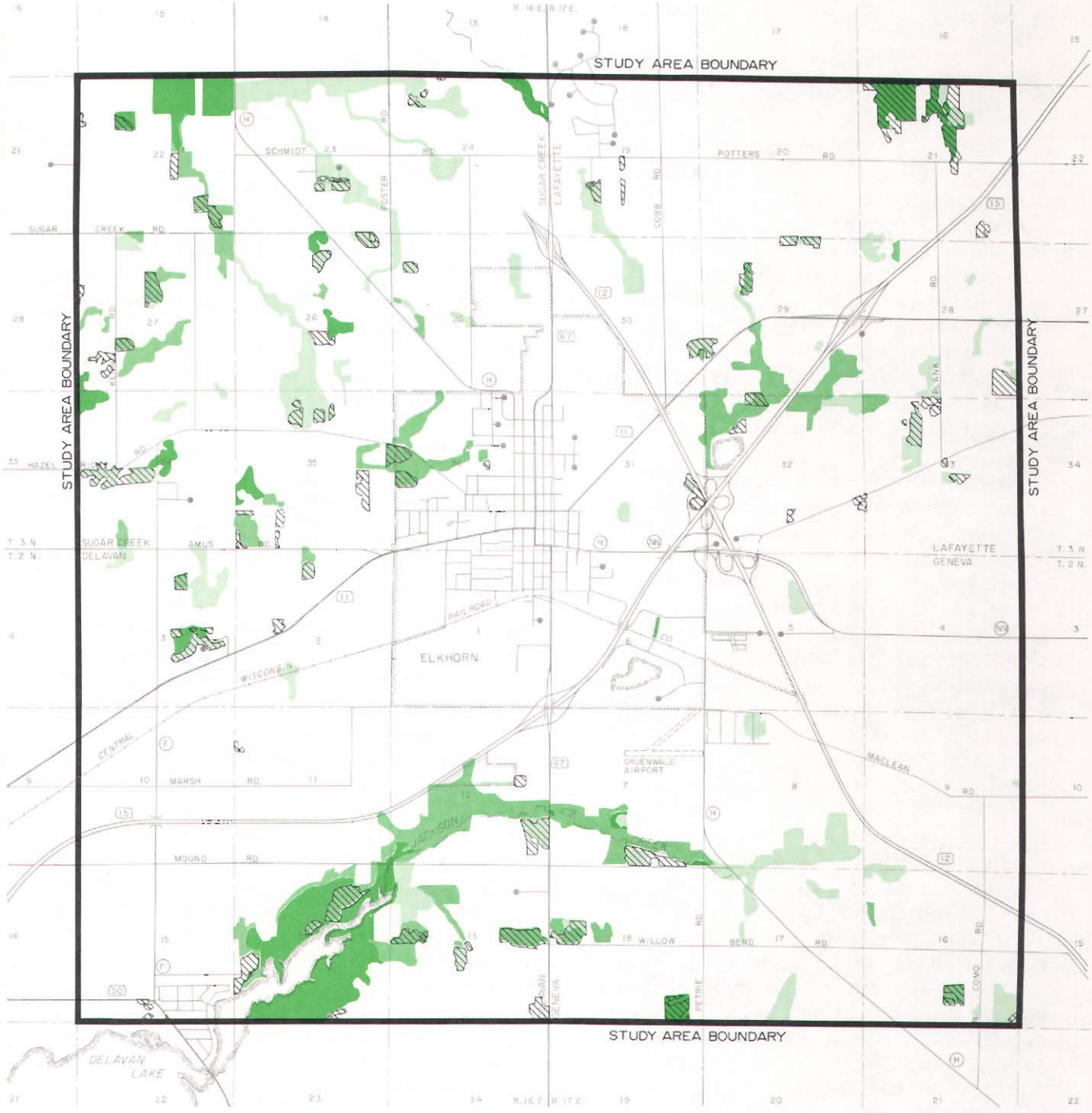
Inventories of woodlands in the City of Elkhorn study area were conducted by the Regional Planning Commission as part of its 1963, 1970, 1975, and 1980 land use and cover inventories. Woodlands, as shown on Map 9, occur in scattered small areas throughout the study area. The lack of major concentrations of woodland areas in the study area may be attributed to the historic intensive agricultural development in the area. A somewhat higher value, consequently, is placed on the existing woodlands owing to their scarcity in the study area.

Wildlife Habitat: Wildlife habitat areas are defined here as those areas which fulfill wildlife needs for food, cover, water, and space. The existing wildlife habitat areas in the study area are shown on Map 9. The wildlife habitat areas were inventoried by the Regional Planning Commission as part of its 1963 and 1970 land use and cover inventories. Map 9 indicates the types of wildlife species associated with each area of the study area outlined, as well as the respective value of each wildlife area in terms of three classifications: high value, medium value, and low value. These classifications are based upon an appraisal of each area's overall value as habitat and potential for recreational use. The principal criteria used in classifying each area were size and quality of the habitat area, location of the habitat area, and the number and kind of species within the area.

A high-value wildlife habitat area is defined as an area which has a large diversity of species and in which the following requirements of the major species which inhabit the area are fully met: 1) that the vegetation provides for nesting, travel routes, concealment, and modification of weather impact; and 2) that the area has undergone little or no disturbance and is located in proximity to other wildlife habitat areas.

Map 9

WOODLAND AND WILDLIFE HABITAT AREAS IN THE CITY OF ELKHORN STUDY AREA



LEGEND

- WOODLANDS
- HIGH VALUE WILDLIFE HABITAT AREA
- MEDIUM VALUE WILDLIFE HABITAT AREA
- LOW VALUE WILDLIFE HABITAT AREA

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

A medium-value wildlife habitat area is defined as an area possessing all of the features of a high-value habitat area but at a lower level of quality. The species diversity may not be as high as in the high-value areas. The structure and composition of the vegetation may not adequately provide for nesting, travel routes, concealment, or modification of weather impact. The area may have undergone disturbances or may not be located in proximity to other wildlife habitat areas. Deficiencies in any one or more of these factors may contribute to an area's classification as a medium-value wildlife habitat area.

A low-value wildlife habitat area is defined as an area of a supplemental or remnant nature which is usually disturbed but which may provide the only available range in the area, supplement areas of a higher quality, or provide corridors linking higher value wildlife habitat areas.

Wildlife habitat areas designated as having high and medium values are most prevalent in the southwestern one-quarter of the study area. Low-value wildlife habitat areas are found in scattered locations throughout the study area.

The preservation of the wildlife habitat areas which exist in the study area is important to the overall quality of life in the area. The existence of a variety of wildlife species in a study area is indicative of ecosystem stability.

Other Resource-Related Elements

In addition to the basic elements of the underlying and sustaining natural resource base, existing and potential sites having scenic, scientific, historic, and recreational value should be considered in any comprehensive land use planning effort. Map 10 indicates the location and extent of such sites in the study area.

Existing Outdoor Recreation Sites: An inventory of the size and location of existing outdoor recreation sites provides a basis for evaluating the extent to which community recreational needs are being met and for determining future outdoor recreation site needs. In 1975, existing outdoor recreational sites in the study area were identified and classified by the Commission into general functional and site size categories, as set forth in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000. This inventory was updated by field surveys conducted by the Commission staff in 1980. Existing outdoor recreation and open space sites in the study area have been classified into three general categories: general-use outdoor recreation sites, special-use outdoor recreation sites, and rural open space sites. General-use outdoor recreation sites may be defined as areas of land and water whose primary function is the provision of space and facilities for outdoor recreation activities. These sites normally consist of publicly owned parks. School-owned playgrounds and playfields and various nonpublic parks and school sites have also been categorized as general-use outdoor recreation sites.

Special-use outdoor recreation sites, as defined by the Regional Planning Commission, are primarily spectator oriented, rather than user oriented, or provide facilities for certain special recreational pursuits. Such facilities include zoological and botanical gardens and skeet and trap shooting areas. Rural open space sites consist of woodlands, wetlands, or wildlife habitat

areas acquired by public agencies or private organizations to preserve such lands and associated natural resource amenities in an essentially natural, open state for resource conservation and limited recreation purposes.

As previously indicated, the Regional Planning Commission has classified outdoor recreation sites by site size and function. Type I and Type II parks generally provide opportunities for such activities as camping, golfing, picnicking, and swimming, and generally encompass a large area containing significant natural resource amenities. Type II parks range from 100 to 249 acres in area, while Type I parks are 250 or more acres in size. Type I and Type II parks typically provide diverse specialized recreational opportunities which are not available in smaller park sites, and serve regional and multi-community needs. Type III and Type IV parks provide opportunities for intensive non-resource-oriented recreational activities, such as basketball, ice skating, volley ball, and tennis, and are provided primarily to meet community and neighborhood level recreational needs.

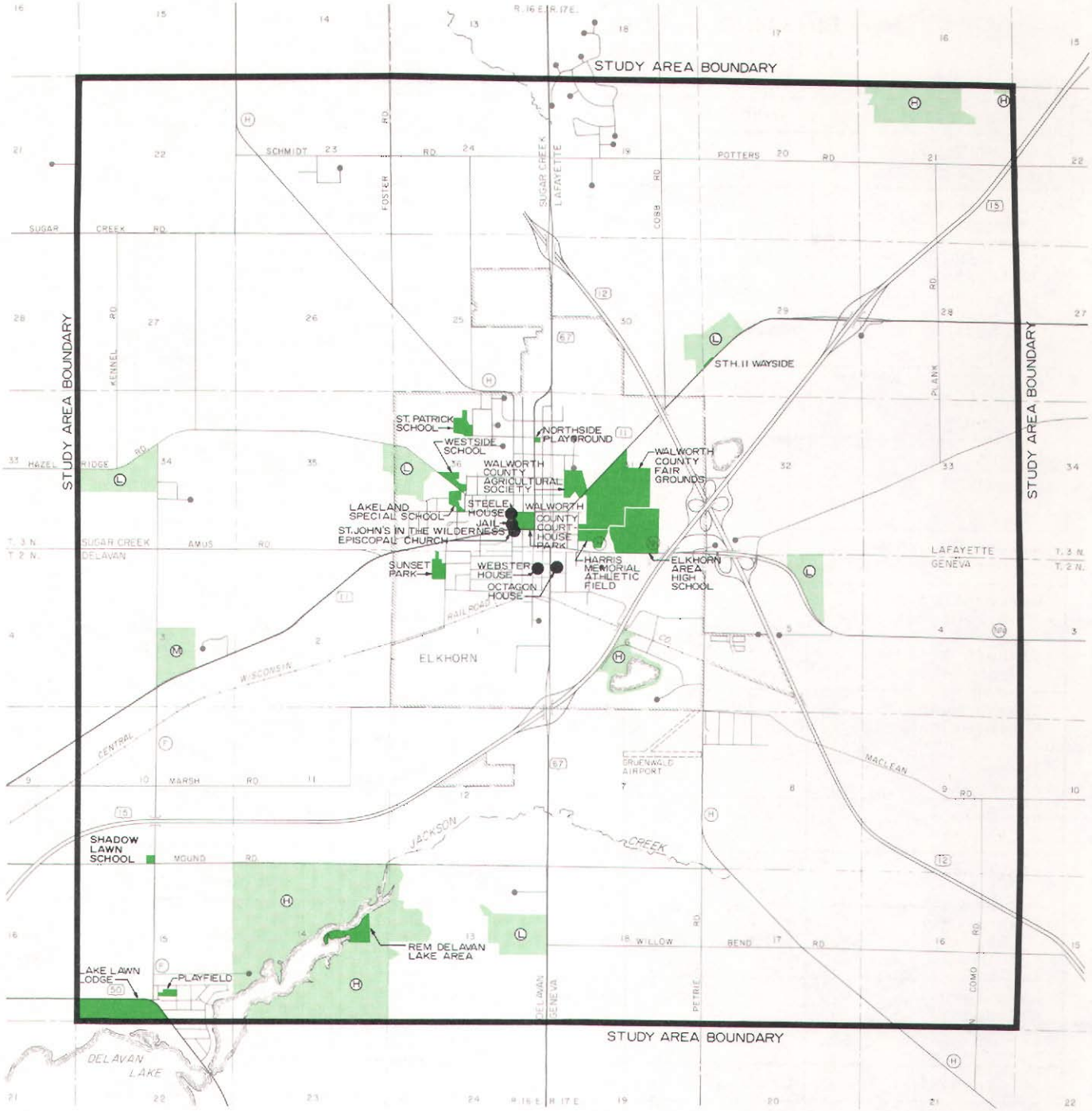
As indicated on Map 10 and in Table 12, there are 14 existing recreation and related open space sites in the study area, having a combined area of 250 acres, or 1 percent of the total study area. Three of these sites, having a combined area of 157 acres, are in private ownership; the rest are in public ownership.

Potential Outdoor Recreation Sites: The potential park sites in the area as identified in the Regional Planning Commission potential park site inventory originally conducted in 1964 and updated in 1975 are shown on Map 10. The procedures utilized in the potential park sites inventory have been described in detail in SEWRPC Technical Report No. 1, Potential Parks and Related Open Spaces. Ten sites, encompassing a combined area of approximately 949 acres, or about 4.1 percent of the total study area, have been identified in the inventories. Four of these sites are rated as having high value, and only one site is rated as having medium value. The balance of the potential park sites are rated as having a low value. Sites rated as medium value possess certain development limitations, but such sites may take on added value as the need for park and open space within the study area develops. Sites rated as low value possess major development limitations, and, therefore, have relatively poor potential for development as park sites without major modifications. The potential park and open space sites have been identified in order to protect such sites from inadvertent destruction as a result of urban land use or highway facility development.

Historical and Cultural Sites and Structures: Map 10 also shows those sites and structures in the study area which have historical and cultural value. No formal historical survey has been undertaken in the City of Elkhorn study area. Nevertheless, the following structures and areas having some historic value have been identified: a stucco home at 12 N. Church Street; St. John's in the Wilderness Episcopal Church at 11 S. Church Street; the Joseph Philbrick Webster home at 9 E. Rockwell Street; the Edward Elderkin octagon house at 127 S. Lincoln Street (see Figure 4); the City of Elkhorn jail at 4 N. Church Street; and the Walworth County fairgrounds. During the land use inventory of the City conducted in 1980, it was observed that there may be a sufficient number of structures in the City having significant historic value to warrant a specific historic structure inventory of the entire community. One such

Map 10

RECREATIONAL, CULTURAL, STRUCTURAL, AND HISTORIC SITES IN THE CITY OF ELKHORN STUDY AREA



LEGEND

- EXISTING RECREATION AREA
- POTENTIAL PARK SITE
- (H) HIGH VALUE
- (M) MEDIUM VALUE
- (L) LOW VALUE
- ● STRUCTURAL HISTORIC SITE

GRAPHIC SCALE
0 1/2 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

Table 12

EXISTING OUTDOOR RECREATION SITES IN THE CITY OF ELKHORN STUDY AREA: 1980

Name of Site	Ownership	Type	Type of Facilities	Acres
STH 11 Wayside	Public	Special-use site	--	1
St. Patrick School	Private	Neighborhood park	Playfield, playground, and softball diamond	8
Northside Playground	Public	Neighborhood park	Playground and softball diamond	1
Westside School	Public	Neighborhood park	Basketball goal, playfield, playground, and softball diamond	5
Lakeland Special School	Public	Neighborhood park	Basketball goal, playfield, playground, and softball diamond	4
Sunset Park	Public	Neighborhood park	Playfield, playground, softball diamond, swimming pool, and tennis court	12
Walworth County Courthouse Park	Public	Special-Use site	--	8
Walworth County Agricutural Park	Private	Special-use site	--	97
Elkhorn Area High School	Public	Community park	Playfield	37
Harris Memorial Athletic Field	Public	Neighborhood park	Baseball diamond, basketball goal, ice skating rink, playfield, and softball diamond	10
Rem Delavan Lake Area	Public	Natural area site-wetland	--	12
Playfield	Public	Neighborhood park	Playfield and softball diamond	2
Shadow Lawn School	Public	Neighborhood park	Basketball goal, playfield, and playground	1
Lake Lawn Lodge	Private	Regional park	Boat launch, golf course, ice skating rink, playground, swimming beach and tennis court	52[a]
Total	--	--	--	250

[a]The total area of the Lake Lawn Lodge is 250 acres; however, only about 52 acres, or 20.8 percent of the total area, is within the City of Elkhorn study area.

Source: SEWRPC.

structure observed during the inventory that has not been previously identified as a historic site is the First Congregational United Church of Christ located at 76 S. Wisconsin Street, shown in Figure 5.

ENVIRONMENTAL CORRIDOR DELINEATION

Environmental corridors are defined by the Regional Planning Commission as linear areas in the landscape which contain concentrations of high-value elements of the natural resource base. Preservation of the natural resource base and related elements, especially where these elements are concentrated in identifiable geographic areas, is essential to the maintenance of the overall environmental quality of an area, to the continued provision of certain amenities that provide a high quality of life for the resident population, and to the avoidance of excessive costs associated with the development and operation and maintenance of urban land uses in an area.

Seven elements of the natural resource base are considered by the Regional Planning Commission to be essential to the maintenance of the ecological balance and overall quality of life in an area. These elements include: 1) lakes, rivers, streams, and the associated undeveloped shorelands and floodlands; 2) wetlands; 3) areas covered by wet, poorly drained, and organic soils; 4) woodlands; 5) prairie; 6) wildlife habitat areas; and 7) rugged terrain and high-relief topography having slopes exceeding 12 percent. Six of these seven elements of the natural resource base as they occur in the study area have been described earlier in this chapter. Prairies, however, were not described because of the lack of specific data on their presence in the study area.

As already noted, there are certain other elements which, although not a part of the natural resource base per se, are closely related to or centered on that base. These elements include: 1) existing parks and outdoor recreation sites; 2) potential park, outdoor recreation, and related open space sites; 3) historic sites and structures; 4) areas having scientific value; and 5) scenic areas and vistas or viewpoints. Scenic areas and vistas or viewpoints, as discussed earlier, are defined as areas with a local relief greater than 30 feet and a slope of 12 percent or more having a ridge of at least 200 feet in length, and a view of at least three natural resource features--including surface water, wetlands, woodlands, agricultural lands, or other significant geological features--within approximately one-half mile of the ridge.

The environmental corridors in the study area were delineated using the following criteria:

1. Point values between 1 and 20 were assigned to each natural resource and natural resource-related element. These point values were based on the premise that those natural resource elements having intrinsic natural resource values and a high degree of natural diversity should be assigned relatively high point values, whereas natural resource elements having only implied natural values should be assigned relatively low point values. The values for each element of corridor are shown in Table 13.

2. Each element was then depicted on 1" = 400' scale ratioed and rectified aerial photographs or 1" = 400' scale base maps of the study area.

Figure 4

EDWARD ELDERKIN HOUSE

The Edward Elderkin octagon house at 127 S. Lincoln Street, built between 1856 and 1857, has been identified as a residence with historic significance.

Photo by Patrick J. Meehan.

Figure 5

FIRST CONGREGATIONAL UNITED CHURCH OF CHRIST

Although not previously identified as a structure of historic significance, the First Congregational United Church of Christ, located at 76 S. Wisconsin Street, has architectural characteristics indicating that the church may warrant further investigation and consideration as a historic site.

Photo by Patrick J. Meehan.

Table 13

POINT VALUE DESIGNATION FOR ELEMENTS OF PRIMARY ENVIRONMENTAL CORRIDORS, SECONDARY ENVIRONMENTAL CORRIDORS, AND OTHER ENVIRONMENTALLY SIGNIFICANT LANDS

Element	Point Value
Natural Resource Base	
Lake	
Major (50 acres or more)	20
Minor (5-49 acres)	20
River or Stream (perennial)	10
Shoreland	
Lake or Perennial River or Stream	10
Intermittent Stream	5
Floodland (100-year recurrence interval)	3
Wetland	10
Wet, Poorly Drained, or Organic Soil	5
Woodland	10
Wildlife Habitat	
High Value	10
Medium Value	7
Low Value	5
Steep Slope Land	
20 Percent or More	7
13-19 Percent	5
Prairie	10
Natural Resource Base-Related	
Existing Park or Open Space Site	
Rural Open Space Site[a]	5
Other Park and Open Space Sites	2
Potential Park Site	
High Value	3
Medium Value	2
Low Value	1
Historic Site	
Structure	1
Other Cultural	1
Archeological	2
Scenic Viewpoint and Vista	5
Scientific Area	
State Significance	15
County Significance	10
Local Significance	5

[a]Includes publicly owned forests and wildlife management areas.

Source: SEWRPC.

3. Cumulative point values were totaled for all areas containing natural resource and natural resource-related elements. (For an example of the application of the method to a portion of the study area, see Appendix A.)

4. Environmental corridors were then delineated, based on the following criteria, as shown in Table 14:

   a. Areas having a point value of 10 or greater, with a minimum area of 400 acres and a minimum length of two miles, were designated as primary environmental corridors.

   b. Areas having point values of 10 or greater, with a minimum area of 100 acres and a minimum length of one mile, were designated as secondary environmental corridors.

   c. Isolated areas having point values of 10 or greater, with a minimum of five acres, were designated as isolated natural areas.

   d. For separate areas with corridor values, linking segments were identified to establish corridor continuity when such areas met the qualifications set forth in Table 15.

The environmental corridors, as delineated within the study area and City, are shown on Maps 11 and 12, respectively.

It is important to note that, because of the many interlocking and interacting relationships existing between living organisms and their environment, the destruction or deterioration of any one element of the total natural resource base may lead to a chain reaction of deterioration and destruction. The drainage and filling of wetlands, for example, may destroy fish spawning grounds, wildlife habitat, groundwater recharge areas, and the natural filtration action and floodwater storage functions which contribute to maintaining high levels of water quality and stable streamflows and lake stages in a watershed. The resulting deterioration of surface water quality may, in turn, lead to the deterioration of the quality of the groundwater which serves as a source of domestic, municipal, and industrial water supply and on which low flows in rivers and streams may depend. Similarly, the destruction of woodland cover may result in soil erosion and stream siltation, more rapid storm water runoff, and attendant increased flood flows and stages, as well as in the destruction of wildlife habitat. Although the effects of any one of these environmental changes may not in and of itself be overwhelming, the combined effects will eventually create serious environmental and developmental problems. These problems include flooding, water pollution, deterioration and destruction of wildlife habitat, loss of groundwater recharge areas, and destruction of the unique natural beauty of the area. The need to maintain the integrity of the remaining environmental corridors and environmentally significant lands thus becomes apparent. The adopted regional land use plan accordingly recommends that the remaining primary environmental corridors be maintained in essentially natural, open uses, which may, in some cases, include limited agricultural and low-density residential uses.

As indicated on Map 11, a total of about 1,256 acres (1.96 square miles), or about 5 percent of the total study area, are encompassed by the primary environmental corridors, as delineated in the planning effort. These areas should

Table 14

MINIMUM REQUIREMENTS FOR CLASSIFICATION OF PRIMARY ENVIRONMENTAL CORRIDORS, SECONDARY ENVIRONMENTAL CORRIDORS, AND OTHER ENVIRONMENTALLY SIGNIFICANT LANDS

Classification	Minimum Cumulative Point Value	Minimum Area (acres)	Minimum Length (miles)
Primary Environmental Corridor.....	10	400	2
Secondary Environmental Corridor[a]	10	100	1
Other Isolated Natural Area.....	10	5	--

[a]Secondary environmental corridors may serve to connect primary corridor segments or to be linked to primary environmental corridor segments, particularly when such secondary corridors are related to surface drainage (no minimum area or length requirements).

Source: SEWRPC.

Table 15

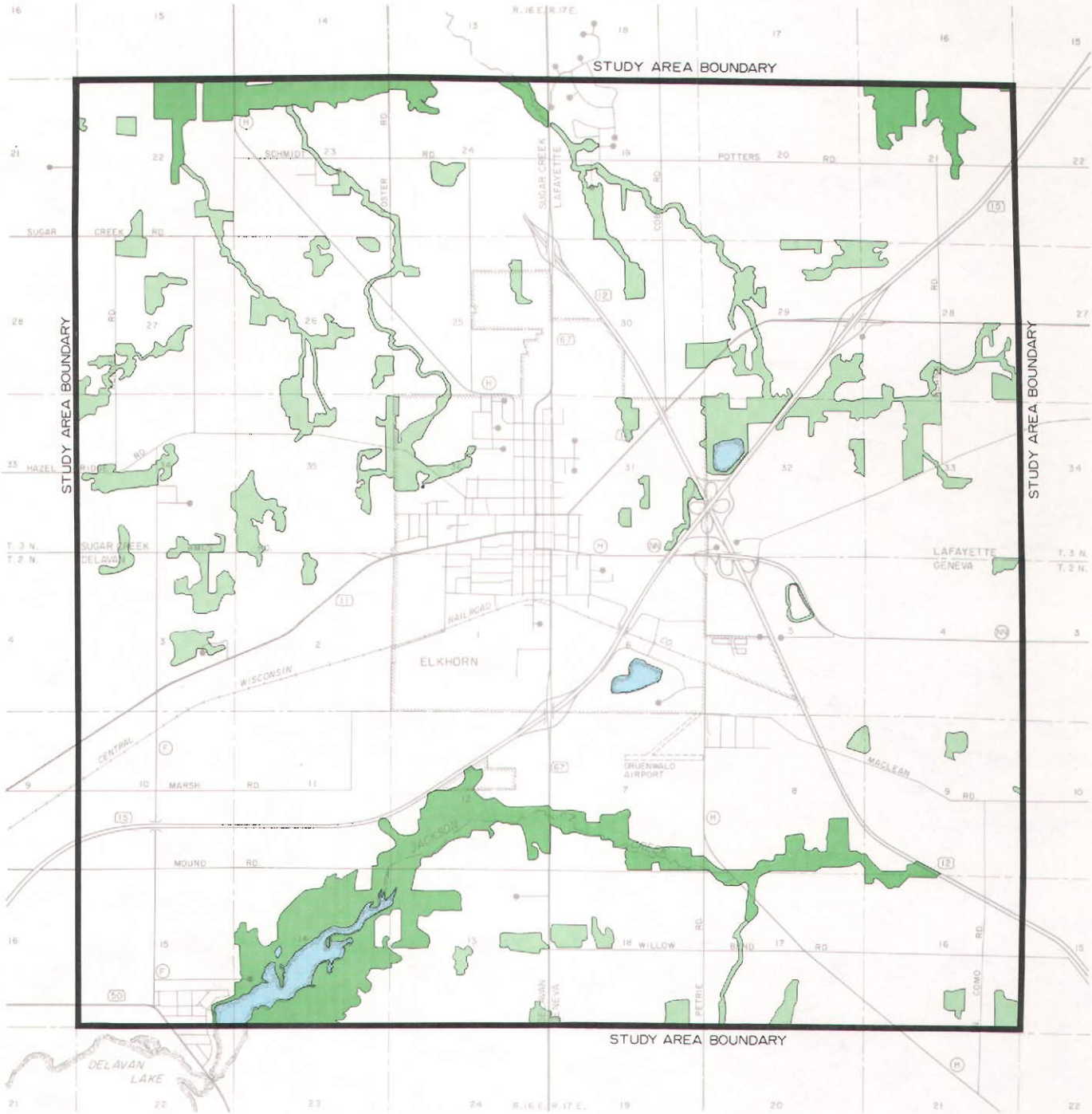
REQUIREMENTS FOR LINKING SEPARATED AREAS WITH CORRIDOR VALUES

Acreage of Smaller Area with Significant Resource Value	Maximum Continuity Distance Between Separated Areas	
	Feet	Miles
640+	2,640	1/2
320 - 639	1,760	1/3
160 - 319	1,320	1/4
80 - 159	880	1/6
40 - 79	660	1/8
20 - 39	440	1/12
5 - 19	220	1/24

Source: SEWRPC.

Map 11

PRIMARY ENVIRONMENTAL CORRIDORS, SECONDARY ENVIRONMENTAL CORRIDORS, AND OTHER ENVIRONMENTALLY SIGNIFICANT LANDS IN THE CITY OF ELKHORN STUDY AREA



LEGEND

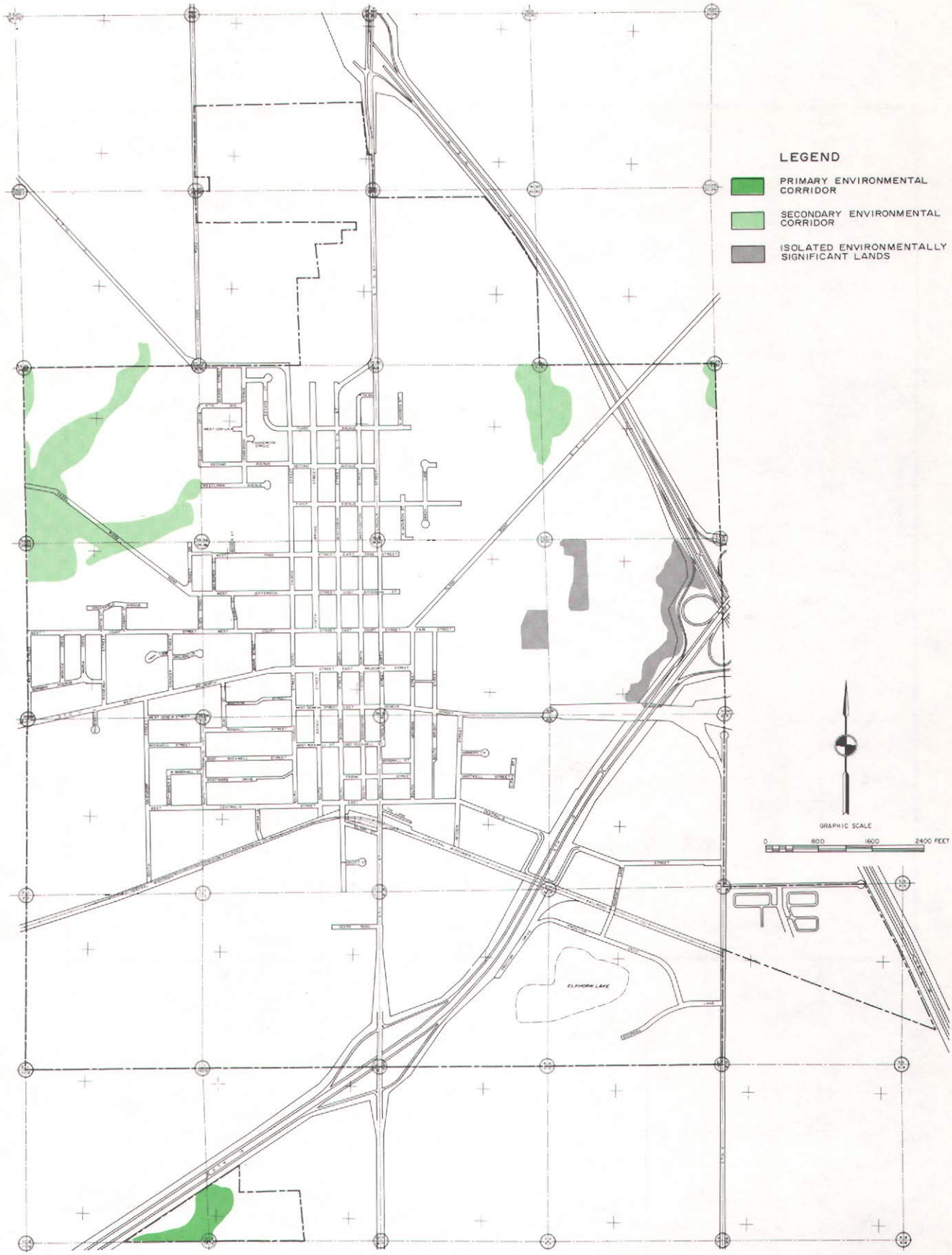
- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR OR OTHER ENVIRONMENTALLY SIGNIFICANT LANDS
- WATER

GRAPHIC SCALE
0 1 MILE
0 2000 4000 8000 FEET

Source: SEWRPC.

Map 12

ENVIRONMENTAL CORRIDORS AND ISOLATED ENVIRONMENTALLY SIGNIFICANT LANDS IN THE CITY OF ELKHORN



Source: SEWRPC.

be preserved in essentially natural, open uses, and should be protected by a combination of zoning regulations and public land acquisition strategies. The primary environmental corridors within the study area should be considered inviolate, and their continued protection from incompatible rural and urban development is considered to be one of the principal objectives of the land use plan documented herein.

Secondary environmental corridors encompass approximately 772 acres (1.2 square miles), or 3 percent of the study area. Secondary environmental corridors are not as important as primary environmental corridors because of their smaller size; however, such areas should be considered for retention in park and open space use, particularly within the urbanizing portion of the study area, as greenways, drainageways, storm water detention and retention areas, and public and private open spaces.

Isolated natural areas within the study area total approximately 658 acres (1.02 square miles), or 2.8 percent of the total study area. Although these areas are separated geographically from the primary and secondary environmental corridors in the study area, they may provide good locations for local parks and add to the aesthetic character and natural diversity of the area. In some instances, these areas have sufficient natural resource value to warrant conservancy zoning protection and preservation in natural, open uses in conjunction with any urban or rural development of surrounding lands.

AGRICULTURAL SOILS AND PRIME AGRICULTURAL LAND DELINEATION

In 1964, prime agricultural lands in the Region were first delineated by the Regional Planning Commission in cooperation with the county agricultural agents and the U. S. Department of Agriculture, Soil Conservation Service, district staff. In late 1976, the U. S. Department of Agriculture, Soil Conservation Service, developed a classification system for use in the preparation of agricultural capability maps. Map 13 depicts the agricultural capability of lands in the study area based upon this federal soils classification system. This map classifies land in the study area as either national prime farmland, unique farmland, or farmland of statewide significance. These classifications of farmlands are based upon policies set by the U. S. Department of Agriculture on the protection and preservation of prime farmland.[4]

Prime farmland is defined as land that is well suited for producing food, feed, forage, fiber, and oilseed crops, and that is available for these uses; the existing land use could be cropland, pastureland, rangeland, forest land, or other land, but not urban land or water. Prime farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when properly treated and managed.

Unique farmland is defined as land other than prime farmland that is used for the production of specific high-value food and fiber crops. Unique farmland has the special combination of soil quality, location, growing season, and moisture supply needed to produce a sustained high-quality specialty crop and/or high yields of a specific crop when properly treated and managed.

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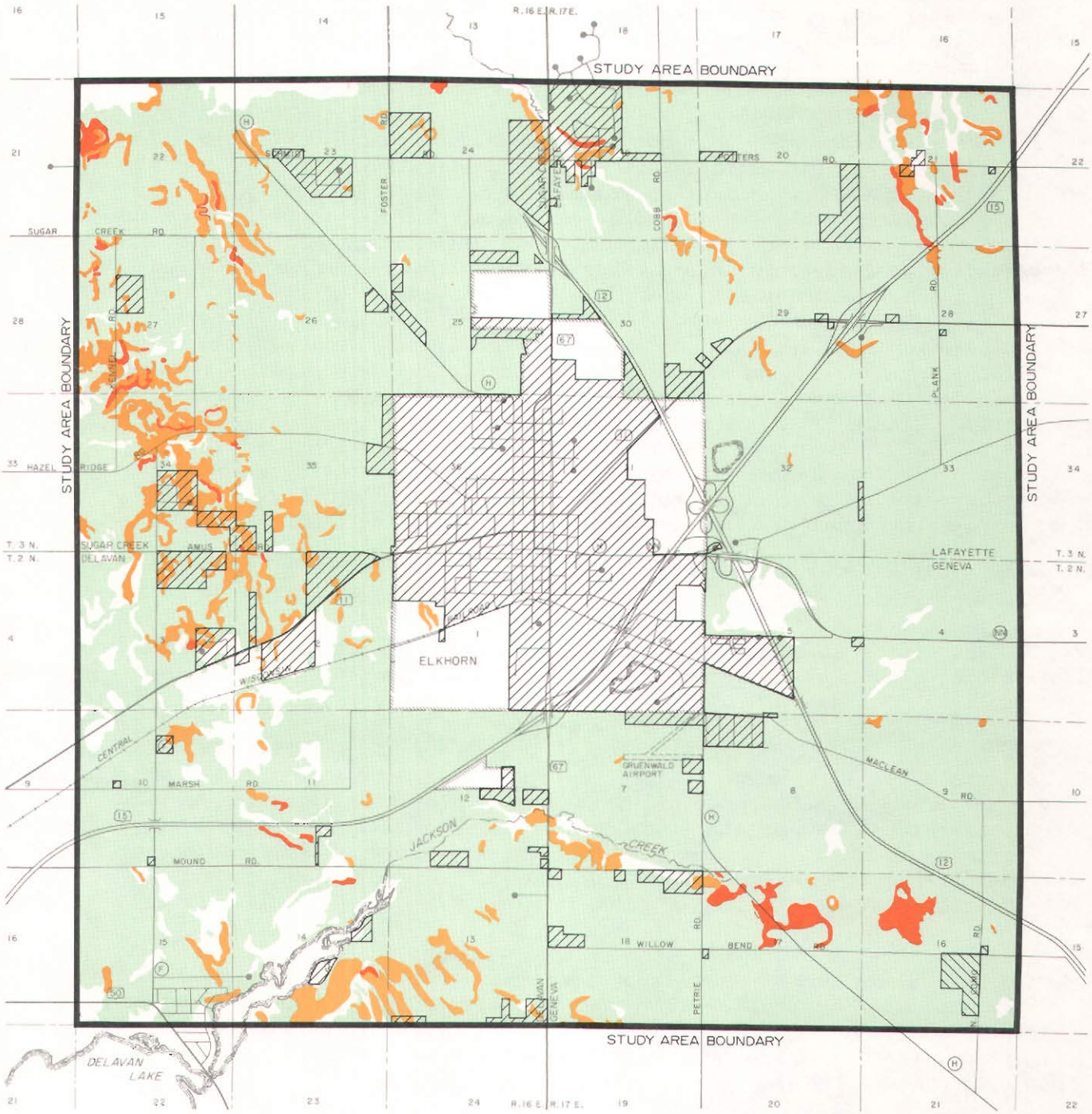
[4]U. S. Department of Agriculture, Soil Conservation Service, "Land Inventory and Monitoring Memorandum WI-1," December 3, 1976.

Map 13

AGRICULTURAL CAPABILITY OF SOILS AND PARCELS OF LAND LARGER THAN 35 ACRES IN THE CITY OF ELKHORN STUDY AREA: 1980



LEGEND

- NATIONAL PRIME FARMLAND SOILS
- UNIQUE FARMLAND SOILS
- FARMLAND SOILS OF STATEWIDE SIGNIFICANCE
- AREA CONTAINING PARCELS OF LAND LESS THAN 35 ACRES IN SIZE
- OTHER SOILS

GRAPHIC SCALE

0 1 MILE

0 2000 4000 6000 FEET

Source: SEWRPC.

Farmland of statewide significance is defined as land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops.

The Wisconsin Farmland Preservation Act, enacted in 1977, provides for the preparation of county farmland preservation plans and the grant of state income tax credits for the maintenance of farmlands in delineated preservation areas. Ultimately, only those farmers owning lands within delineated prime agricultural areas which are zoned for exclusive agricultural use, and, in southeastern Wisconsin, within an area for which a farmland preservation plan has been prepared, will be eligible for the full state income tax credits provided under the law. Map 13 also identifies those areas containing parcels of land 35 acres or larger in size in order to identify those land holdings which may qualify for tax relief under the regulations of the Wisconsin Farmland Preservation Act if zoned for and maintained in agricultural use.

In August 1974, prior to the enactment of the Wisconsin Farmland Preservation Act, the Walworth County Board of Supervisors adopted a new county zoning ordinance. The adoption and ratification of the Walworth County zoning ordinance followed an extensive and lengthy public education and participation process carried on cooperatively by the County Park and Planning Commission, the Agricultural Committee of the County Board, the Walworth County office of the University of Wisconsin-Extension, the U. S. Soil Conservation Service, and the Regional Planning Commission. Over a period of seven years, more than 500 meetings and hearings were held on the proposals contained in the ordinance. County planning and University of Wisconsin-Extension staffs provided many presentations about the proposed ordinance to local garden clubs, conservation groups, lake associations, agricultural associations, and other groups that expressed interest in the rezoning effort. As a result, strong support for the ordinance came from various citizen groups, including, significantly, the Walworth County Farm Council, a coalition of representatives of the various farm organizations in the County. This Council assisted greatly in drafting the agricultural district provisions of the ordinance. During the rezoning process, many farmers in the County expressed growing concern over the amount of prime agricultural land that was disappearing under the thrust of urbanization. For example, the Walworth County planning staff had determined that for the period February 1971 through August 1972, about 70 percent of the urban land subdivisions in the County were developed on soils classified as prime agricultural land. These divisions, scattered throughout the County, involved the loss of more than 300 acres of prime agricultural land over the 19-month period. In addition to the public educational effort, the County held four formal public informational meetings and one formal public hearing before adopting the ordinance. Fifteen of the 16 towns in Walworth County adopted the joint county-town zoning ordinance subsequent to adoption by the County, and the sixteenth, Lafayette Town, adopted an almost identical local ordinance.

Protection of the agricultural resource base of the County was one of the primary objectives of the county rezoning effort. Historically, Walworth County had placed the bulk of its farmlands into an agricultural zoning district, but failed to make that district an exclusive use district. The old agricultural district permitted single-family homes as a matter of right. Furthermore, the district contained no effective minimum farm size, but rather simply specified that a single-family home in the district could be built on parcels as small as one acre. As urban development pressures mount, local governments find

themselves with no way to stop indiscriminate urban development on scattered parcels throughout what are generally considered to be prime agricultural areas. Developers, as a matter of right, can obtain subdivision plat approval and zoning and building permits for residences in the agricultural district since no rezoning to residential use is required. The net result is scattered urban development accompanied by generally rising local property tax rates and an increasing set of problems for the remaining farmers, including complaints about agricultural odors and agricultural operations such as late night harvesting. The only effective way to resolve this problem is to make the agricultural district an exclusive use district--that is, a district which permits only agricultural and related uses and which prohibits the development of single-family homes not associated with agricultural production activities. This is precisely what the new Walworth County zoning ordinance does in the five agricultural districts provided. The agricultural-zoned lands are shown on Map 14, in addition to environmental corridor lands previously delineated and described in this chapter. Zoning regulations and detailed zoning districts for the study area are discussed in greater detail in the existing land use regulations section of this chapter.

CLIMATIC CHARACTERISTICS, ANALYSIS AND URBAN DESIGN CONSIDERATIONS

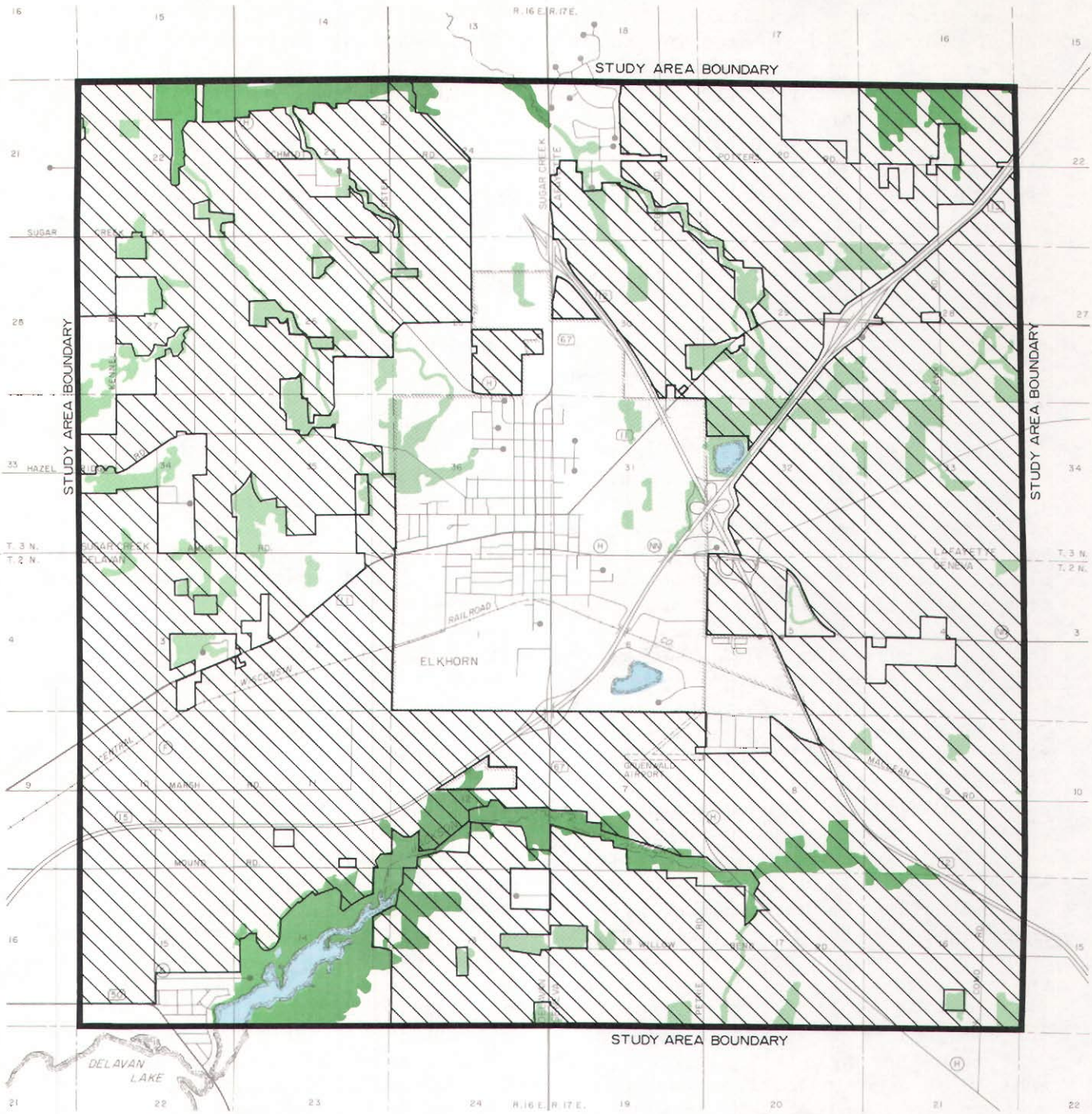
Climate may be regarded as a resource that presents both problems to be resolved and opportunities to be used in the sound development of a community. Climate may be defined as the habitual state and behavior of the atmosphere. Climate varies from place to place, but is, in any one place, relatively stable over time. The latter characteristic permits expectation of weather conditions. To define climate, an arbitrary reference period is selected and mean values of such characteristics as temperature and rainfall, together with measures of the variability in these characteristics, are determined.

The general climate of a relatively large geographic area is termed the macroclimate. The climate of a smaller geographic area that may not be representative of the general climatic conditions within a larger surrounding area is termed the mesoclimate. Examples of mesoclimates include small valleys, forest clearings, frost hollows, and open spaces within urban areas, all of which may exhibit significant differences in meteorological conditions in comparison to surrounding areas. The characteristics of the air space from the surface of the earth to a height where the underlying terrain does not significantly impact upon the mesoclimate--about six feet as a rule--is termed the microclimate.

The macroclimate has long been recognized in community planning and development, as reflected, for example, in certain features of architectural design, in the provision of ample curb lawns for the storage of snow, in storm water drainage design, and in such standards for public works as the minimum depth of cover for water mains. The climate of an area is susceptible to change and modification by man, as are the other elements of the natural resource base such as topography, drainage, soils, and vegetation. Urban form, however, can be planned and designed to accommodate this important environmental element in an energy-efficient fashion and to improve the overall quality of the environment and human comfort for area residents.

Map 14

ENVIRONMENTAL CORRIDORS AND AGRICULTURAL-ZONED LANDS IN THE CITY OF ELKHORN STUDY AREA: 1980



LEGEND

- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR AND ISOLATED NATURAL AREAS
- WATER
- LANDS ZONED FOR EXCLUSIVE AGRICULTURAL USE (35 ACRE MINIMUM PARCEL SIZE) BY WALWORTH COUTY

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

Those climatic elements which have particular importance in urban planning, from the standpoint of energy utilization as well as human comfort, include solar radiation, air temperature, humidity, and wind. Each of these climatic elements represents physical conditions which should be considered in the urban design process used in creating the plan. Also, each of these climatic variables is affected by other physical elements of the study area, including topography, character of the surface and cover ground, wetland areas and bodies of water, and three-dimensional features such as vegetation and structures. Each of these climatic elements is also important for the potential utilization of solar energy in either a passive form--i.e., through proper orientation of building lots and structures for maximum heat gain in winter and minimum heat gain in summer--or active form--i.e., through proper orientation of building lots to accommodate the installation of efficient solar energy collecting devices--and further serves to implement public policy regarding long-term energy conservation.

Moreover, as envisioned in Chapter Ind. 22.01 of the Wisconsin Administrative Code, which constitutes the energy conservation portion of the new state uniform building code, knowledge of certain characteristics of the climate is important in order to promote the use of innovative approaches and techniques in construction to achieve more effective utilization of energy. Such climatic knowledge is required, for example, in order to properly analyze buildings to determine whether they meet state building code requirements for thermal transmittance (U value). Solar radiation, air temperature, humidity, and wind are, accordingly, all climatic characteristics which should be considered in urban planning in order to promote conditions favorable for the design and construction of more energy efficient and comfortable dwellings.

The solar radiation which reaches the earth's surface is termed <u>insolation</u> (derived from <u>in</u>coming <u>sol</u>ar radi<u>ation</u>), a term not to be confused with insulation. The quantity of insolation likely to fall upon level surfaces in the City of Elkhorn on an average day within each month of the year is given in Table 16, expressed in terms of both British Thermal Units (BTU's) per square foot of surface area being struck and Langleys (one Langley equals 3.69 BTU per square foot). The amount of insolation on any given day, however, may vary, depending upon such factors as cloud cover or haze associated with air pollution. It is important to note that insolation values higher than those shown in Table 16 can be obtained by orienting a solar heat gaining surface perpendicular to the incoming solar radiation. The vector, or path, of the incoming solar radiation varies not only diurnally, but throughout the year, based upon the sun path for the Elkhorn area. A diagram showing the path of the sun across the sky at a latitude of 44° North, close to that of Elkhorn (latitude 42°40'12" at the intersection of Geneva Street and Lincoln Street in the City) is presented in Appendix B. This sun path diagram can be used to determine the angle and position of the sun at Elkhorn for any date and time, and can be used in locating and positioning active solar heat gaining surfaces such as solar collectors, as well as passive solar devices and uses, to make the most efficient use of the insolation.

The effects of air temperature on the amount of energy required for the heating and cooling of buildings can be indirectly measured in terms of heating degree days and/or cooling degree days. A heating degree day is defined as the number of degrees that the daily mean temperature is lower than 65°F, and a cooling degree day is defined as the number of degrees that the daily mean

Table 16

MEAN DAILY INSOLATION (INCOMING SOLAR RADIATION) DATA FOR THE ELKHORN AREA

Month	Total Hemispheric Mean Daily Insolation[a]	
	BTU/ft	Langleys
January	479.4	130.0
February	736.5	199.8
March	1,088.8	295.3
April	1,442.7	391.3
May	1,768.4	479.7
June	1,977.1	536.3
July	1,961.8	532.1
August	1,719.0	466.3
September	1,310.3	355.4
October	907.9	246.3
November	524.6	142.3
December	378.4	102.7
Annual	1,191.2	323.1

[a]The data are based upon the amount of insolation striking a level surface at Milwaukee for the period 1941 to 1970. A BTU (British Thermal Unit) is the amount of energy required to raise the temperature of one pound of water one degree fahrenheit. A Langley is equivalent to one calorie of radiation energy per square centimeter; one Langley equals 3.69 BTU per square foot.

Source: National Solar Heating and Cooling Information Center and SEWRPC.

temperature is higher than 65°F. Air temperatures and degree day normals for the Elkhorn area are set forth in Table 17. A procedure for calculating energy consumption in buildings through the use of the degree day data and attendant data derived in conforming with Chapter Ind. 22.01 of the Wisconsin Administrative Code (uniform state building code) is outlined in Appendix C.

Humidity, a measure of the water vapor content of the air, can be described in either absolute or relative terms. Of the two, relative humidity is the most useful for architectural planning purposes, and is important as an environmental factor affecting the design of solar energy cooling systems that are based upon evaporative cooling techniques. Relative humidity is defined as the ratio of the actual amount of water vapor in the air to the maximum amount of water vapor the air could hold at the ambient or surrounding temperature. The average daily relative humidity for the Elkhorn area is also given in Table 17.

Wind can provide beneficial natural ventilation in the summer months. However, wind can be detrimental in the winter months unless properly dealt with in the urban design process relative to such factors as lot and building orientation. Summer and winter winds can be directed in a desirable manner through proper building design and use of topography, vegetation, and the orientation of building lots and structures. Wind is measured in terms of velocity and direction. The distribution of wind speed and direction over a long period of time at a particular site can be graphically depicted through the use of a "wind rose" diagram.

The "wind rose" diagram typically shows the relative frequency of occurrence of wind direction from 16 compass points and for six wind speed categories for a particular time period. Three such wind roses constructed for use in planning and architectural design in the Elkhorn area are shown in Figures 6, 7, and 8. Figure 6 is a wind rose diagram showing the distribution of wind direction and wind speed during the summer months as averaged over a 10-year period, 1964 through 1973. As can be seen in Figure 6, winds during this season are most frequently from the southwest. The distribution of wind direction and wind speed during the winter season is shown in Figure 7, which indicates that the winds during this season are most frequently from the west and northwest. It is also interesting to note that there is a greater relative frequency of occurrence of the higher wind speed categories during the winter months for all wind directions with the exception of winds from the north through the northeast directions, as can be seen by comparing Figures 6 and 7. The annual frequency distribution of wind direction and wind speed is predominantly from the west, as shown in Figure 8. Table 18 shows the winter, summer, and annual absolute and relative frequency of occurrence of wind directions with average wind speed for the area.

Knowledge of insolation, temperature, degree day normals, humidity, precipitation, and air movement is basic to good urban design, site planning, and building design and thereby to developing an urban area which can function efficiently and effectively in the local climatic conditions. Proper lot orientation, building orientation, landscape plantings, insulation placement, vapor barrier placement, heating system size, and cooling system size are all dependent upon a knowledge of each of these climatic elements.

Table 17

GENERAL CLIMATIC DATA FOR THE ELKHORN AREA

Month	Temperature[a] (°F)			Degree Day Normals[a]		Humidity[b]	Precipitation		Clear/Cloudy Days Sunrise to Sunset[b] (mean number of days)			Percent of Possible Sunshine[b]
	Mean	Mean Minimum	Mean Maximum	Heating Degree Day Normals	Cooling Degree Day Normals	Average Daily Relative Humidity (percent)	Precipitation Normals[a] (average inches)	Mean Snowfall[c] (inches)	Clear	Partly Cloudy	Cloudy	
January.....	22.3	15	29	1,325	--	72.0	1.95	10.4	7	6	18	45
February....	25.1	17	33	1,117	--	71.8	1.41	4.8	7	6	15	47
March.....	33.9	25	43	964	--	72.8	2.82	6.7	6	8	17	51
April.....	47.2	36	58	539	4	70.3	3.60	0.5	7	8	15	54
May.....	58.3	46	70	246	38	69.5	3.39	--	7	10	14	59
June.....	68.7	57	80	52	162	71.5	4.39	--	8	10	12	64
July.....	73.2	61	85	6	260	72.3	4.35	--	11	11	9	71
August.....	71.8	60	83	13	222	75.5	3.58	--	11	11	9	67
September...	63.2	52	74	128	75	76.3	3.31	--	10	9	11	60
October.....	53.1	42	64	380	10	73.3	2.47	--	10	9	12	56
November....	38.0	30	46	811	--	74.8	2.24	2.8	6	6	18	41
December....	25.9	19	33	1,212	--	76.5	2.14	9.9	6	6	19	38
Annual	48.4	38.3	58.2	6,793	771	73.0	35.65	35.1	96	100	169	56

[a]At Lake Geneva, Wisconsin, for the years 1940 through 1976.

[b]At Milwaukee, Wisconsin, for the years 1941 to 1970.

[c]At Union Grove, Wisconsin, for the years 1931 through 1952.

Source: U. S. Department of Commerce, National Oceanic and Atmospheric Administration; Environmental Data Service; and SEWRPC.

Table 18

ABSOLUTE AND RELATIVE FREQUENCY OF OCCURRENCE OF WIND DIRECTIONS WITH AVERAGE WIND SPEED--GENERAL MITCHELL FIELD: 1964-1973

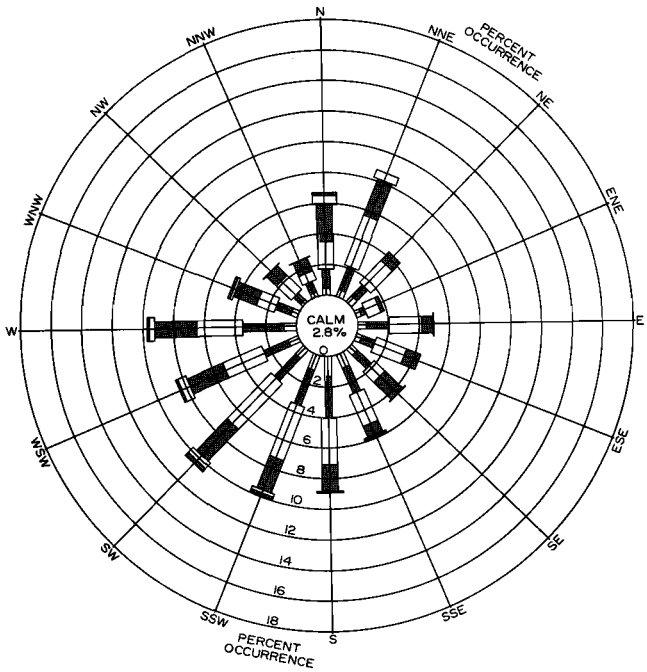
Wind Direction	Winter			Summer			Annual		
	Number of Observations	Relative Frequency (percent)	Average Wind Speed (knots)	Number of Observations	Relative Frequency (percent)	Average Wind Speed (knots)	Number of Observations	Relative Frequency (percent)	Average Wind Speed (knots)
North.....	244	3.4	12.0	479	6.6	10.3	1,627	5.7	11.6
North-Northeast....	215	3.1	10.9	612	8.4	9.1	1,986	6.9	9.9
Northeast.....	193	2.7	11.9	307	4.3	7.5	1,119	3.9	9.3
East-Northeast.....	117	1.7	11.7	135	1.9	7.6	602	2.1	9.6
East.....	231	3.2	11.1	342	4.8	7.3	1,212	4.3	8.8
East-Southeast.....	142	2.0	9.9	300	4.2	8.2	909	3.2	8.9
Southeast.....	183	2.6	10.1	446	6.2	8.5	1,445	5.1	9.3
South-Southeast....	305	4.3	9.2	402	5.7	7.2	1,664	5.9	8.5
South.....	553	7.8	9.7	630	8.9	7.4	2,466	8.7	8.7
South-Southwest....	589	8.3	10.3	689	9.7	8.3	2,450	8.6	9.7
Southwest.....	526	7.4	11.1	746	10.4	9.3	2,182	7.6	10.2
West-Southwest.....	541	7.7	10.8	601	8.4	9.6	2,013	7.0	10.5
West.....	1,194	16.8	10.9	688	9.6	8.8	3,534	12.4	10.2
West-Northwest.....	914	12.8	11.4	336	4.7	9.0	2,247	7.8	10.7
Northwest.....	666	9.3	10.8	236	3.3	8.9	1,704	5.9	10.5
North-Northwest....	490	6.9	10.7	204	2.9	8.8	1,415	4.9	10.5
Calms.....	96	--	--	207	--	--	624	--	--
Total (average)	7,199	100.0	(10.6)	7,360	100.0	(8.5)	29,199	100.0	(9.7)

NOTE: A knot (one nautical mile per hour) is equivalent to 1.1516 statute miles per hour.

Source: National Climatic Center and SEWRPC.

Figure 6

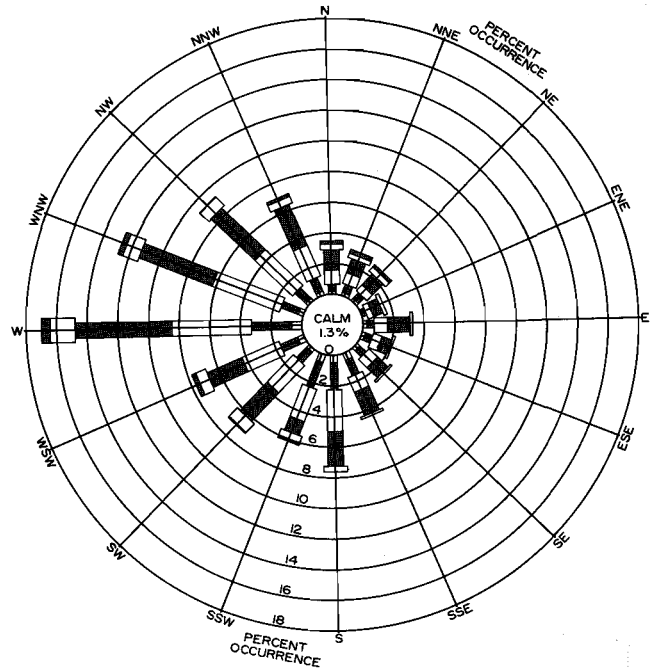
WIND ROSE FOR FREQUENCY DISTRIBUTION OF SUMMER WIND DIRECTION FOR MILWAUKEE: 1964-1973



Source: SEWRPC.

Figure 7

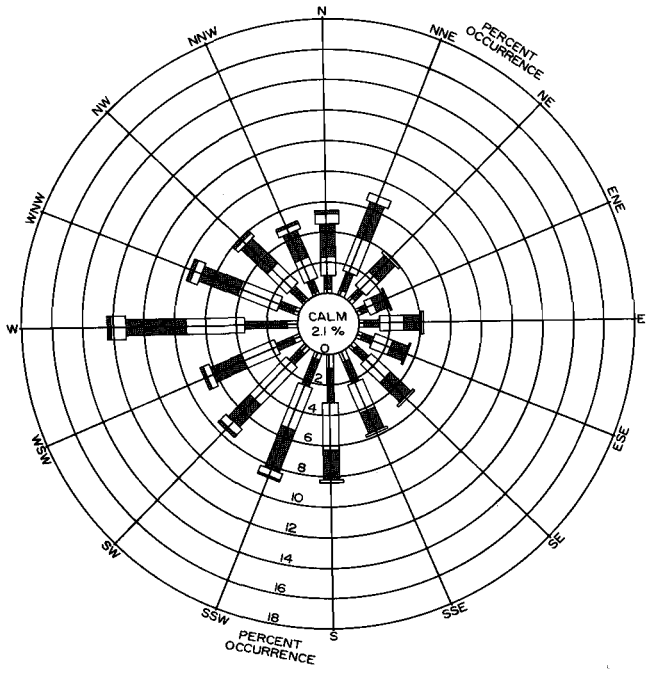
WIND ROSE FOR FREQUENCY DISTRIBUTION OF WINTER WIND DIRECTION FOR MILWAUKEE: 1964-1973



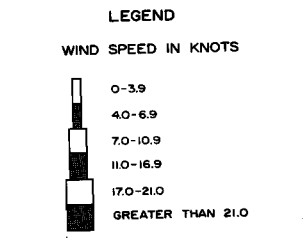
Source: SEWRPC.

Figure 8

WIND ROSE FOR FREQUENCY DISTRIBUTION OF ANNUAL PREVAILING WIND DIRECTION FOR MILWAUKEE: 1964-1973



Source: SEWRPC.



NOTE: 1 NAUTICAL MILE PER HOUR (KNOT)= 1.1516 STATUTE MILES PER HOUR= 0.5144 METERS PER SECOND

The Microclimate

Within the context of the general climate, or macroclimate, of the larger region within which Elkhorn is located, the specific climate or microclimate, of the Elkhorn area can be analyzed. Elkhorn's microclimate should be a consideration in the location and orientation of future streets, blocks, lots, and eventually buildings in order to make the most efficient use of the climate in terms of energy integration. Macroclimatic elements such as solar radiation, air temperature, humidity, and wind may have different effects upon different sites within the City, depending upon the site-specific physical characteristics of the terrain, vegetation, location, and extent of bodies of water and various other natural as well as man-made features. These site-specific effects, when properly analyzed and identified, should influence urban design and planning. Climate, however, is complex and variable, and any climatic analysis can serve only as a general analysis of probable climatic conditions within the area during the seasons of summer and winter, which represent the two extremes of the climatic spectrum.

A microclimatic analysis was done for Elkhorn based upon the climatic information presented earlier. The results of the microclimatic analysis are shown on Map 14.

As discussed earlier and shown in Figures 6 through 8 and Table 18, prevailing winter winds for Milwaukee are from the west, northwest, and southwest, and prevailing summer winds are from the southwest. During the winter, buildings should be protected from these winds to the maximum extent practicable. During the summer these winds can be used to provide cooling.

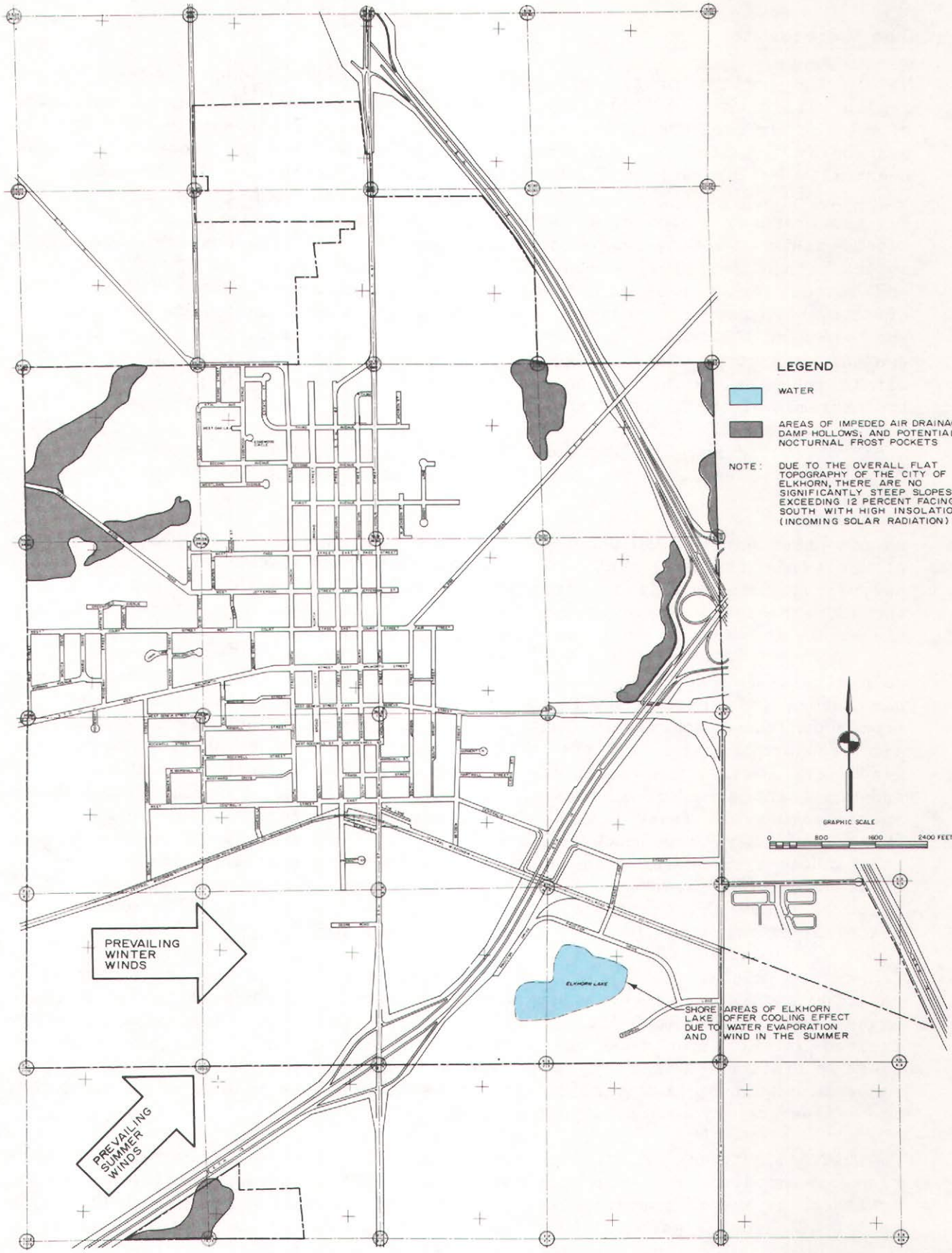
Cold air is heavier than warm air, and because of this physical property cold air from high-relief areas flows to low areas and is replaced by warmer air from above these low areas. This process, occurring frequently at night when air pressure is high and the sky is clear, produces katabatic or drainage winds. The low-lying areas in the Elkhorn area have been identified on Map 15 and represent areas of impeded air drainage, which are typically damp hollows in the summer and frost pockets in the winter. The nighttime temperatures in these areas may be as much as 10°F lower and the humidity 20 percent higher than in the surrounding areas which are at higher elevations. In the daytime, these conditions reverse--the low areas will tend to be warmer than the ridges swept by winds and the humidity will also tend to be lower. Generally, the placement of buildings in these areas should be avoided.

Temperature within the Elkhorn area can also be affected, to a small degree, by variations in soil types. A dry soil such as sand and gravel tends to cause higher temperatures and lower humidity; wet soils, loams, and clays in poorly drained marshy areas tend to cause lower temperatures and higher humidity. These variations caused by soil type and characteristics are, on the whole, small in magnitude; however, in situations such as the siting of a residence, the difference may be locally significant.

The microclimate of the Elkhorn area can also be affected by the size and locations of woodland and tree planting areas. The woodland and tree planting areas act as a purification element for the air which passes through them. The amount of airborne particulate matter decreases rapidly toward the interior of a woodland, reflecting the effective filtering action of woodland and tree planting areas.

Map 15

MICROCLIMATE ANALYSIS FOR THE CITY OF ELKHORN



Source: SEWRPC.

Woodland and tree planting areas can also affect the temperature of the environment. The moisture dispelled into the atmosphere through transpiration contributes to the lowering of temperatures in surrounding areas. This lowering of temperature can average from 3°F to 5°F below the annual mean for the area. Moreover, this effect is greatest in the summer, owing to the existence of foliage on deciduous trees, and is negligible in winter because of the dormancy of such trees.

The climatic elements discussed herein should be addressed in the design of the City, since they are important considerations in providing an urban form which is energy-efficient, as well as in providing an urban setting which enhances environmental quality and human comfort for the residents of the community.

EXISTING LAND USE

If the City of Elkhorn land use plan is to be a sound and realistic guide to the making of decisions concerning the physical development of the planning area, it must be based upon careful consideration of the existing land use pattern as well as upon the physical characteristics of the land itself. In the summer of 1980, a special field survey was conducted within the study area by the Regional Planning Commission to determine the nature and extent of existing land use. The data gathered in this land use survey were mapped, charted, and analyzed in order to provide a part of the basis for the determination of appropriate patterns of future land use development in the City and surrounding area.

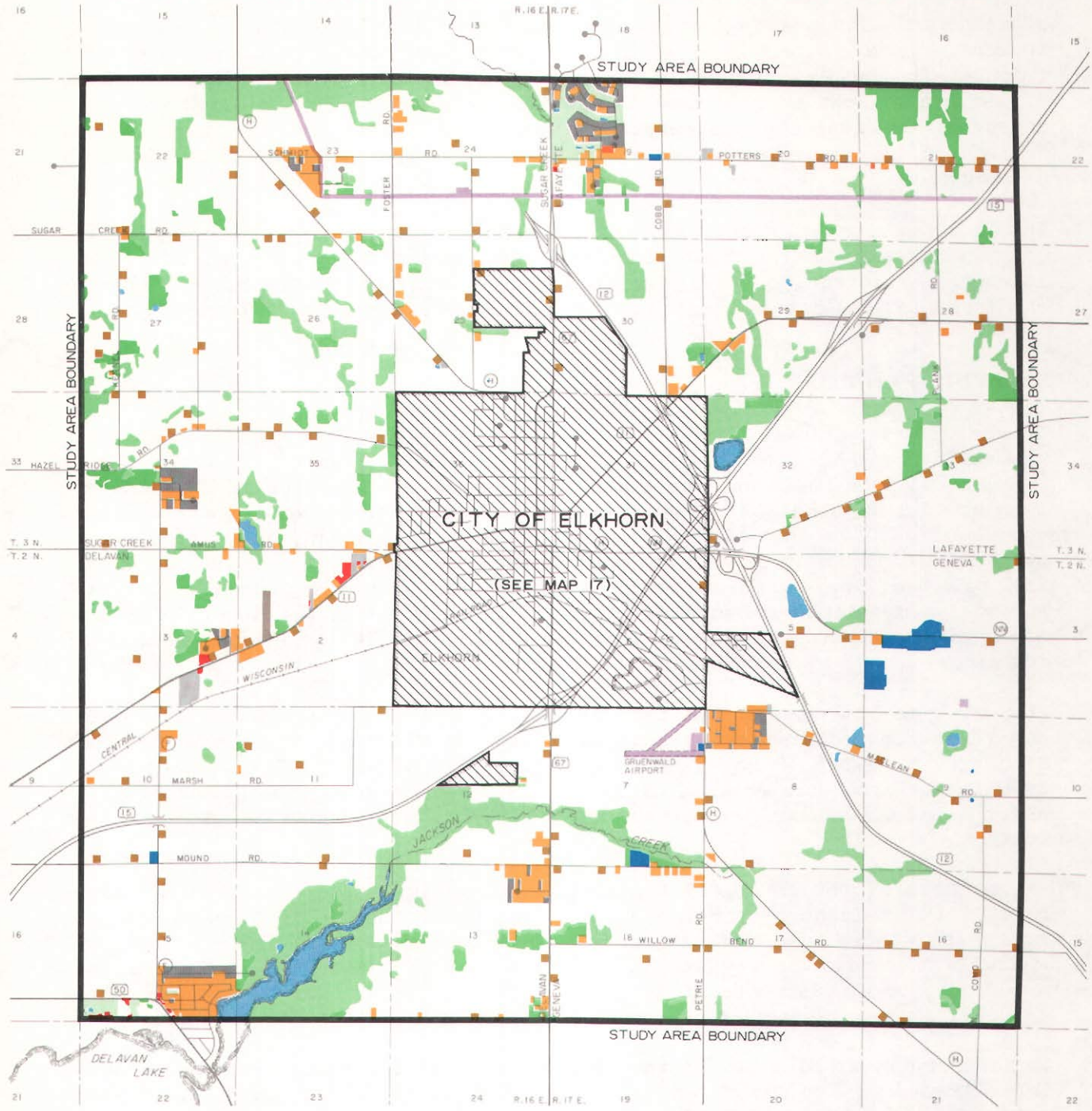
The existing land uses in the City of Elkhorn study area are shown on Map 16, and the amount of land devoted to each type of land use in the study area is set forth in Table 19 for the years 1970, 1975, and 1980. The existing land uses in the incorporated area of the City of Elkhorn are also shown on Map 17, and the amount of land devoted to each type of land use in the City is set forth in Table 20.

The study area totals 23,089.1 acres, or about 36 square miles. The incorporated City of Elkhorn occupies 2,800.7 acres, or about 12.1 percent of the total study area. In 1980, urban land uses occupied about 3,126.9 acres, or about 13.5 percent of the total study area. Rural land uses, which include woodlands, wetlands, unused lands, and agricultural lands, totaled about 19,964.2 acres, or about 86.5 percent of the study area.

Several important elements of the character of the study area can be noted in Table 19 and on Map 15. First, the singularly largest land use in the Elkhorn study area still is agriculture, representing over 76 percent of the total study area. Second, because of the high proportion of land in agricultural use, woodlands and wetlands do not constitute as a high proportion of the total area as in other areas of the Region. Together, woodlands and wetlands account for only 1,939.5 acres, or about 8.4 percent of the total study area. Third, residential, commercial, and industrial development is concentrated in the City of Elkhorn.

Map 16

EXISTING LAND USE IN THE CITY OF ELKHORN STUDY AREA: 1980



LEGEND

- CITY OF ELKHORN CORPORATE LIMITS:1980
- SINGLE-FAMILY RESIDENTIAL
- FARMSTEAD
- TWO-FAMILY RESIDENTIAL
- MULTI-FAMILY RESIDENTIAL
- RESIDENTIAL LAND UNDER DEVELOPMENT
- COMMERCIAL
- INDUSTRIAL
- TRANSPORTATION AND UTILITIES
- GOVERNMENTAL AND INSTITUTIONAL
- PARK AND RECREATIONAL
- NATURAL AREAS-WETLANDS
- NATURAL AREAS-WOODLANDS
- NATURAL AREAS-WATER
- AGRICULTURAL AND OTHER OPEN LANDS

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

Table 19

SUMMARY OF EXISTING LAND USE IN THE CITY OF ELKHORN STUDY AREA: 1970, 1975, AND 1980

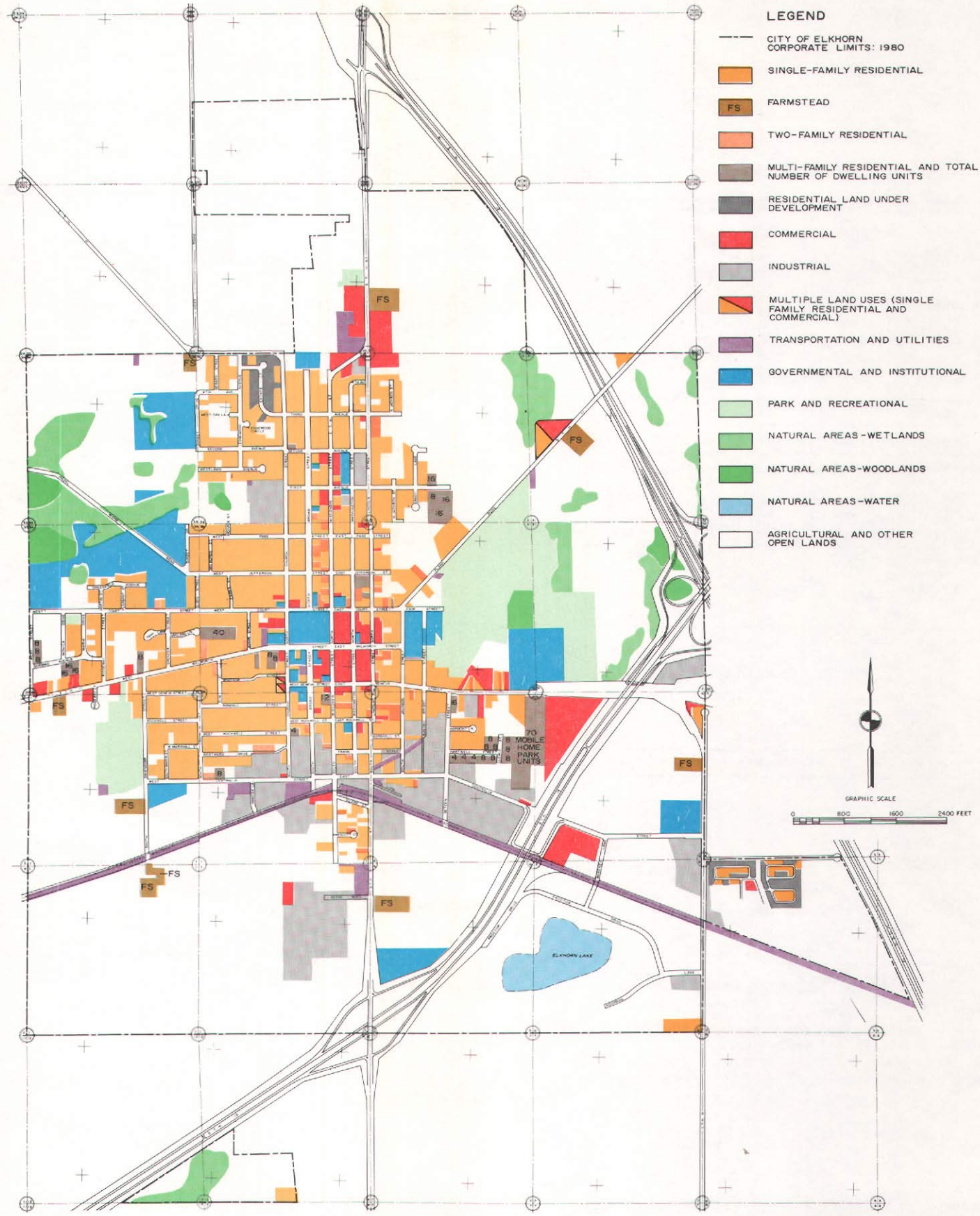
Land Use Category	Acreage			Percent of Subtotal 1980	Percent of Total 1980	Change 1970-1980	
	1970	1975	1980			Acres	Percent
Urban [a]							
Residential							
Single Family	588.4	657.0	718.2	22.9	3.1	129.8	22.1
Two Family	9.9	9.9	15.3	0.5	0.1	5.4	54.5
Multiple Family	20.9	29.0	43.5	1.4	0.2	22.6	108.3
Under Development	102.0	221.4	192.2	6.1	0.8	90.2	88.4
Subtotal	721.2	917.3	969.2	30.9	4.2	248.0	34.4
Retail Sales and Service	81.2	93.9	93.9	3.0	0.4	12.7	15.6
Industrial [b]	92.2	96.2	122.3	3.9	0.5	30.1	32.6
Transportation and Utilities							
Arterial Streets [c]	523.6	666.6	746.7	23.8	3.2	223.1	42.6
Collector and Other Streets	433.5	463.8	476.9	15.3	2.1	43.4	10.0
Utilities and Other	217.4	420.0	350.1	11.3	1.5	132.7	61.0
Subtotal	1,174.5	1,550.4	1,573.7	50.4	6.8	399.2	33.6
Governmental and Institutional							
Public	122.3	129.0	172.1	5.5	0.7	49.8	40.7
Private	20.4	23.8	31.6	1.0	0.1	11.2	54.9
Subtotal	142.7	152.8	203.7	6.5	0.8	61.0	42.7
Recreational							
Multi-Community Public	--	--	--	--	--	--	--
Community Public	--	--	--	--	--	--	--
Neighborhood Public	20.4	20.4	20.4	0.6	0.1	--	--
Other Public	0.6	0.6	0.6	0.1	0.1	--	--
Private	86.1	143.1	143.1	4.6	0.6	57.0	66.2
Subtotal	107.1	164.1	164.1	5.3	0.8	57.0	53.2
Urban Land Use Subtotal	2,318.9	2,974.7	3,126.9	100.0	13.5	808.0	34.8
Rural							
Natural Areas							
Water	200.2	191.9	197.9	1.0	0.9	- 2.3	- 1.1
Wetlands	1,377.7	1,457.0	1,342.9	6.7	5.8	- 34.8	- 2.5
Woodlands	617.4	612.6	596.6	3.0	2.6	- 20.8	- 3.4
Subtotal	2,195.3	2,261.5	2,137.4	10.7	9.3	- 57.9	- 2.6
Agricultural and Other Open Lands	18,475.5	17,756.0	17,725.9	88.8	76.7	-749.6	- 4.0
Farmsteads	99.4	98.9	98.9	0.5	0.5	- 0.5	- 0.5
Rural Land Use Subtotal	20,770.2	20,116.4	19,962.2	100.0	86.5	-808.0	3.8
Total	23,091.1	23,091.1	23,089.1	--	100.0	--	--

[a] Includes related off-street parking.
[b] Includes quarries and industrial-related off-street parking.
[c] Includes freeways and expressways.

Source: SEWRPC.

Map 17

EXISTING LAND USE IN THE CITY OF ELKHORN: 1980



Source: SEWRPC.

Table 20

SUMMARY OF EXISTING LAND USE IN THE CITY OF ELKHORN: 1980

Land Use Category	Acreage	Percent of City
Urban[a]		
Residential		
Single Family	378.2	13.5
Two Family	12.8	0.4
Multiple Family	34.4	1.2
Under Development	62.6	2.2
Subtotal	488.0	17.4
Retail Sales and Service	67.0	2.4
Industrial[b]	102.3	3.7
Transportation and Utilities		
Arterial Streets[c]	197.7	7.1
Collector and Other Streets	136.3	4.9
Utilities and Other	50.5	1.8
Subtotal	384.5	13.8
Governmental and Institutional		
Public	134.6	4.8
Private	19.7	0.7
Subtotal	154.3	5.5
Recreational		
Multi-Community Public	--	--
Community Public[d]	--	--
Neighborhood Public	18.4	0.6
Other Public	--	--
Private	64.0	2.3
Subtotal	82.4	2.9
Urban Land Use Subtotal	1,278.5	45.7
Rural		
Natural Areas		
Water	17.4	0.6
Wetlands	101.3	3.6
Woodlands	26.9	1.0
Subtotal	145.6	5.2
Agricultural and Other Open Lands	1,370.3	48.9
Farmsteads	6.3	0.2
Subtotal	1,376.4	49.1
Rural Land Use Subtotal	1,522.2	54.3
Total	2,800.7	100.0

[a] Includes related off-street parking.
[b] Includes quarries and industrial-related off-street parking.
[c] Includes freeways and expressways.
[d] Excluding the park area surrounding the Walworth County Courthouse.

Source: SEWRPC.

Residential Land Use

Of all the elements of a community land use plan, that portion of the plan which normally holds the interest of the largest number of residents is residential land use. Since the residential land use element of the land use plan seeks primarily to provide a safe, attractive, and comfortable setting for residential development, it is very important that this element be given very careful and thoughtful consideration. The nature and extent of residential development is a major determinant of the level of community utilities needed to serve local residents. In 1980, residential land use accounted for approximately 31 percent of the developed urban area but only about 4 percent of the total study area. Within the City of Elkhorn, residential land use accounts for about 17 percent of the total city area and approximately 38 percent of the total developed area of the city proper. Single-family residential development in the City is predominantly located in the central and northwestern areas of the City, as shown on Map 17. Two-family and multiple-family residential land uses are scattered throughout the City, and a mobile home park site with 70 dwelling units is located in the eastern half of the City.

In 1970, about 721.2 acres of land within the study area was developed or under development for residential use. Of this total, about 619 acres, or about 85.8 percent, were developed and in residential use, and the remainder was under development. By 1980, about 969.2 acres of land within the study area was developed or under development for residential use, an increase of about 248 acres, or about 34.4 percent, over the 10-year period. Of this 969.2 acres, about 777 acres, or about 80 percent, were developed and in residential use.

Commercial Land Use

In 1980, commercial land uses accounted for about 93.9 acres, or 3 percent of the urban land uses and 0.4 percent of the total land uses within the Elkhorn study area. Within the City of Elkhorn, commercial land uses accounted for about 67 acres, or about 5.2 percent of the urban uses and 2.4 percent of the total land uses in the City of Elkhorn. Community-oriented commercial land uses in the City are located predominantly in the Elkhorn central business district (CBD) and in a retail shopping center located on the east side of the City contiguous to STH 15. Highway-oriented commercial land uses in the City are located, for the most part, on the north side of Elkhorn along STH 67 and on the west side of the City along STH 11. Neighborhood-oriented commercial land uses are scattered throughout the City rather than in any designated neighborhood shopping center, as shown on Map 16.

The Elkhorn CBD has traditionally served as the focal point for county community and commercial activities. It has become a primary source of identity for the City, an identity well worth preserving and maintaining for the entire Elkhorn study area.

Industrial Land Use

In 1980, industrial land uses accounted for 122.3 acres, or about 3.9 percent of the urban land uses within the study area and about 0.5 percent of the total study area. Within the City of Elkhorn proper, industrial land uses accounted

for 102.3 acres, or about 8 percent of the developed urban area and about 3.7 percent of the total land in the City. Industrial land uses are concentrated along the Chicago, Milwaukee, St. Paul & Pacific Railroad right-of-way on the south side of the City, as shown in Figure 9 and on Map 17. Another concentration of industrial land use in the City is located along N. Church Street in the northwest quarter of the City. The City of Elkhorn has recently designated an industrial park located to the east of and along STH 15 and to the south of and along the Chicago, Milwaukee, St. Paul & Pacific Railroad right-of-way in the southeast quarter of the City.

Transportation and Utilities

In 1980, transportation and utility land uses, which include arterial streets and highways, collector streets, minor land access streets, railways, and utilities, accounted for approximately 1,573.7 acres of land in the study area, or 50.4 percent of the urban land uses in the study area and 6.8 percent of the total study area--a 339.2-acre, or 33.6 percent, increase over the total of 1,174.5 acres in 1970. In the City, transportation and utility land uses accounted for about 384.5 acres, or 3.0 percent of the developed portion of the City and 13.8 percent of the entire city area. This large increase in transportation and utility land uses can be attributed to the construction of the new USH 12 and STH 15 freeways and associated interchanges through the study area.

Governmental and Institutional Land Use

In 1980, governmental and institutional land uses accounted for about 203.7 acres of land in the Elkhorn study area, representing about 6.5 percent of the urban uses of the study area and about 0.8 percent of the total study area. Within the City of Elkhorn proper, these land uses accounted for 154.3 acres, or about 12.1 percent of the urban area and 5.5 percent of the total city area. The governmental and institutional land uses within the City include the County Courthouse and jail, the City Municipal Building and Fire Station, Gateway Technical Institute, Matheson Memorial Library, the U. S. Post Office, the West Side Primary School, the Elkhorn Area Middle School, the Elkhorn Area High School, and a Wisconsin Department of Transportation drivers' license office.

Recreational Land Uses

In 1980, recreational land uses represented approximately 164.1 acres of land, or 5.3 percent of the urban portion of the Elkhorn study area and 0.8 percent of the total land area within the study area. Within the City of Elkhorn, recreational land uses accounted for about 82.4 acres, representing about 6.4 percent of the developed portion of the City and 2.9 percent of the total city area. The various recreational land use sites are located and identified on Map 10 and are also shown on Maps 16 and 17.

Rural Land Uses

Rural land uses include surface water, wetlands, woodlands, unused land, other open lands, and agricultural lands. In 1980, surface water areas represented 197.9 acres, or about 1.0 percent of the rural area in the study area and

Figure 9

MILWAUKEE ROAD RIGHT-OF-WAY

The Chicago, Milwaukee, St. Paul & Pacific Railroad right-of-way forms a man-made environmental barrier. Industrial land uses extend along this right-of-way as it passes through the south side of the City. This view of the right-of-way looks west from the intersection of the right-of-way with Lincoln Street (STH 67).

Photo by Patrick J. Meehan.

0.9 percent of the total study area. In 1980, wetland areas represented 1,342.9 acres, or about 6.7 percent of the rural area in the study area and 5.8 percent of the total study area.

In 1980, woodlands occupied 596.6 acres of land, or 3.0 percent of the rural area in the study area, and 2.6 percent of the total study area. In 1980, agricultural lands and other open lands accounted for 17,725.9 acres, or 88.8 percent of rural area in the study area and 76.7 percent of the total study area. In 1970, rural land uses in the study area totaled 20,770.2 acres, and in 1980, 19,962.2 acres, a decrease of 808 acres, or of -3.8 percent, over the 10-year period. Agricultural lands, natural areas, and other open and unused lands within the City of Elkhorn proper account for 1,522.2 acres, or 54.3 percent of the total city area.

The agricultural and related rural land use category includes all croplands, pasturelands, orchards, nurseries, fowl and fur farms, and unused lands. Farm dwelling sites were classified as farmsteads and were assigned an arbitrary site area of 20,000 square feet. All other farm buildings were included in the overall agricultural land use category.

THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

During the initial stages of the conduct of the land use planning effort, the City Plan Commission requested that the land use plan provide general guidelines for the improvement of the City's central business district (CBD) over the planning period. While it is not the purpose of this land use plan to provide detailed subarea studies and development and redevelopment recommendations, which would require a structural conditions survey, a commercial market analysis, and site or building-specific improvement designs, it was determined that the land use plan could set forth an overall urban design development framework for future efforts to improve the City's CBD. The plan provides such a framework based upon CBD problem identification and upon analyses of CBD land use and traffic circulation, and of the visual character of the area. It is recognized that merchandising and customer relations have a great impact upon the character and success of the Elkhorn CBD; however, the consideration of such factors is beyond a land use planning effort per se.

Central Business District Land Use

Map 18 shows the character of land use development in the Elkhorn central business district in 1980. The existing central business district area, as defined by the extent of commercial and governmental/institutional land uses, consists of about 60 acres, of which approximately 38 acres, or 63 percent, is in commercial and governmental/institutional use. Land uses in addition to the commercial and governmental land uses in the Elkhorn CBD include residential uses, parks, and supporting automobile parking facilities. Commercial development in the downtown consists of a mixture of three types of retail establishments: first, stores providing convenience shopping goods and services such as hardware stores, barber shops, and professional offices; second, stores providing comparison shopping goods such as family apparel stores and general merchandise stores; and third, automotive-oriented stores including new and used auto sales dealers and automotive repair and service shops. Like many older central business districts, Elkhorn's CBD is fraught with the complexities of a wide range of lot sizes, a variety of ownerships, and numerous conflicts between adjacent incompatible land uses.

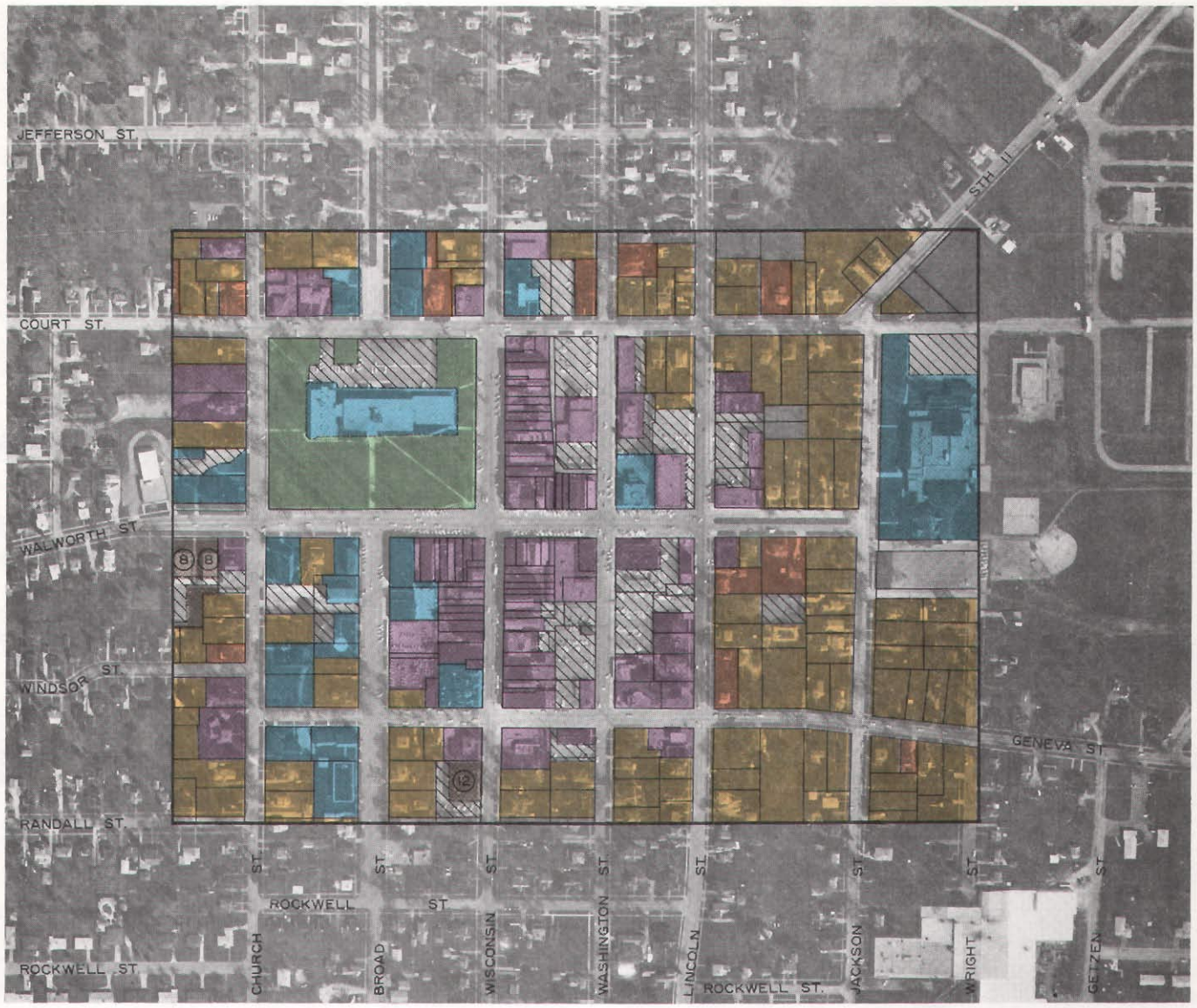
The primary focus of activity in the Elkhorn central business district is the intersection of Wisconsin Street and Walworth Street. From this intersection, commercial land uses extend to the north along the east side of Wisconsin Street; to the east along both sides of Walworth Street; to the south along both sides of Wisconsin Street between Geneva Street and Walworth Street; and to the west along Walworth Street between Wisconsin Street and Broad Street. Most of these commercial uses are established in two-story structures, built at or near street right-of-way lines. Also, many of these structures contain second-story apartments over first-floor commercial uses. Within the central business district, existing commercial land use development exhibits varying levels of commercial vitality, structural condition, and extent of utilization. The identification of these characteristics can provide a general delineation of those areas in the downtown containing development of relatively high viability and importance, as well as of those areas of lesser commercial viability and importance. This information can then be used as a basis for determining where some form of redevelopment might be considered.

Central Business District Vehicular and Pedestrian Circulation

Vehicular movements to and from the Elkhorn CBD are primarily accomplished via Walworth Street (STH 11 east to Wisconsin Street), Wisconsin Street (STH 67 and STH 11), and Lincoln Street (STH 67 north to Geneva Street). These three arterial roadways provide subregional road system continuity to areas beyond the corporate limits of the City to the west, north, and south, respectively. Since these arterials pass through the Elkhorn CBD, they promote the routing of traffic through the Elkhorn CBD. Average weekday traffic volumes in 1978 on Walworth Street west of Wisconsin Street totaled 7,760 vehicles, and east of Wisconsin Street totaled 5,160 vehicles. Traffic volumes on Wisconsin Street totaled 9,990 vehicles south of Walworth Street and 8,470 vehicles north of Walworth Street; and on Lincoln Street, totaled 2,090 vehicles south of Walworth Street. The combination of through traffic, local shopping, and government-oriented traffic, together with the vehicular movements associated with on-street parallel and angle parking, generates some traffic congestion and pedestrian conflicts during the peak travel periods.

Map 18

EXISTING LAND USE IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT: 1980



LEGEND

- CENTRAL BUSINESS DISTRICT BOUNDARY
- EXISTING PROPERTY BOUNDARY
- SINGLE-FAMILY RESIDENTIAL
- TWO-FAMILY RESIDENTIAL
- MULTIPLE-FAMILY RESIDENTIAL AND NUMBER OF UNITS
- COMMERCIAL
- OFF-STREET PARKING (FOR SIX OR MORE VEHICLES) AND UTILITIES
- GOVERNMENTAL AND INSTITUTIONAL
- PARK AND OPEN SPACE
- OPEN UNUSED LANDS

GRAPHIC SCALE
0 100 200 400 FEET

Source: SEWRPC.

The grid-type circulation system of residential areas surrounding the CBD promotes the use of these residential streets for vehicular access to the CBD. While this situation may not be of immediate concern because of the small amounts of commercial-oriented traffic using these streets, additional traffic may be expected to use these streets if forecast population levels for the City are achieved during the planning period, which in turn will affect the overall character and liveability of residential areas adjacent to the Elkhorn CBD.

Pedestrian circulation is provided by concrete walks along the existing street rights-of-way parallel to the roadway pavements and street-facing building facades (facades are defined as the face or front of a building or group of buildings). Crosswalks are provided at street intersections; none are provided at midblock. Effective linking pedestrian paths are not provided between front entrances of buildings and off-street parking areas.

Visual and Urban Design Characteristics of the Central Business District

Several broad areas of concern should be addressed with respect to the visual and urban design characteristics of the CBD, including landscape plantings, building facades, signage, and the spatial interaction and spatial linking elements found in the CBD. More particularly, consideration should be given to yards, urban scale, mass, urban rooflines, materials, colors, lighting, and the various types of street furniture which contribute to the use of the CBD.

In 1980, the City did not have any landscape plantings or green spaces in the CBD area with the exception of the park area contiguous to the County Courthouse. Street trees and other general landscape materials were nonexistent along the street facades of CBD buildings. Landscape plantings in the CBD can help to visually define the street lines, add texture and natural color to the CBD, provide needed visual screening, and fill spaces which are currently void of design significance. Together with the building masses, landscape plantings can form continuous and cohesive enclosures along the streetscape. It is important that such plantings be placed to emphasize the urban design character of the CBD rather than to obscure such character.

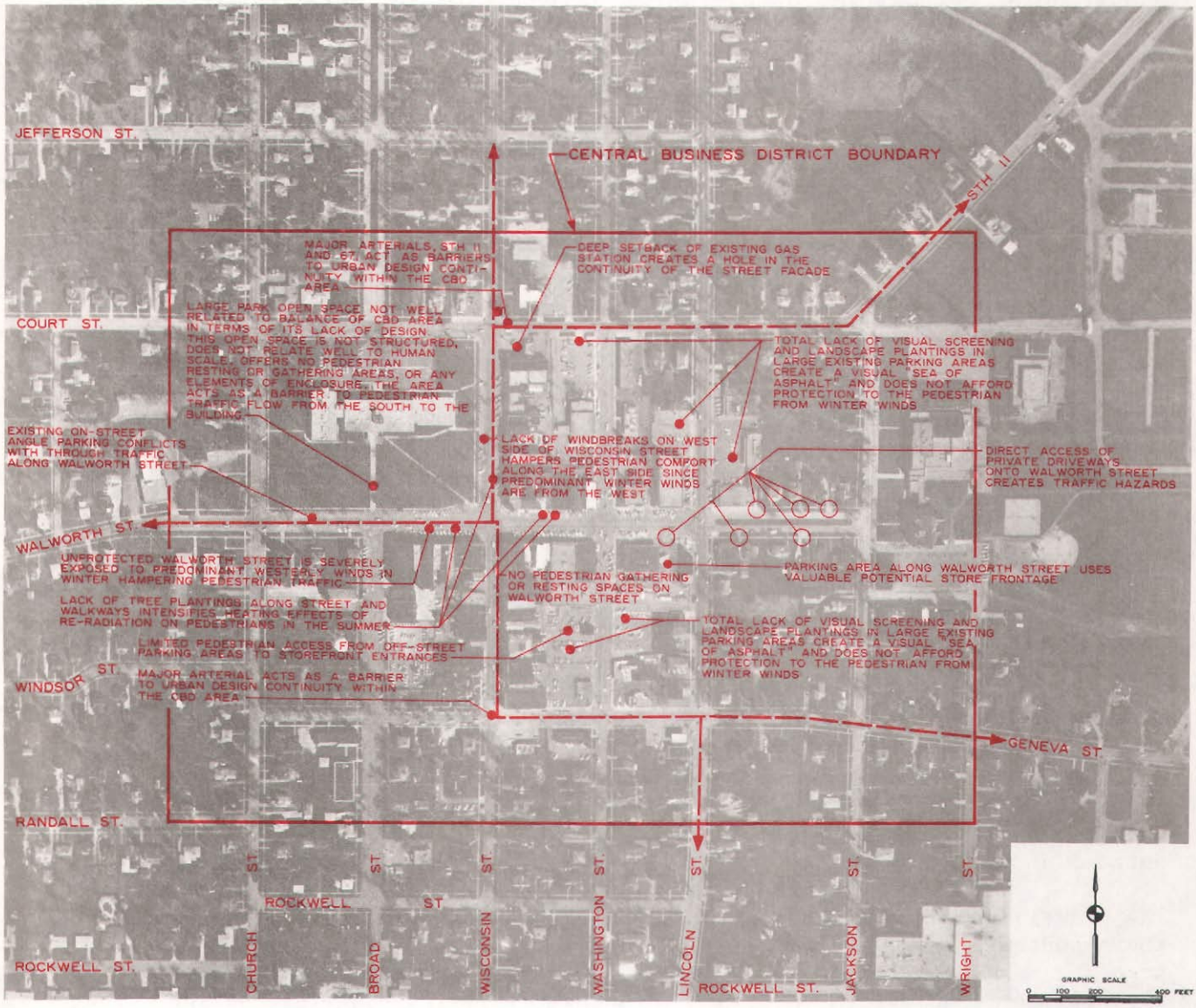
Other urban design problems in Elkhorn's CBD have been analyzed and are graphically identified on Map 19. As shown on Map 19, the large courthouse park is not well related, in terms of urban design, to the storefronts on the south side of Walworth Street between Wisconsin Street and Broad Street, or to the storefronts on the east side of Wisconsin Street between Walworth Street and Court Street, and no linking design elements are provided. In the winter, the park area can act as a significant barrier to pedestrian flow from these two abutting commercial streets. The deep building setback of the existing gas station at the southeast corner of the intersection of Court Street and Wisconsin Street creates a "hole" in the continuity of the east facade of Wisconsin Street between Walworth Street and the Matheson Memorial Library, as noted on Map 19.

The prevailing summer winds in the Elkhorn area are from the southwest and the south-southwest. For proper urban design response to area climatic conditions, tree plantings taller than six feet should be provided along these summer breeze lines in order to take full advantage of their potential cooling effect

on pedestrians using the CBD in summer. Conversely, since predominant winds in the winter are from the west, pedestrian protection from winter winds can best be afforded by shelters or tree plantings placed in lines perpendicular to these westerly winds. Tree plantings in these areas should be of a coniferous variety which retains its foliage during the winter months. Tree plantings also decrease insolation before it reaches the ground, thus preventing surface re-radiation (long wave radiation) from concrete and asphalt surfaces in the Elkhorn CBD. Since there are presently no tree plantings or sheltered areas along the Elkhorn CBD streets and walks, the severity of both the winter and the summer climate is keenly felt by the pedestrians using downtown.

Map 19

ANALYSIS OF URBAN DESIGN PROBLEMS IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT: 1980



Source: SEWRPC.

Recalling the mercantile glory of the Italian Renaissance, and symbolizing flourishing commerce, an adaptation of the Italian Palazzo style of architecture was utilized in the original facade designs of many of the buildings in the Elkhorn CBD. Unfortunately, many of these facades have been remodeled and their original design character altered. Significant characteristics of this Italian Palazzo style can be seen in Figure 10, which illustrates these stylistic characteristics on a typical building in the Elkhorn CBD.

Although some of the original CBD building facades exhibited a design harmony in the past, this harmony of design has been weakened or destroyed by the many nonrelated visual elements which have been added to the buildings since their original construction. These types of visual elements include noncompatible signs and false facades which are contradictory to the original design intent of some buildings. In addition to being inharmonious with the general character of the CBD, many of the signs overhang the public rights-of-way and obscure one another from view, creating visual clutter. Existing street lighting along these facades is unattractive and not at a human scale.

Some of the more specific problems relating to the physical characteristics of the streetscape facades have been analyzed and are graphically shown in Figures 11, 12, 13, 14, 15, and 16 for Wisconsin Street between Geneva Street and Court Street and for Walworth Street between Broad Street and Washington Street. In addition to the detailed comments contained in Figures 11, 12, 13, 14, 15, and 16, some general comments can be made which are applicable to each of the facades analyzed. The facades have no unity in their signage systems and thus add to the visual complexity and visual clutter in the area. Landscape planting materials and street furniture are nonexistent. Overall, there is no unity in the remodeled building facades or overall design concept in relation to their older, architecturally intact, neighboring buildings. In particular, the south facade of Walworth Street between Broad Street and Wisconsin Street in Figure 16 and the east facade of Wisconsin Street between Walworth Street and Court Street in Figure 11 do not relate well with the large open park space of the Courthouse, which is contiguous to both of these facades, and neither facade provides linking urban design elements. Each of these two facades is separated from the Courthouse park by the strong barrier created by Walworth Street and Wisconsin Street and their attendant angle parking areas; this spatial relationship is shown in Figure 17.

Some overall spatial relationships in the Elkhorn CBD exist which could be exploited as design opportunities. These urban design opportunities are shown on Map 20. A primary overall unifying and ordering design concept for the Elkhorn CBD is possible along the axis formed along Walworth Street by the Courthouse park and the Elkhorn Area Middle School, a three-and-one-half story building of large, massive design character located on Jackson Street at the east end of Walworth Street. This school is a strong visual landmark, as shown in Figure 18. A secondary axis offering potential for a unifying and ordering design concept for the Elkhorn CBD exists along Broad Street between Geneva Street and Walworth Street; this axis is secondary in nature since it has no activity space or visual landmark at its southern extremity as a termination point; however, at its northern extremity the Courthouse acts as a termination point. Activities along this secondary access are limited to governmental and institutional uses.

The two axes are directional, orderly, and dominating. If not dealt with properly in an urban design context, they could become monotonous and not conducive to pedestrian use and enjoyment; if they are further ignored, their urban design potential could be seriously hampered.

Elkhorn Central Business District Assets

Although the Elkhorn CBD has a number of physical problems, it also has certain assets which can be used to strengthen the area. These assets, if maintained or further developed and enhanced, add to the potential of the entire Elkhorn CBD to continue to serve the Elkhorn area over time. Some of these assets are described herein. The Elkhorn CBD represents a reasonably compact core of shopping areas and governmental offices with adequate parking space readily available to its clientele. Importantly, because there is a minimum number of outlying retail uses in the City of Elkhorn study area, the Elkhorn CBD has limited competition.

Based upon the year 2000 population forecast, as discussed earlier, the Elkhorn study area population may be expected to increase over the next 20 years by about 4,080 persons, or approximately 61.7 percent, over the 1980 population estimate of 6,610. This population increase may be expected to increase the demand in the Elkhorn area for commercial goods and services.

Certain other physical characteristics of the Elkhorn CBD are also assets. Because of the unique location of the County Courthouse park along Walworth Street, a unifying urban design concept is possible utilizing this area as a focal point of the entire CBD. Some of the buildings in the Elkhorn CBD have interesting facades, brick detailing, cornice details, rooflines, and possibly historic significance. Although many of the structures have not kept their historic facade design characteristics, some have an adequately maintained structural exterior. These inherent design elements of the building facades could be exploited with minimum cost to create an urban design for the CBD which functions as a unified whole. Individual store identity can still be maintained within a general unifying urban design concept.

Since as it extends between Broad Street and Jackson Street, Walworth Street is a 100-foot wide right-of-way with angle parking, this street is of a sufficient width to accommodate the addition of landscaping and planting materials in planting islands perpendicular to the existing curb. Islands of adequate size could also be created as pedestrian areas with benches and related street furniture. Obsolete and visually unappealing signs could be removed and any interesting old signs could be restored. The building setbacks along the CBD streets are such that flush-mounted wall signs could readily be viewed, and a uniform and harmonizing signage system could be established for buildings in the Elkhorn CBD. The rear entrance areas of buildings in the Elkhorn CBD could be cleaned up, thus visually improving those areas.

With respect to circulation in the Elkhorn CBD, sidewalks along the streets are generally in good condition, adequately maintained, and of a width adequate to accommodate pedestrian flow.

Figure 10

TYPICAL ADAPTATION OF THE ITALIAN PALAZZO STYLE OF ARCHITECTURE IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

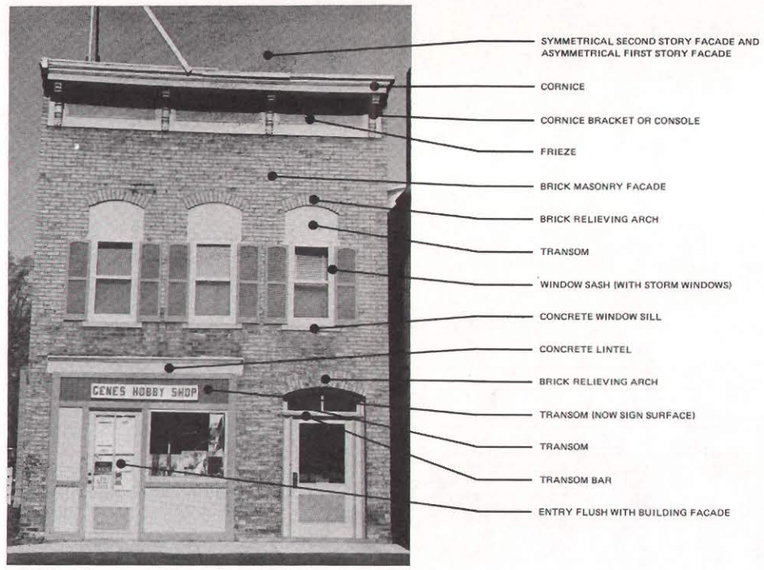


Photo and Notes by Patrick J. Meehan.

Figure 11

DETAILED URBAN DESIGN ANALYSIS OF THE EXISTING 1980 STREET FACADE OF THE EAST ELEVATION OF WISCONSIN STREET BETWEEN COURT STREET AND WALWORTH STREET IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

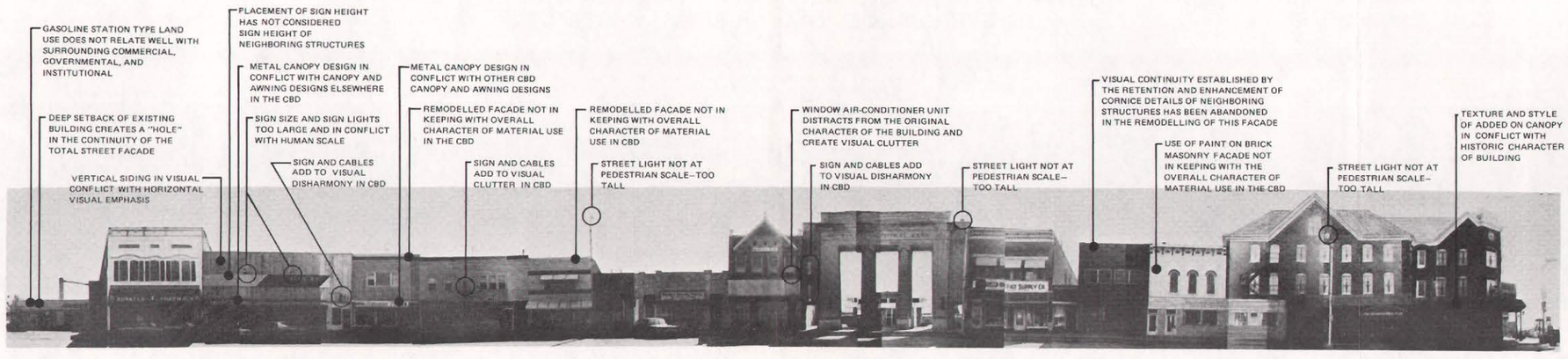


Photo and Notes by Patrick J. Meehan.

Figure 12

DETAILED URBAN DESIGN ANALYSIS OF THE EXISTING 1980 STREET FACADE OF THE EAST ELEVATION OF WISCONSIN STREET BETWEEN WALWORTH STREET AND GENEVA STREET IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

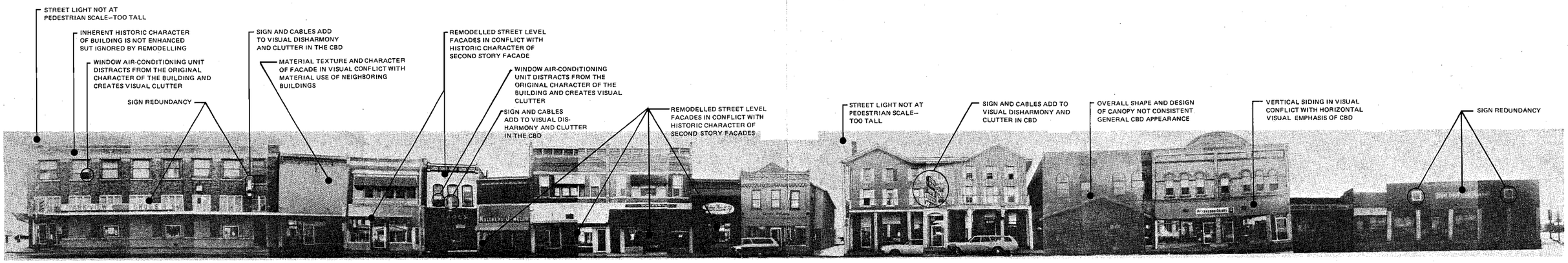


Photo and Notes by Patrick J. Meehan.

Figure 13

DETAILED URBAN DESIGN ANALYSIS OF THE EXISTING 1980 STREET FACADE OF THE WEST ELEVATION OF WISCONSIN STREET BETWEEN GENEVA STREET AND WALWORTH STREET IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

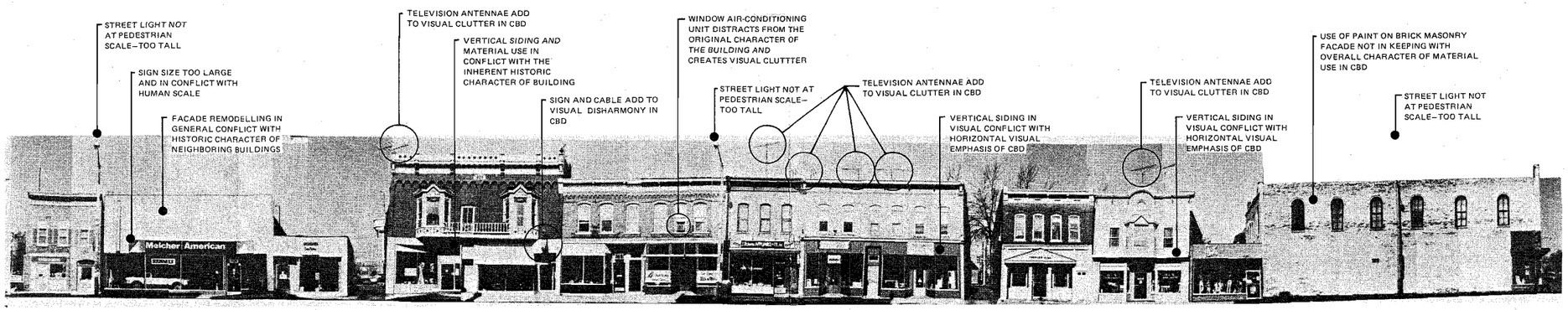


Photo and Notes by Patrick J. Meehan.

Figure 14

DETAILED URBAN DESIGN ANALYSIS OF THE EXISTING 1980 STREET FACADE OF THE NORTH ELEVATION OF WALWORTH STREET BETWEEN WISCONSIN STREET AND WASHINGTON STREET IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

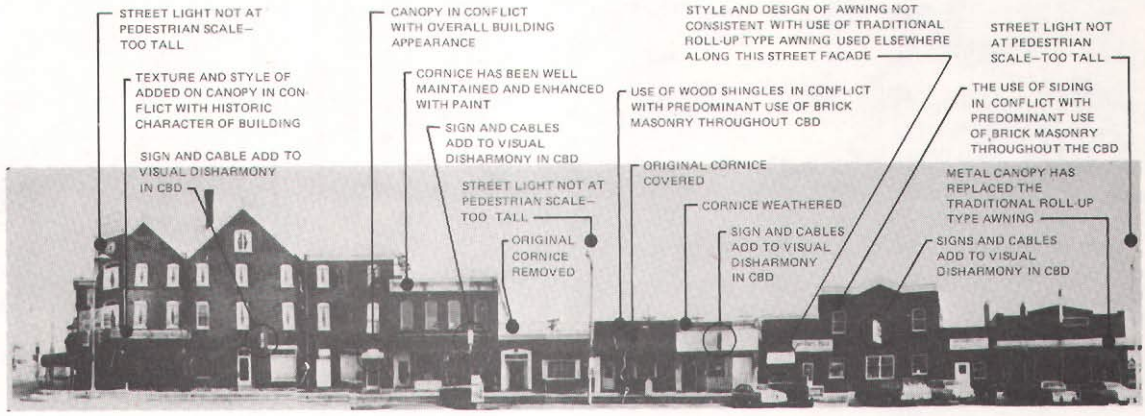


Photo and Notes by Patrick J. Meehan.

Figure 15

DETAILED URBAN DESIGN ANALYSIS OF THE EXISTING 1980 STREET FACADE OF THE SOUTH ELEVATION OF WALWORTH STREET BETWEEN WASHINGTON STREET AND WISCONSIN STREET IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

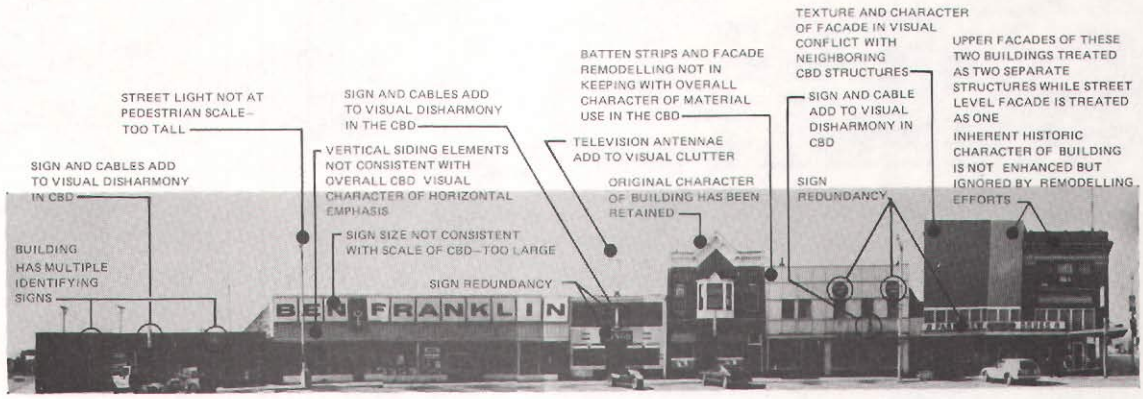


Photo and Notes by Patrick J. Meehan.

Figure 16

DETAILED URBAN DESIGN ANALYSIS OF THE EXISTING 1980 STREET FACADE OF THE SOUTH ELEVATION OF WALWORTH STREET BETWEEN WISCONSIN STREET AND BROAD STREET IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

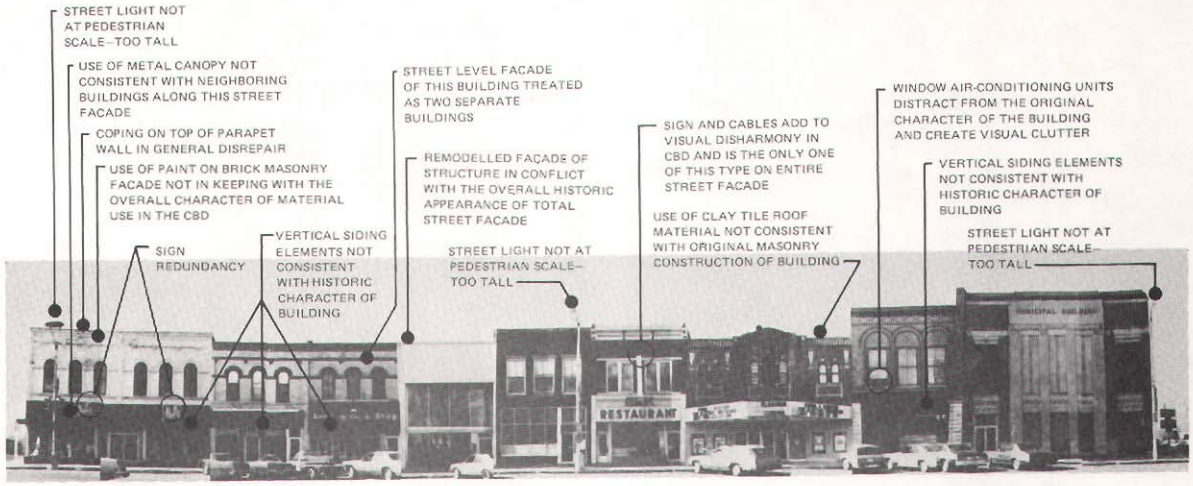


Photo and Notes by Patrick J. Meehan.

Figure 17

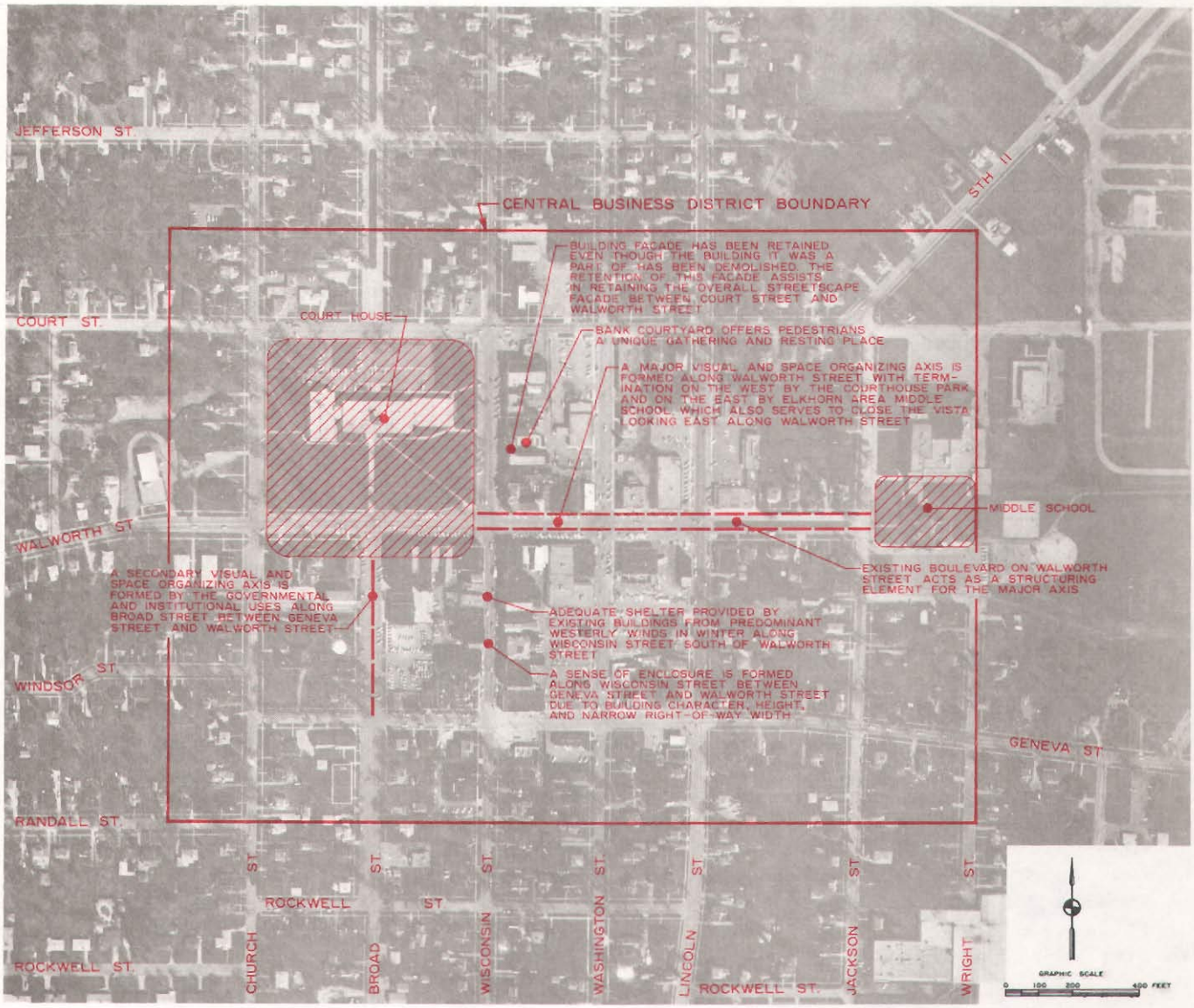
WALWORTH COUNTY COURTHOUSE PARK

This panoramic view of the Walworth County Courthouse Park and surrounding environs, looking southwest to north, shows the lack of urban design integration of the park with the surrounding streetscape facades and adjacent land uses. Also, the park offers no defined pedestrian spaces for sitting and relaxing, but rather functions only as a large pedestrian circulation area.

Photo by Patrick J. Meehan.

Map 20

ANALYSIS OF URBAN DESIGN POTENTIALS IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT: 1980



Source: SEWRPC.

COMMUNITY FACILITIES

Municipal Building

The City of Elkhorn Municipal Building is a brick masonry building with a Neo-classical and somewhat Art Deco motif located at the southeast corner of Broad Street and Walworth Street. The facility houses both the City's general administrative offices and the City Police Department on its lower level. The existing facility offers adequate space for the expansion of office space in the future on its upper-level floor. The entire facility offers approximately 9,660 square feet of usable floor area, excluding hallways, stairs, lobby areas, and rest rooms. The City of Elkhorn Municipal Building is shown in Figure 19.

Police Protection

The City of Elkhorn Police Department is located in the Municipal Building. In 1980, the Department consisted of 12 personnel, including a police chief, one lieutenant, one sergeant, one detective, four patrolmen, one traffic controller, one secretary, and two part-time reservists. The Department has two marked squad cars and one unmarked squad car. The Police Department occupies about 670 square feet of the Municipal Building, excluding hallway, storage areas, and rest rooms.

Fire Protection

The City of Elkhorn is served by one fire station located on Broad Street south of, and contiguous to, the City of Elkhorn Municipal Building. The station is manned by 40 active members of a volunteer fire-fighting force. The Fire Department has three fire-fighting vehicles consisting of a 1946 Pirsch aerial ladder truck, a 1954 General Motors Corporation fire truck, and a 1972 Ford fire truck, and reserve equipment consisting of a 1972 Chevrolet ambulance and a 1976 Ford ambulance. Elkhorn has reciprocal service agreements with surrounding community fire departments whereby additional men and equipment can be called if additional fire-fighting capability is needed.

The existing fire-fighting equipment is housed at the fire station, which is about 5,360 square feet in size. The existing fire station has a 3,768-square foot apparatus room, a 663-square-foot training room, a 314-square foot storage area, a 250-square-foot lavatory with showers, a 166-square-foot fire chief's office, a 110-square-foot workroom, and a 92-square-foot kitchen. The existing city Fire Station is shown in Figure 20.

The adequacy of fire protection within the City is evaluated by the Insurance Service Office (ISO) through the use of the Grading Schedule for Municipal Fire Protection. The schedule provides criteria to be used by insurance grading engineers in classifying the fire defenses and physical conditions of municipalities. Gradings obtained under the schedule are used throughout the United States in establishing base rates for fire insurance. While ISO never presumes to dictate the level of fire protection services that should be provided by a municipality, reports of surveys made by its Municipal Survey

Office generally contain recommendations for correcting any serious deficiencies found and, over the years, have been accepted as guides by many municipal officials in planning improvements to their fire-fighting services. The gradings are obtained by ISO based upon their analyses of fire department equipment, alarm systems, water supply, fire prevention programs, building construction, and distance of potential hazard areas, such as the central business district, from a fire department station. In rating a community, total deficiency points in the several areas of evaluation are used to assign a numerical rating of from one to 10, with one representing the best protection and 10 representing an essentially unprotected community. Class nine usually indicates a community without effective public water supply and hydrant protection, while higher categories have such facilities. The City of Elkhorn was given a rating of six by the ISO in 1979.

Public Library

The Matheson Memorial Library, built in 1931, serves the City of Elkhorn. The Matheson Library is located at the northeast corner of Court Street and Wisconsin Street, as shown in Figure 21.

In 1969, the library housed 12,640 volumes, and in 1980, 20,280 total volumes, representing an increase of 7,640 volumes, or 60 percent, over the 11-year period, with no increase in floor area of the facility to accommodate the increase. The total floor area of the Matheson Memorial Library is about 5,203 square feet, with a parlor area of 673 square feet, an adults' reading room of 630 square feet, a children's room of 630 square feet, a 125-square-foot workroom, a 125-square-foot stock room, and a 169-square-foot office. The Matheson Memorial Library occupies a site of about 30,000 square feet.

Public Schools

The City of Elkhorn study area lies within the boundaries of two school districts, the Delavan-Darien School District and the Elkhorn Area School District, shown on Map 21. The Delavan-Darien School District operates six schools--Phoenix Middle School, Darien Elementary School, Park Elementary School, Shadow Lawn Elementary School, and the Delavan-Darien High School, none of which is located in the City of Elkhorn study area. The Elkhorn Area School District operates five schools--West Side Primary School, Tibbets Primary School, Bowers Primary School, Elkhorn Area Middle School (see Figure 18), and the Elkhorn Area High School (see Figure 22). The West Side Primary School, the Elkhorn Area Middle School, and the Elkhorn Area High School are located within the City of Elkhorn, as shown on Map 21, while Tibbetts and Bowers Primary Schools are located outside the City of Elkhorn study area. The 1979-1980 school year enrollments, and location, and capacity of each school in the Elkhorn Area School District and the Delavan-Darien School District, are set forth in Table 21.

PUBLIC UTILITIES

Public utility systems are one of the most important elements influencing community growth and development. Moreover, certain utility facilities are closely

Figure 18

ELKHORN AREA MIDDLE SCHOOL

The Elkhorn Area Middle School, located on Jackson Street at the east end of Walworth Street, is a strong visual landmark when looking to the east from Walworth Street.

Photo by Patrick J. Meehan.

Figure 20

CITY OF ELKHORN FIRE STATION

The City of Elkhorn Fire Station is located on Broad Street south of and adjacent to the City of Elkhorn Municipal Building.

Photo by Patrick J. Meehan.

Figure 19

CITY OF ELKHORN
MUNICIPAL BUILDING

The City of Elkhorn Municipal Building, located at the southeast corner of Broad Street and Walworth Street, houses both the City's general administrative offices and the Police Department.

Photo by Patrick J. Meehan.

Figure 21

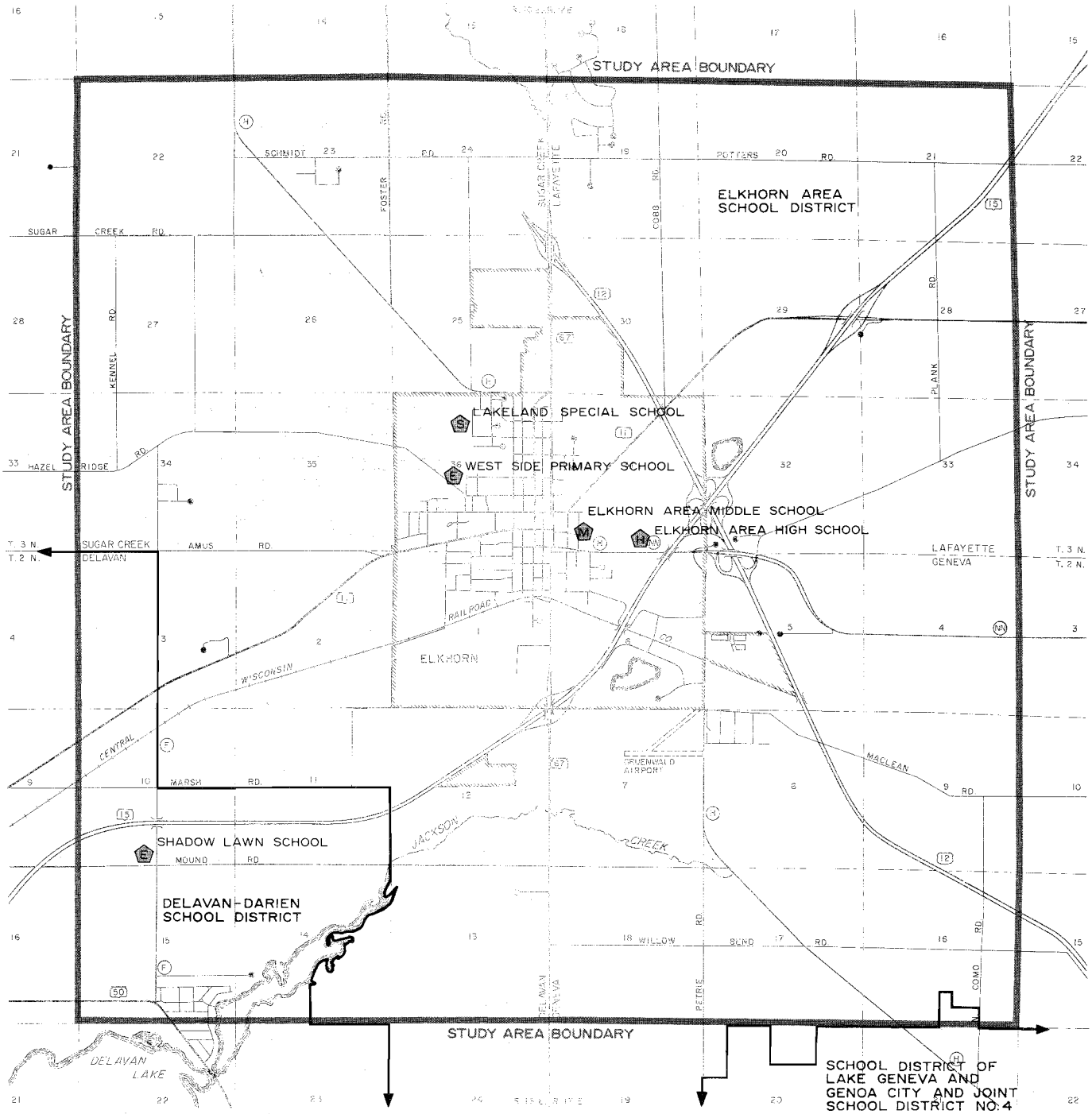
MATHESON MEMORIAL LIBRARY

The Matheson Memorial Library, built in 1931, offers 5,203 square feet of space and is located at the northeast corner of Court Street and Wisconsin Street.

Photo by Patrick J. Meehan.

Map 21

CITY OF ELKHORN STUDY AREA SCHOOL DISTRICT BOUNDARIES AND SCHOOL LOCATIONS: 1980



LEGEND

- SCHOOL DISTRICT BOUNDARY
- SCHOOL
- E ELEMENTARY SCHOOL
- M MIDDLE SCHOOL
- H HIGH SCHOOL
- S SPECIAL SCHOOL

GRAPHIC SCALE

0 1/2 1 MILE

0 2000 4000 6000 FEET

Source: Delavan-Darien School District, Elkhorn Area School District, and SEWRPC.

Figure 22

ELKHORN AREA HIGH SCHOOL

The Elkhorn Area High School is located on the north side of Geneva Street (CTH NN) on the east side of the City.

Photo by Patrick J. Meehan.

Table 21

1979-1980 SCHOOL YEAR ENROLLMENTS FOR THE ELKHORN AREA SCHOOL DISTRICT AND THE DELAVAN-DARIEN SCHOOL DISTRICT

School	Location	1979-1980 Enrollment	School Capacity
DELAVAN-DARIEN SCHOOL DISTRICT [a]			
Phoenix Middle School (grades 5-8)	Delavan	608	700
Darien Elementary School (grades K-8)	Darien	310	450
Park Elementary School (grades K-4)	Delavan	265	275
Shadow Lawn Elementary (grades K-4)	Delavan	64	125
Wileman Elementary School (grades K-4)	Delavan	300	350
Delavan-Darien High School (grades 9-12)	Delavan	953	1,200
Subtotal	--	2,500	3,100
ELKHORN AREA SCHOOL DISTRICT [b]			
West Side Primary School (grades K-5)	Elkhorn	414	500 [c]
Tibbets Primary School (grades K-5)	Town of Sugar Creek	263	350 [c]
Bowers Primary School (grades K-5)	Town of Lafayette	57	100 [c]
Elkhorn Area Middle School (grades 6-8)	Elkhorn	383	600
Elkhorn Area High School (grades 9-12)	Elkhorn	749	900
Subtotal	--	1,866	2,450
Total	--	4,366	5,550

[a] Based on a report of the Delavan-Darien School District to the Wisconsin Department of Public Instruction, 1979-80.

[b] Data provided by Elkhorn Area School District.

[c] Robert Hog, Elementary School Planning Guide, Elkhorn, Wisconsin, Elkhorn Area School District, 1965.

Source: SEWRPC.

linked to the surface water and groundwater resources of the area, and may, therefore, affect the overall quality of the natural resource base. This is particularly true of sanitary sewerage, water supply, and storm water drainage facilities, which are in a sense modifications of, or extensions to, the natural lake, stream, and watercourse system of the area and of the underlying groundwater reservoir. Knowledge of the location and capacities of these utilities is, therefore, essential to intelligent land use planning for the City and the study area.

Sanitary Sewer Service

The existing sanitary sewer service area and sanitary sewerage system is shown on Map 22. The existing sanitary sewer service area totals 2.0 square miles and served a resident population of about 4,590 persons in 1983.

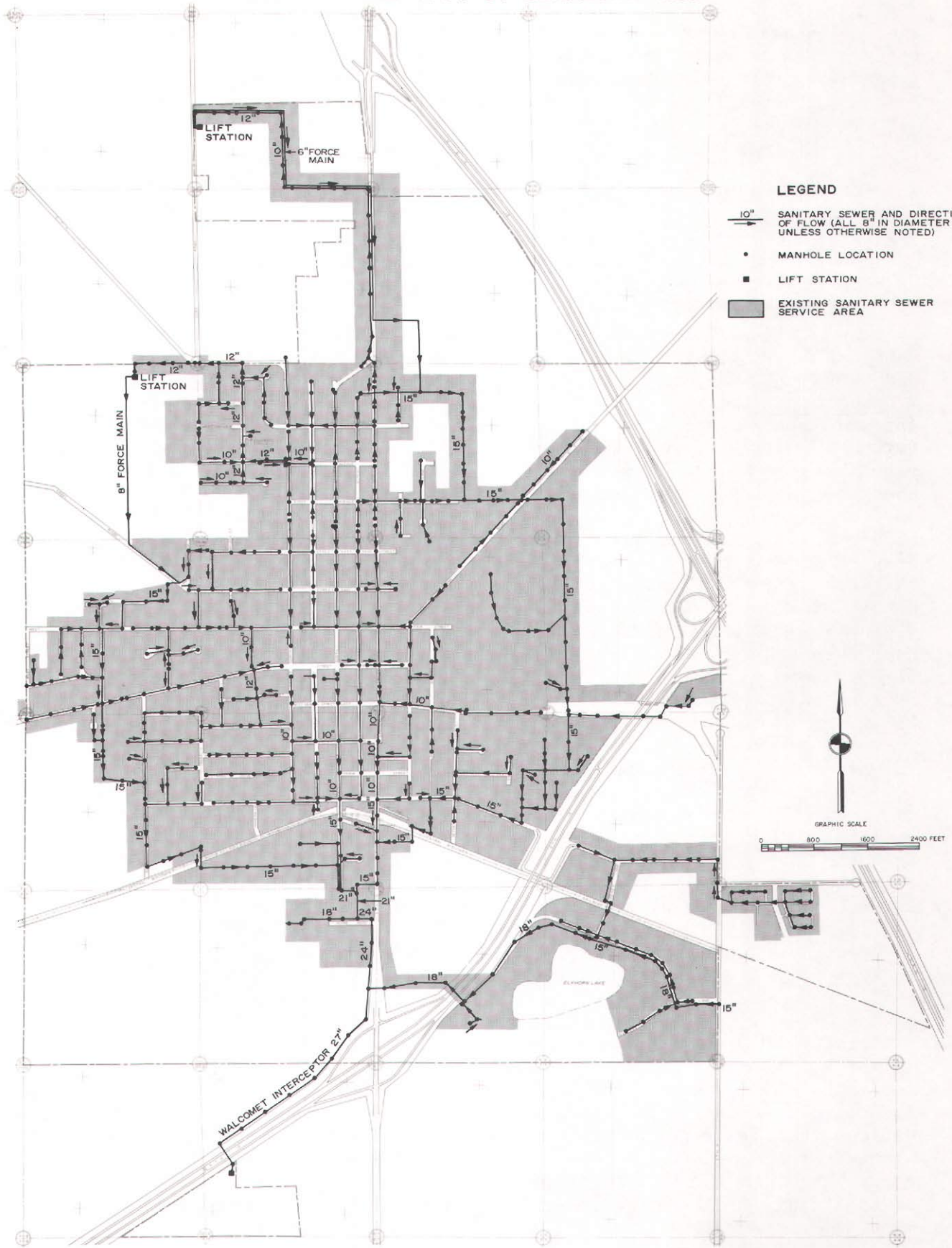
On July 12, 1979, the Regional Planning Commission formally adopted an areawide water quality management plan for southeastern Wisconsin, as documented in SEWRPC Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000. The plan is primarily aimed at achieving clean and wholesome surface waters within the seven-county Region. The adopted regional water quality management plan includes recommended sanitary sewer service areas attendant to each recommended sewage treatment facility based upon the general urban land use configurations identified in the Commission-adopted regional land use plan for the year 2000 (see Map 2 in Chapter I). As such, the delineations are necessarily general and do not reflect local planning considerations. The areawide water quality management plan recommended that each community served by public sanitary sewerage facilities refine and detail attendant sanitary sewer service areas to the year 2000. Chapter NR 110.08(4) of the Wisconsin Administrative Code requires that the Regional Planning Commission review and comment on all sanitary sewer extensions, relating the proposed extensions to the sanitary sewer service areas identified in the adopted regional water quality management plan. This requirement reinforces the above recommendation of the water quality management plan.

The process of refining and detailing the sanitary sewer service area tributary to the Walworth County Metropolitan Sewerage District treatment facilities, of which Elkhorn is a part, began shortly after the Commission adopted the regional water quality management plan in July 1979. On August 20, 1979, the Walworth County Metropolitan Sewerage District transmitted a letter requesting that the Regional Planning Commission refine and detail the proposed year 2000 sewer service areas tributary to the District facility.

An intergovernmental meeting for the purpose of refining and detailing the Walworth County Metropolitan Sewerage District sanitary sewer service areas was held on December 20, 1979. In attendance at the meeting were representatives of the District; the Cities of Delavan and Elkhorn; the Delavan Lake Sanitary District; the Towns of Darien, Delavan, Geneva, Lafayette, Sugar Creek, and Walworth; and the Walworth County Park and Planning Commission. A general consensus on the service area boundaries was not achieved at that meeting. Accordingly, a series of joint meetings was held between the Walworth County Metropolitan Sewerage Commission and the individual communities in order to resolve specific areas of concern regarding the sewer service area boundaries. As an outgrowth of these local intergovernmental meetings, tentative agreement on the final year 2000 sewer service area boundaries was reached. This agreement was presented at a public hearing on the refined and detailed Walworth

Map 22

EXISTING SANITARY SEWERAGE SYSTEM AND SERVICE AREA OF THE CITY OF ELKHORN: 1983



Source: City of Elkhorn Engineering Department and SEWRPC.

County Metropolitan Sewerage District sanitary sewer service areas held on February 24, 1981. The final refined and detailed sanitary sewer service area for the Walworth County Metropolitan Sewerage District is shown on Map 23.

The Walworth County Metropolitan Sewerage District has completed plans and specifications for a new areawide sewage treatment facility and trunk sewer system designed to accommodate existing and proposed year-round and resident populations in the Delavan, Delavan Lake, Elkhorn, and Walworth County Institutions sewer service areas. The sewage treatment facility and system were under construction in 1980, as shown in Figure 23.

Figure 23

WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT TRUNK SEWER

The Walworth County Metropolitan Sewerage District trunk sewer was under construction near the intersection of Lincoln Street (STH 67) and the Rock Freeway (STH 15) in 1980.

Photo by Patrick J. Meehan.

Public Water System

The City of Elkhorn public water supply and service area is shown on Map 24. In 1983, the system served 1,485 acres of land, or about 53 percent of the total city area, and a resident population of about 4,650 persons. The water system is served by two wells and two elevated water storage tanks.

In March 1977, a water system plan for the City was completed by Jensen and Johnson, Engineers and Surveyors of Elkhorn, and documented in a report entitled, Comprehensive Water Plan for the City of Elkhorn, dated March 1977. The report presented the results of investigations of the adequacy of the then existing City of Elkhorn water supply, storage, treatment, and distribution systems to meet both the 1977 and forecast year 2000 water demands in the City. The report included a description of 1977 water facilities, projections of future water demands, and recommendations for system improvements over the following 20-year period. This plan is currently being implemented by the City as new urban development occurs. The plan indicates the construction of one new well and one new 500,000-gallon elevated water storage tank during the plan period.

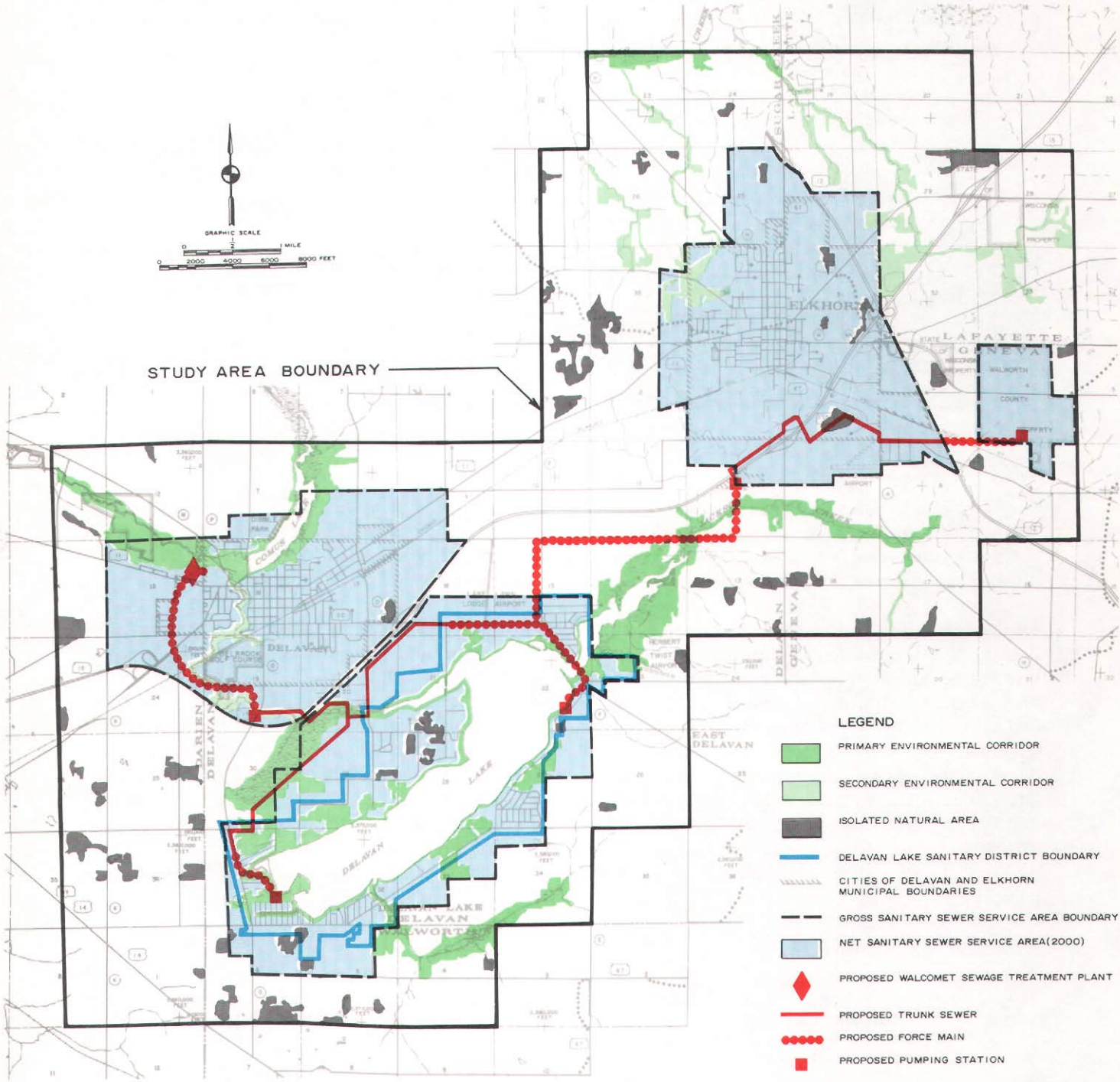
Stormwater Runoff

The City of Elkhorn storm sewer system is graphically shown on Map 25. In 1983, the system served 1,300 acres of land, or about 46.4 percent of the total city area.

Map 25, which shows the existing stormwater drainage system in the Elkhorn area, was compiled from available city records. In so doing, it was recognized that these records were incomplete and, in some cases, might even be erroneous. It is therefore recommended that the City undertake an inventory of the existing stormwater drainage system to determine accurately the location and

Map 23

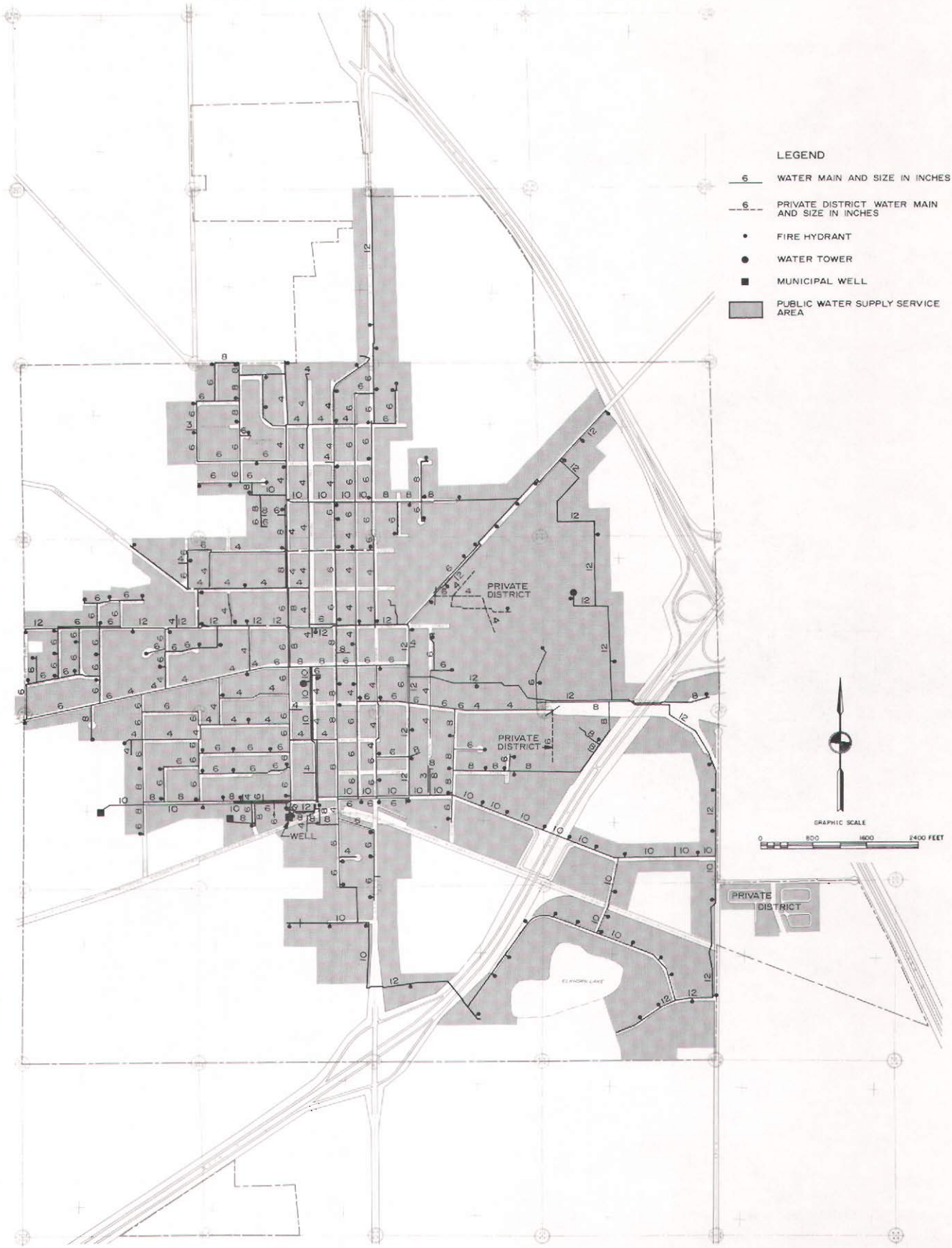
FINAL REFINED AND DETAILED SANITARY SEWER SERVICE AREA FOR THE WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT: 1981



Source: SEWRPC.

Map 24

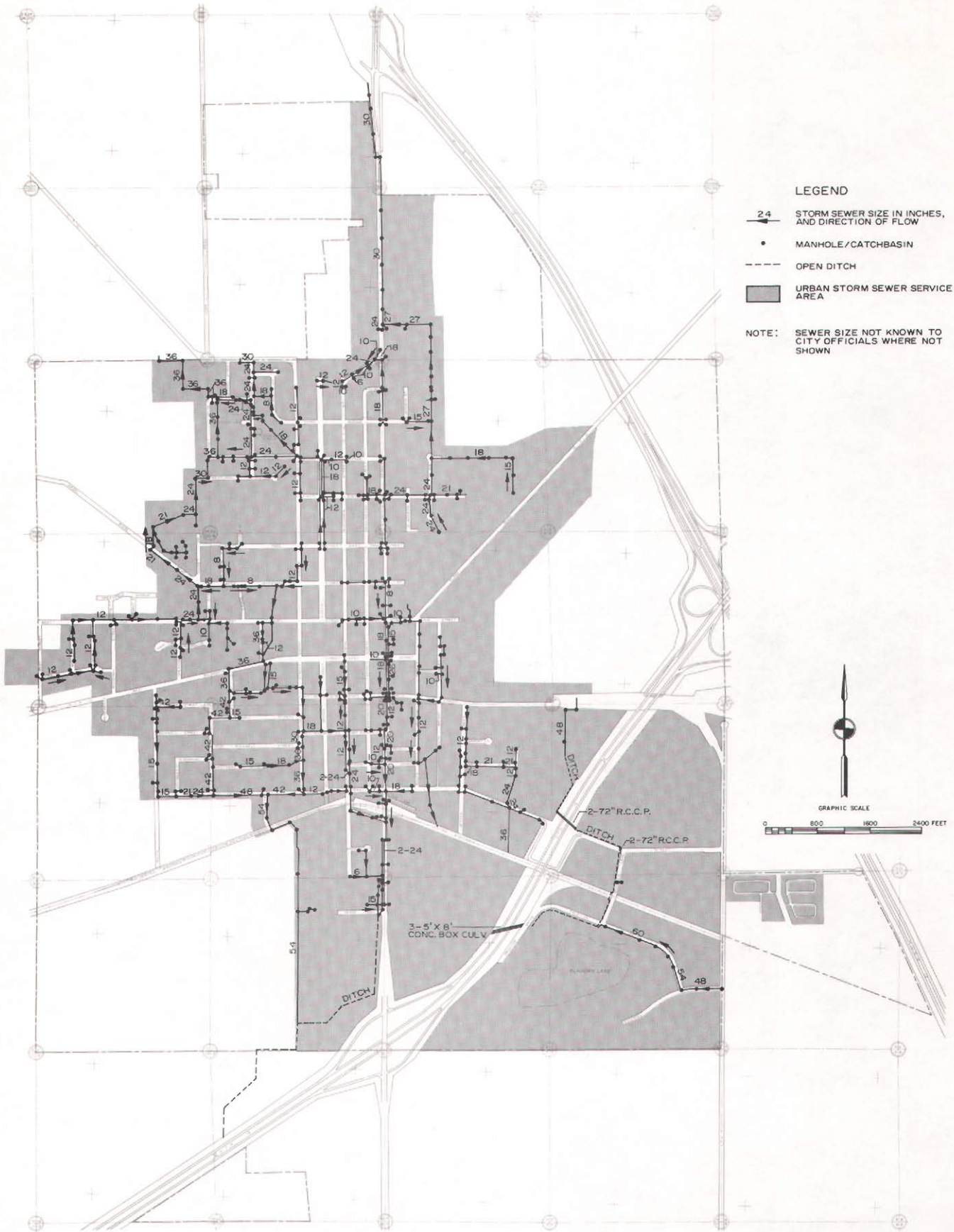
EXISTING PUBLIC WATER SUPPLY SYSTEM AND SERVICE AREA OF THE CITY OF ELKHORN: 1983



Source: City of Elkhorn Engineering Department and SEWRPC.

Map 25

EXISTING STORM SEWER SYSTEM AND SERVICE AREA OF THE CITY OF ELKHORN: 1983



Source: City of Elkhorn Engineering Department and SEWRPC.

configuration of that system; the sizes, elevations, and grades of the system components; and the tributary drainage areas involved as an initial step in the preparation of a needed stormwater management system plan for the City and environs.

EXISTING LAND USE REGULATIONS

Zoning

All land development and building activity in the City of Elkhorn is regulated by zoning, land division, and building ordinances and codes. The present zoning ordinance of the City of Elkhorn, Ordinance No. 426, provides 11 zoning districts--one single-family residential district, two two-family residential districts, one multiple-family residential district, one mobile home residential district, one agricultural district, two commercial districts, two industrial districts, and one quarrying district. The location of these districts and their respective boundaries are shown on Map 26. Table 22 presents a brief summary of the regulations applicable within each of these 11 districts.

The existing City of Elkhorn zoning ordinance, which was adopted by the City on March 27, 1971, has several shortcomings. The R-2 and R-3 Two-Family Districts are almost identical, as indicated in Table 22. The major difference between the R-2 and R-3 Districts is that the R-2 District permits only one-story structures, while the R-3 District permits either one- or two-story structures; yet the height limitation for each of these two districts is the same--35 feet or two-and-one-half stories. These two districts are redundant in their requirements.

The regulations applicable within the two commercial zoning districts are not structured to properly accommodate the variety of commercial districts which should exist within the City, such as neighborhood, community, downtown, and highway business districts. Parks, governmental uses, and institutional uses are provided for by conditional use permits rather than through the provision of distinct districts for each of these uses. None of the existing zoning districts has a stated intent within the ordinance relating to the district purpose. The location of the various zoning districts do not always adequately reflect the current land use pattern of the City. Some additional zoning districts need to be created in order to better accommodate and protect the existing land uses in the City, as well as to promote the further sound development of the City.

The study area, as noted in Chapter I, consists of portions of the Towns of Delavan, Geneva, Lafayette, and Sugar Creek. The Towns of Delavan, Geneva, and Sugar Creek utilize the Walworth County Zoning Ordinance, while the Town of Lafayette has adopted a town ordinance virtually identical to the County ordinance. The county and town ordinances provide for 26 zoning district classifications. Table 23 presents for each district the permitted uses, conditional uses, maximum residential density in terms of dwelling units per net acre, minimum lot size requirements, minimum yard requirements, and maximum building height. Each zoning district, as it relates to the entire study area, is delineated on Map 27.

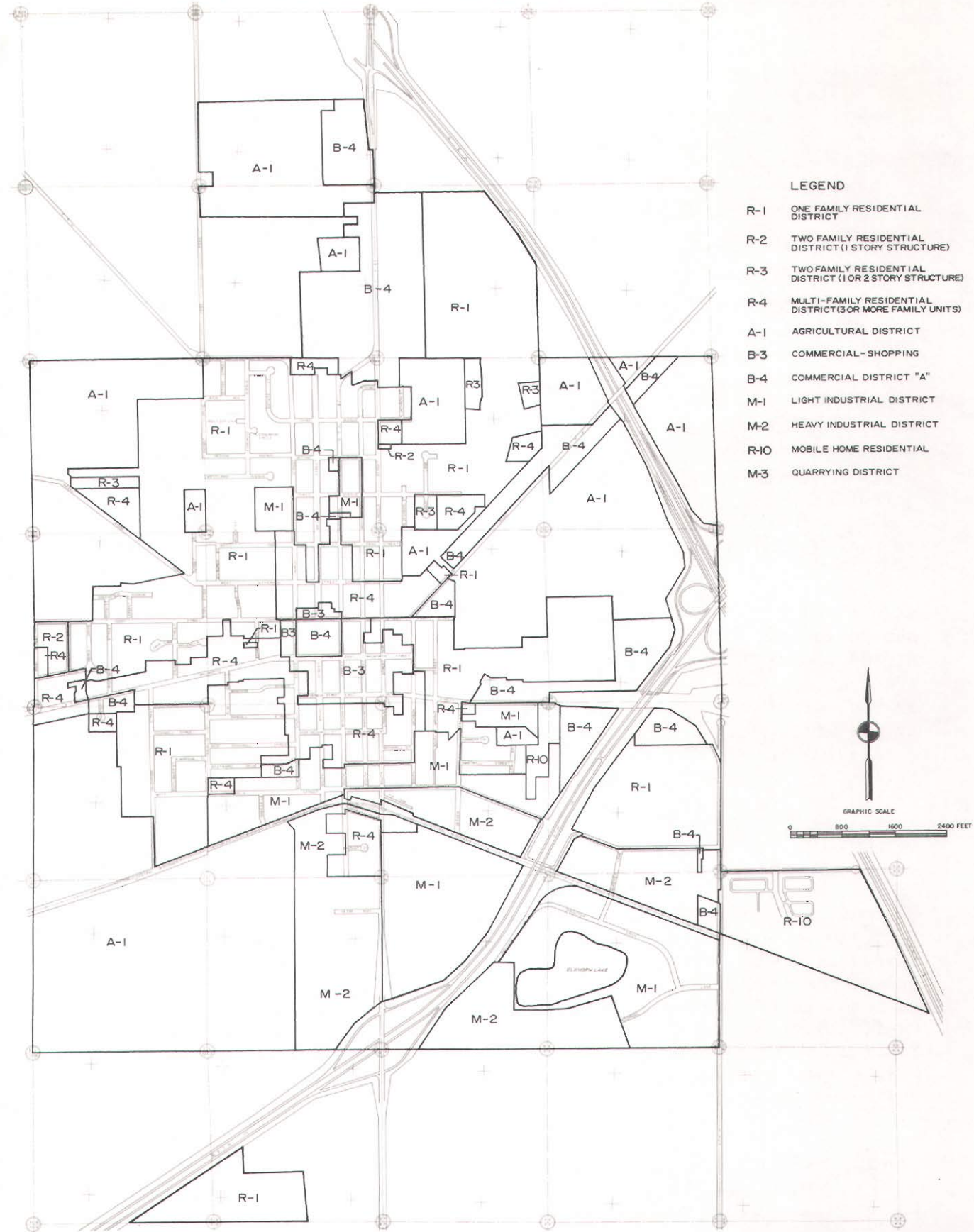
Land Subdivision

Land subdivision regulations have a five-fold purpose:

1. To ensure that the subdivision of land will fit into the existing land use pattern and overall plan for the physical development of the community;

Map 26

EXISTING ZONING IN THE CITY OF ELKHORN: 1983



Source: City of Elkhorn and SEWRPC.

Table 22

SUMMARY OF EXISTING ZONING DISTRICTS IN THE CITY OF ELKHORN, WALWORTH COUNTY, WISCONSIN: 1980

District	Permitted Uses		Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Building Height (feet)
	Principal	Accessory			Total Area (square feet)	Area per Family (square feet)	Width at Setback (feet)	Front Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
R-1 Single-family Residential	Single-family dwellings, public parks	Uses incidental to principal uses	Schools, churches, governmental facilities, utilities	4.84	9,000	9,000	Lots platted prior to March 27, 1972--65; cul-de-sacs--95; other--80	25 and as further detailed in the zoning ordinance	--[a]	--	35 or two-and-one-half stories
R-2 Two-Family Residential Limited to One-Story Structures	Single-family dwellings, two-family dwellings limited to one story, public parks	Uses incidental to principal uses	Governmental and cultural facilities, utilities, home occupations	9.68	9,000	9,000	Lots platted prior to March 27, 1972--65; cul-de-sacs--95; other--80	25 and as further detailed in the zoning ordinance	--[a]	--	35 or two-and-one-half stories
R-3 Two-Family Residential for Either One- or Two-Story Structures	Single-family dwellings, two-family dwellings limited to two stories, public parks	Uses incidental to principal uses	Governmental and cultural facilities, home occupations	9.68	9,000	9,000	Lots platted prior to March 27, 1972--65; cul-de-sacs--95; other--80	25 and as further detailed in the zoning ordinance	--[a]	--	35 or two-and-one-half stories
R-4 Multiple-Family Residential for Three- or More Family Units	All residential type uses incorporating one building on one lot	--	Governmental and cultural facilities, utilities, colleges, clubs, rest homes, home occupations	Varies from 12.45 to 21.78, depending upon dwelling unit type	--	Efficiency--2,000; one-bedroom--2,500; two-bedroom--3,000; three-bedroom--3,500	80	25 and as further detailed in the zoning ordinance	--[b]	Two-story building--25 plus 5 for each additional story	45 or 3 stories
R-10 Mobile Home Residential	Mobile home development	--	Mobile home park sites, governmental and cultural facilities, utilities	Unsewered--1.09; sewered--7.26	Total development--10 acres, lot--40,000 with septic system, 6,000 with sanitary sewer	Sewered lot--6,000; Unsewered lot--40,000	Total development--450	Development yard--40; mobile home yard--30	Development yard--40	Development yard--40	20 or one story
A-1 Agricultural	Single-family, dwellings, public parks, existing agricultural uses	--	Airports, governmental and cultural facilities, utilities, colleges	4.84	9,000	9,000	80	25 and as further detailed in the zoning ordinance	20	25	Building for human habitation--35 or two-and-one-half stories
B-3 Commercial Shopping	Residential-type uses, stores, professional offices, theaters	Uses customary and incidental to the principal uses	Governmental and cultural facilities, utilities, rest homes	14.52	3,000	3,000	--	--[c]	None except when adjoining other districts; then adjoining district side yard requirements apply	Two-story building--25, plus 5 for each additional story	45 or three stories
B-4 Commercial "A"	Residential-type uses, stores, drug stores, real estate offices, barbershops	--	Governmental and cultural facilities, utilities, rest homes	--	--	--	--	25	None except when adjoining other districts; then adjoining district side yard requirements apply	Two-story building--25 plus, 5 for each additional story	45 or three stories
M-1 Light Industrial	Barber shops, dress shops, florists, professional offices, theaters, manufacture of products from paper, repair shops, laboratories	Uses customary and incidental to the principal uses	Airports, governmental and cultural facilities, utilities	--	--	--	--	25 and as further detailed in the zoning ordinance	10	Three story building--25, plus 3 for each additional story	60 or six stories
M-2 Heavy Industrial	Any uses except residential, educational, institutional, and uses in conflict with any laws of the State of Wisconsin or City of Elkhorn ordinances	--	Airports, utilities	--	--	--	--	25 and as further detailed in the zoning ordinance	10	Three story building--25, plus 3 for each additional story	60 or five stories
M-3 Quarrying	Removal of gravel, sand, topsoil, or subsoil, or any other minerals from the earth by excavating, stripping, or leveling	Washing, refining, or processing of gravel, sand, or other minerals, processing of topsoil, mixing of asphalt, aggregate or ready mix plant manufacture of concrete products	Governmental and cultural facilities, utilities	--	Sufficient area	--	--	150	150	150	45

[a]For buildings not more than one-and-one-half stories high, the sum of the widths of the required side yards shall not be less than 25 feet, and no single side yard shall be less than 10 feet in width. For buildings from one-and-one-half to two-and-one-half stories high, the sum of the widths of the required side yards shall be not less than 30 feet, and no single side yard shall be less than 12 feet in width.

[b]For buildings not more than one-and-one-half stories high, the sum of the widths of the required side yards shall not be less than 25 feet, and no single side yard shall be less than 10 feet in width. For buildings two or more stories high, each side yard shall be 20 feet.

[c]Where parts of the frontage are designated on the District Map as Residence District and Commercial District, the setback regulations of the Residence District shall apply to the Commercial District; otherwise, no setback shall be required.

Source: SEWRPC.

Table 23

SUMMARY OF EXISTING ZONING DISTRICTS IN THE TOWNS OF DELAVAN, GENEVA, LAFAYETTE, AND SUGAR CREEK, WALWORTH COUNTY, WISCONSIN: 1980

District	Permitted Uses		Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Building Height (feet)
	Principal	Accessory			Total Area	Area per Family	Width at Setback (feet)	Front Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
A-1 Prime Agricultural Land	Apiculture, dairying, floriculture, grazing, two single-family farm dwellings	--	Housing for farm laborers, commercial feedlots, commercial fur farms, commercial egg production	2.0 per lot	35 acres	35 acres	--	Subdivision road--25; town road--50; county road--65; state and federal road--85	20	100	Dwelling--35; other--twice the distance from the nearest lot line
A-2 Agricultural Land	One single-family farm dwelling, apiculture, dairying, floriculture, grazing	--	Housing for farm laborers, commercial feedlots, commercial fur farms, commercial egg production	1.0 per lot	5 acres	5 acres	300	Subdivision road--25; town road--50; county road--65; state and federal road--85	20	100	Dwelling--35; other--twice the distance from the nearest lot line
A-3 Agricultural Land Holding	Apiculture, dairying, floriculture, grazing, two single-family farm dwellings	--	Housing for farm laborers, commercial feedlots, commercial fur farms, commercial egg production	2.0 per lot	35 acres	35 acres	--	Subdivision road--25; town road--50; county road--65; state and federal road--85	20	100	Dwelling--35; other--twice the distance from the nearest lot line
A-4 Agricultural-Related Manufacturing, Warehousing, and Marketing	None	--	Corn shelling, bottling of spring water, grist mills, cereal preparation, cottonseed oil milling, livestock sales facilities	--	Sufficient area	--	--	Subdivision road--25; town road--50; county road--65; state and federal road--85	75	75	60
A-5 Agricultural-Rural Residential	Single-family dwellings, home occupations, orchards, greenhouses, vegetable raising	--	Sewage disposal plants, governmental uses, utilities, schools, churches	1.0 per lot	40,000 square feet	40,000 square feet	150	Subdivision road--25; town road--50; county road--65; state and federal road--85	15	25	35
C-1 Lowland Resource Conservation	Farming and related uses, boat landing sites, drainage, swimming beaches, impoundments	--	Land restoration, golf courses, recreation camps, utilities, sewage disposal plants	--	--	--	--	--	--	--	--
C-2 Upland Resource Conservation	Farming and related agricultural, forest preservation, hunting and fishing clubs, single-family detached dwellings	--	Animal hospitals, golf courses, ski hills, riding stables	1.0 per lot	5 acres	5 acres	300	Subdivision road--25; town road--50; county road--65; state and federal road--85	20	100	Dwelling--35; other--twice the distance from the nearest lot line
C-3 Conservancy-Residential	Forest preservation, forest and game management, single-family detached dwellings	--	Animal hospitals, land restoration, sewage disposal plants, utilities	1.0 per lot	100,000 square feet	100,000 square feet	200	Subdivision road--25; town road--50; county road--65; state and federal road--85	20	50	35
P-1 Recreational Park	Parks, forest reserves, golf courses, ice skating, picnic grounds	--	Ski hills, recreation camps, archery ranges, sports fields	--	Sufficient area	--	--	Subdivision road--25; town road--50; county road--65; state and federal road--85	50	50	35
P-2 Institutional Park	Churches, college dormitories, monasteries, nursing homes, town hall	--	Golf courses, country clubs, firearm ranges, utilities, schools, airports	--	Sewered--10,000 square feet	--	Sewered--100	Subdivision road--25; town road--50; county road--65; state and federal road--85	25	25	35
R-1 Single-Family Residence (unsewered)	Single-family detached dwellings	--	Golf courses, Planned Unit Developments (PUD's), sewage disposal plants, utilities, schools, churches	Determined by soil type	Determined by soil type	Determined by soil type	Determined by soil type	Subdivision road--25; town road--50; county road--65; state and federal road--85	15	25	35

Table 23 (continued)

District	Permitted Uses		Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Building Height (feet)
	Principal	Accessory			Total Area	Area per Family	Width at Setback (feet)	Front Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
R-2 Single-family Residence (sewered)	Single-family detached dwellings, parks, playgrounds	--	Golf courses, PUD's, home occupations, sewage disposal plants, schools, churches	2.9	15,000 square feet	15,000 square feet	100	Subdivision road--25; town road--50; county road--65; state and federal road--85	10	25	35
R-3 Two-Family Residence (sewered or (unsewered)	Single-family detached dwellings, *two-family dwellings*, parks, playgrounds	--	Golf courses, PUD's, home occupations, sewage disposal plants, utilities, schools	Sewered--5.8; unsewered--determined by soil type	Sewered--15,000 square feet; *unsewered*--determined by soil type	Sewered--7,500 square feet; *unsewered*--determined by soil type	Sewered--100; unsewered--determined by soil type	Subdivision road--25; town road--50; county road--65; state and federal road--85	10	25	35
R-4 Multiple-family Residence (sewered or unsewered)	None	--	Single-family dwellings, two-family dwellings, multiple-family dwellings, parks, playgrounds	6.0	Sewered--two-family, 12,000 square feet; multiple-family--15,000 square feet; unsewered--determined by soil type	Sewered--two-family, 6,000 square feet; multiple-family--7,500 square feet; unsewered--determined by soil type	Sewered--two-family, 80; multiple-family--100	Subdivision road--25; town road--50; county road--65; state and federal road--85	10	25	35
R-5 Planned Residential Development	None	--	One-family detached, semi-detached, and attached dwellings; two-family dwellings; multiple-family dwellings; golf courses, utilities, schools	Sewered--8.0; unsewered--determined by soil type	--	--	--	Interior--25; Exterior--subdivision road--25; town road--50; county road--65; state and federal road--85; Perimeter--50	Interior--single-family, 10; two-family, 10; multiple-family, 15; Perimeter--50	Interior--40; Perimeter--50	35
R-6 Planned Mobile Home Park Residence	None	--	Single-family detached dwellings, mobile homes, accessory buildings, golf courses, utilities, schools	5.0	10 acres	8,712 square feet	450	Site--subdivision road--25; town road--50; county road--65; state and federal road--85; Interior--20	Site--40; Interior--15	Site--40; Interior--20	20
R-7 Mobile Home Subdivision Residence (sewered or unsewered)	Mobile homes, single-family detached dwellings, parks	--	Golf courses, sewage disposal plants, utilities, schools	Sewered--2.9; unsewered--determined by soil type	Sewered--15,000 square feet; unsewered--determined by soil type	Sewered--15,000 square feet; unsewered--determined by soil type	Sewered--100; unsewered--determined by soil type	Subdivision road--25; town road--50; county road--65; state and federal road--85	10	25	35
B-1 Local Business	Bakeries, clinics, drug stores, florists, gift stores, meat markets, supermarkets	--	Residential dwelling units, nursing homes, utilities, schools, churches	Sewered--5.8; Unsewered--determined by soil type	Sewered--7,500 square feet; unsewered--determined by soil type	Sewered--7,500 square feet; unsewered--determined by soil type	Sewered--75; unsewered--determined by soil type	Subdivision road--25; town road--50; county road--65; state and federal road--85	10	30	35
B-2 General Business	Antique shops, churches, food lockers, hotels, liquor stores, variety stores	--	Residential dwelling units, animal hospitals, sewage disposal plants, schools, churches	Sewered--5.8; unsewered--determined by soil type	Sewered--7,500 square feet; unsewered--determined by soil type	Sewered--7,500 square feet; unsewered--determined by soil type	Sewered--75; unsewered--determined by soil type	Subdivision road--25; town road--50--county road--65; state and federal road--85	10	30	45
B-3 Waterfront Business	None	--	Boat rental facilities, hotels, bait shops, supper clubs, dance halls	--	Sufficient area	Sufficient area	--	Subdivision road--25; town road--50; county road--65; state and federal road--85	10	50	35

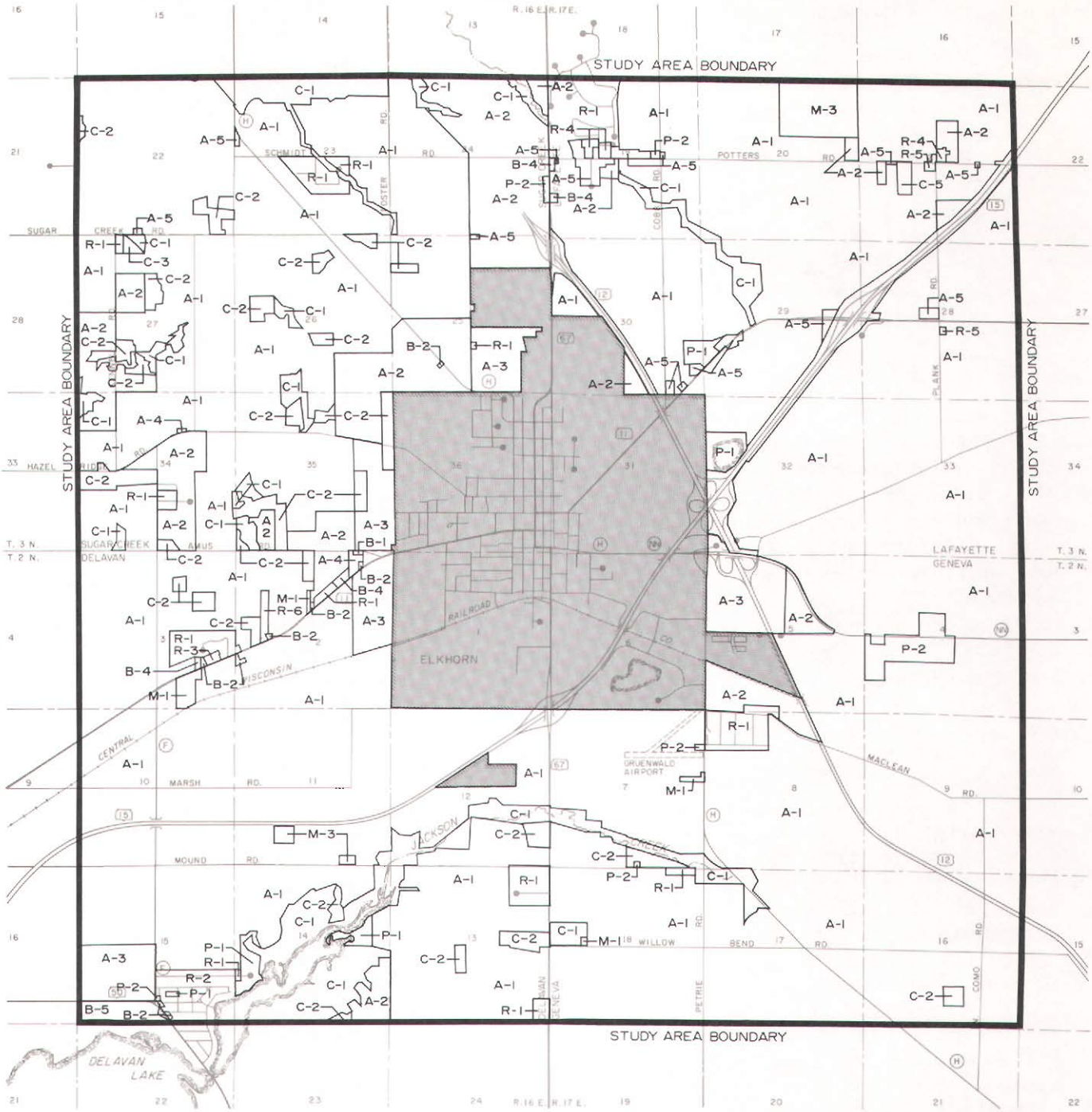
Table 23 (continued)

District	Permitted Uses		Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Building Height (feet)
	Principal	Accessory			Total Area	Area per Family	Width at Setback (feet)	Front Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
B-4 Highway Business	None	--	Automobile service stations, bars, hotels, restaurants, nursing homes, utilities, schools	--	Sufficient area	Sufficient area	--	Subdivision road--25; town road--50; county road--65; state and federal road--85	40	40	35
B-5 Planned Commercial-Recreation Business	None	--	Aircraft fields, amusement parks, campgrounds, fairgrounds, recreational resorts, retail sales, personal services	10.0	--	4,356 square feet	--	Interior--25; Perimenter--100	Interior--15; Perimeter--100	Interior--40; Perimeter--100	Commercial--75; Perimeter--35
M-1 Industrial	Commercial bakeries, food locker plants, publishing companies, warehousing, wholesaling	--	Machine shops, painting, automotive body repairs, utilities	--	Sufficient area	--	--	Subdivision road--25; town road--50; county road--65; state and federal road--85	30; 50 when abutting residential district	30; 50 when abutting residential district	45
M-2 Heavy Industrial	Commercial bakeries, food locker plants, publishing companies, warehousing, freight yards, breweries	--	Crematories, pea vineries, manufacturing and processing, junkyards, utilities	--	Sufficient area	--	--	Subdivision road--25; town road--50; county road--65; state and federal road--85	20; 50 when abutting residential district	30; 50 when abutting residential district	60
M-3 Mineral Extraction	None	--	Aggregate plants, ready-mix plants, sand and gravel quarrying, utilities	--	--	--	--	Principal use--200; accessory use--100	Principal use--200; accessory use--100	Principal use--200; accessory use--100	--
M-4 Sanitary Landfill	None	--	Sewage disposal plants, utilities	--	--	--	--	200	200	200	35

Source: SEWRPC.

Map 27

EXISTING ZONING IN THE CITY OF ELKHORN STUDY AREA: 1980



LEGEND

COUNTY ZONING DISTRICTS

A-1	PRIME AGRICULTURAL DISTRICT	P-1	RECREATIONAL PARK DISTRICT	M-1	INDUSTRIAL DISTRICT
A-2	AGRICULTURAL LAND DISTRICT	P-2	INSTITUTIONAL PARK DISTRICT	M-3	MINERAL EXTRACTION DISTRICT
A-3	AGRICULTURAL LAND HOLDING DISTRICT	R-1	SINGLE-FAMILY RESIDENCE DISTRICT (UNSEWERED)		CITY OF ELKHORN (SEE MAP 26)
A-4	AGRICULTURAL RELATED MANUFACTORING, WAREHOUSING, AND MARKETING DISTRICT	R-2	SINGLE-FAMILY RESIDENCE DISTRICT (SEWERED)		
A-5	AGRICULTURAL-RURAL RESIDENTIAL DISTRICT	R-4	MULTIPLE-FAMILY RESIDENCE DISTRICT (SEWERED OR UNSEWERED)		
C-1	LOWLAND RESOURCE CONSERVATION DISTRICT	R-6	PLANNED MOBILE HOME PARK RESIDENCE DISTRICT		
C-2	UPLAND RESOURCE CONSERVATION DISTRICT	B-2	GENERAL BUSINESS DISTRICT		
C-3	CONSERVANCY-RESIDENTIAL DISTRICT	B-4	HIGHWAY BUSINESS DISTRICT		

GRAPHIC SCALE
0 1/2 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

2. To ensure that adequate provision is made for necessary community and neighborhood facilities--parks, schools, churches, shopping centers--so that a harmonious and desirable environment will result;

3. To provide adequate standards for the design of the land divisions and the improvement of the land being subdivided, with particular attention to such requirements as utilities, storm water drainage, street improvements, and lot improvements;

4. To provide a basis for clear and accurate property boundary line records; and

5. To promote the health, safety, and general welfare of all citizens in the community, as well as of the future occupants of the land to be subdivided.

Ideally, land division control regulations are a means of implementing a community comprehensive plan. As such, land division regulations should coordinate and integrate development with the community's comprehensive plan, and are, therefore, properly prepared within the context of such a plan. Since land division is far more than a means of marketing land--being the first step in the process of building a community--substantial benefits are to be derived from sound subdivision regulations. Much of the form and character of a community is determined by the quality of its land divisions and the standards which are built into them. Once land has been divided into blocks and lots, streets established, and utilities installed, the development pattern is permanently established and unlikely to be changed. For generations, the entire community, as well as the individuals who occupy the community subdivisions, will be influenced by the quality and character of the design of the subdivisions.

The land division ordinance used by the City of Elkhorn, Ordinance No. 467, was adopted on March 18, 1974. By reference and associated text, Section 26.0 of Ordinance No. 467 conforms to the procedures outlined in Section 236 of the Wisconsin Statutes for platting lands within the City, as well as to the City's extraterritorial plat approval jurisdiction area which is one-and-one-half miles from the city limits. Also, the land division ordinance deals with the subdivision of land into lots larger than 1.5 acres and the subdivision of a parcel of land into fewer than five new parcels (certified survey maps). Design standards for land divisions are also given in the existing ordinance.

The land division ordinance has relatively few deficiencies. These deficiencies could be resolved through the amendment of those areas of concern in the ordinance. Since the adoption of the city land division ordinance, Chapter 236 of the Wisconsin Statutes has been altered to revise the 40-day preliminary plat review period for a municipality to 90 days, and to revise the 20-day preliminary plat review period of an objecting authority to 30 days.

Section 26.57 of the city land division ordinance, the public sites and open space section, does not offer many options for the City in acquiring new park areas, based upon new land divisions in the City. Section 26.57 states that, "If designated on the comprehensive plan, comprehensive plan component, official map, or component neighborhood development plan, if any such areas (i.e., future school sites, parks, playgrounds, drainageways, and other public purposes) shall be made part of the preliminary . . . ." However, the City, until now, has not had any of these planning instruments through which these types of public use sites could be reserved and/or preserved. Consequently, land dedication, or reservation, or public site fee for these public use areas was not required.

Also, the existing land division ordinance does not require the subdivider to provide street lamps or street trees along proposed dedicated rights-of-way. The City may wish to consider providing such a requirement.

Official Map

The official map is one of the oldest plan implementation devices at the disposal of local communities. It is also one of the most effective and efficient devices which can be brought to bear on the problem of preserving land for future public use. Section 62.23(6) of the Wisconsin Statutes provides that the governing body of a local municipality may establish an official map for the precise designation of right-of-way lines and site boundaries of streets, highways, parkways, parks, and playgrounds. Such a map has the force of law and is deemed to be final and conclusive with respect to the location and width of both existing and proposed streets, highways, and parkways, and the location and extent of existing and proposed parks and playgrounds. The Statutes further provide that the official map may be extended to include areas beyond the corporate limit lines but within the extraterritorial plat approval jurisdiction of the municipality.

The official map is thus intended to constitute a means of implementing the community's master plan of streets, highways, parkways, parks, and playgrounds. Its basic purpose is to prohibit the construction of buildings or structures and their associated improvements on land that has been designated for current or future public use. The official map permits the community to protect the beds of future streets, as well as the beds of partially or wholly developed streets which are to be widened, by essentially prohibiting the construction of new buildings in such beds. Possible monetary savings which can accrue to the community from such protection is large. The fact that an official map assures the integrity of the community's long-range plan of streets is even more important. The official map has similar functions in implementing the community's plan of parks, parkways, and other open spaces. An incidental but important benefit of an official map is that it adequately locates and records existing street lines that constitute the boundaries of the public property, and thereby tends to stabilize the location of real property boundary lines--both private and public.

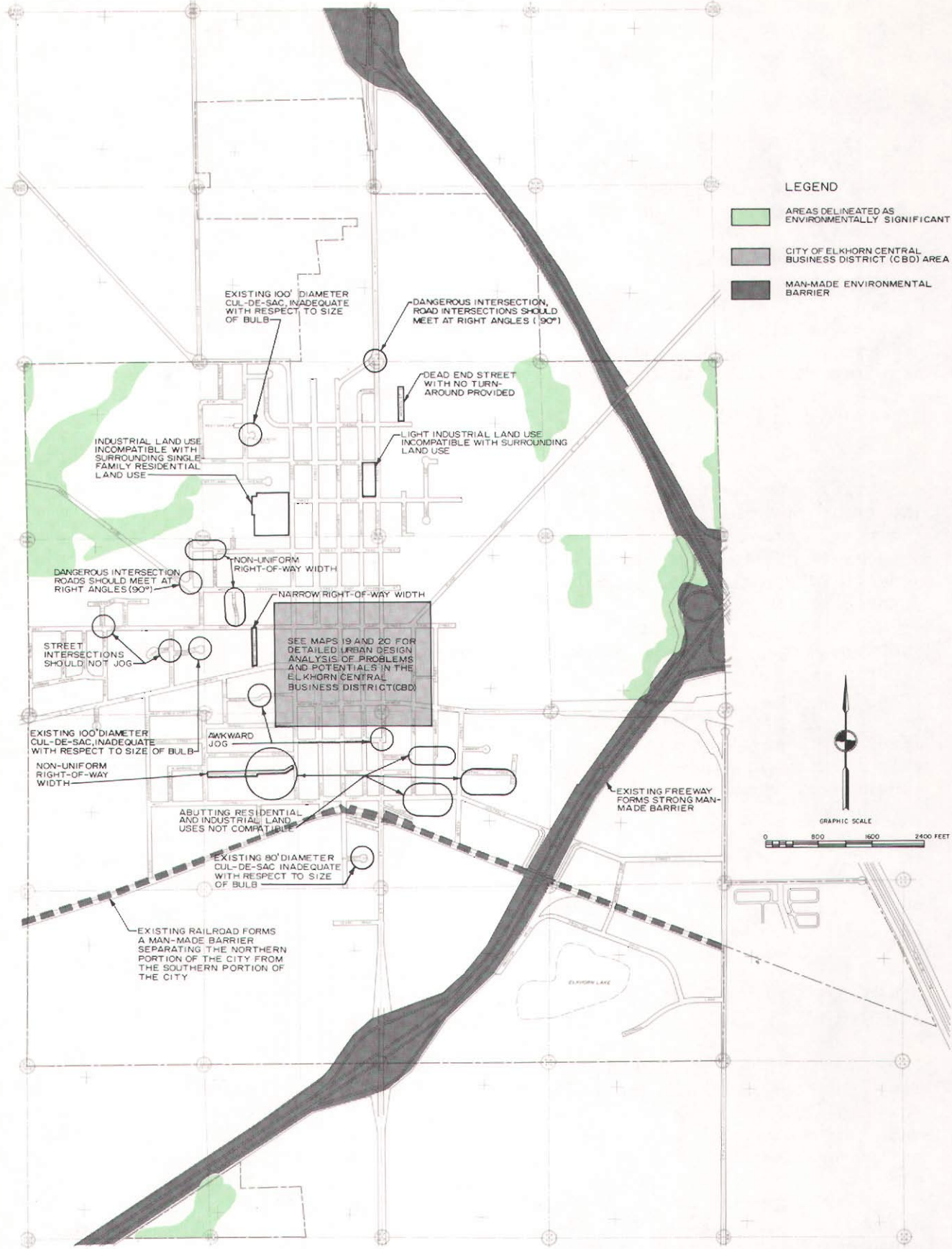
In 1980, the City of Elkhorn did not have an official map. Accordingly, an official map for the City should be prepared which seeks to implement the community's current long-range development plans, as outlined in this land use and urban design plan.

SUMMARY OF FACTORS AFFECTING LAND USE AND URBAN DESIGN IN THE CITY OF ELKHORN

This chapter has provided an inventory and analysis of the demographic, economic, and housing characteristics of, as well as of the natural and man-made features in, the City of Elkhorn and environs. Some of these characteristics and features pose planning and design constraints or opportunities. This information provides the framework within which a sound land use and urban design plan can be formulated, and is useful in defining specific land use development objectives, principles, standards, and related urban design criteria for the study area. The natural and man-made factors affecting land use planning and urban design are summarized on Map 28 and can be summarized as follows:

Map 28

SUMMARY OF SELECTED PHYSICAL CONSTRAINTS AFFECTING CITY DESIGN



Source: SEWRPC.

1. The resident population of the City of Elkhorn study area is anticipated to increase from its 1980 level of 6,610 persons to a year 2000 level of about 10,700 persons, an increase of 61.7 percent over the 20-year period. The resident population of the City of Elkhorn proper is anticipated to increase from its 1980 level of 4,605 persons to a year 2000 level of about 8,100 persons, an increase of about 76 percent over the 20-year period.

2. The forecast school-age population within the study area is expected to increase from its 1980 estimated level of 1,600 persons to about 2,200 persons in the year 2000, an increase of about 38 percent.

3. Delineated primary environmental corridors occupy about 1,256 acres (1.96 square miles), or about 5 percent of the total study area; secondary environmental corridors encompass approximately 772 acres (1.2 square miles), or 3 percent of the total study area; and isolated natural areas within the study area total approximately 658 acres (1.02 square miles), or 2.8 percent of the total study area. These types of areas pose certain limitations for urban development.

4. The preservation of prime agricultural areas in the Elkhorn study area is currently a county goal and is being implemented by the Walworth County zoning ordinance.

5. Climatic characteristics and their influence upon the built environment of the Elkhorn study area are important considerations in land use planning for the area.

6. Existing industrial-type land uses which are incompatible with surrounding land uses can be found in the Elkhorn study area.

7. Man-made barriers segregate portions of the community from one another, such as the Rock Freeway (STH 15), as shown in Figure 24, the Chicago, Milwaukee, St. Paul & Pacific Railroad right-of-way, and STH 11 and STH 67, both of which pass through the Elkhorn CBD.

8. New highway-oriented commercial development is being planned along STH 67 on the north side of the City.

9. A refined year 2000 sanitary sewer service area tributary to the Walworth County Metropolitan Sewerage District, of which Elkhorn is a part, as set forth in the adopted regional water quality management plan, is being developed.

10. A major new industrial park has been planned and platted in the southeast corner of the city proper.

In the initial stage of the land use planning process undertaken by the City, physical development problems and issues were identified and discussed by the City at a regular meeting of the City Plan Commission, held on January 10, 1980, at the City Hall. Problems and issues in the City of Elkhorn area were identified at this meeting and grouped by priority as follows:

Figure 24

ROCK FREEWAY

The Rock Freeway (STH 15) forms a very strong man-made environmental barrier as it extends through the southeast corner of the City. This view of the freeway looks northeast from where the freeway intersects with Lincoln Street (STH 67).

Photo by Patrick J. Meehan.

1. The land use plan is to address the orderly growth of the City of Elkhorn central business district and related areas of concern.

2. The City is to examine and modify, if needed, the current zoning ordinance.

3. The City is to define objectives, principles, and standards and related urban design criteria for community growth.

4. The City is to provide additional multiple-family housing.

5. The land use plan is to provide for the location of areas for different types of land use development.

6. The land use plan is to define the limits for future physical growth and population growth for the City of Elkhorn.

7. The land use plan is to define street layouts for future growth of the urban area.[5]

8. Commercial growth in areas other than within the City of Elkhorn central business district should be considered in the land use plan.

Other problems and issues which emerged at the meeting included the establishment of Tax Incremental Financing (TIF) districts for the City of Elkhorn (which was accomplished in 1980), the improvement of buffer zones between industrial areas and residential land uses, and future needs for single-family residential development.

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[5]This goal was abandoned by the City Plan Commission in 1982.

Chapter III

LAND USE OBJECTIVES, PRINCIPLES, STANDARDS, AND RELATED URBAN DESIGN CRITERIA

INTRODUCTION

Planning is a rational process for formulating and meeting objectives. Therefore, the formulation of objectives is an essential task which must be undertaken before plans can be prepared. Accordingly, a set of land use development objectives was formulated based on the problems and issues identified in Chapter II of this report, and on those objectives contained in regional plans which were considered applicable to and supportable by the City. This chapter sets forth the resulting set of land use development objectives and supporting principles and standards. These relate to the allocation and distribution of land use and the provision of community facilities and supporting services to meet the needs of the existing and probable future resident population of the City over the next two decades.

BASIC CONCEPTS AND DEFINITIONS

Definitions of the term "objective" as well as of the terms "principle," "standard," "design criteria," "plan," "policy," and "program," have been advanced by the Regional Planning Commission in order to clarify the concepts involved. These definitions are particularly needed because the terms are subject to a wide range of interpretation and application and are closely linked to other terms often used in planning work which are equally subject to a wide range of interpretation and application. These definitions are set forth below:

1. Objective: a goal or end toward the attainment of which plans and policies are directed.

2. Principle: a fundamental, primary, or generally accepted tenet used to support objectives and prepare standards and plans.

3. Standard: a criterion used as a basis of comparison to determine the adequacy of plan proposals to attain objectives.

4. Design criteria: a body of information which can be applied to the development of a solution or solutions to a specific design problem or set of problems.

5. Plan: a design which seeks to achieve agreed-upon objectives.

6. Policy: a rule or course of action used to ensure plan implementation.

7. Program: a coordinated series of policies and actions to carry out a plan.

Although this chapter deals with only the first four of these terms, an understanding of the interrelationship of these terms and the basic concepts they represent is essential to a good understanding of the land use development

objectives, principles, standards, and related urban design criteria set forth as a basis for the preparation of a land use plan for the City of Elkhorn. The land use development objectives, principles, and standards, as developed and approved by the City Plan Commission, deal primarily with spatial allocation to, and distribution of, the various land uses in a community, land use compatibility, natural resource base protection, and accessibility. Each objective, together with its supporting principles and standards, is presented below.

OBJECTIVES, PRINCIPLES, AND STANDARDS FOR THE CITY OF ELKHORN STUDY AREA

OBJECTIVE NO. 1

A balanced allocation of space to the various land use categories which meets the social, physical, and economic needs of the Elkhorn area.

PRINCIPLE

The planned supply of land set aside for any given use should approximate the known and anticipated demand for that use.

STANDARD

The amount of land area set aside for accommodating forecast growth in the Elkhorn area should be determined by application of the standards set forth in Table 24.

Table 24

URBAN LAND USE STANDARDS FOR THE CITY OF ELKHORN

Land Use Category	Development Standard (gross area)[a]
Residential	90.0 acres per 1,000 persons
Commercial	6.0 acres per 100 commercial employees
Industrial	12.0 acres per 100 industrial employees
Governmental and Institutional	
Public Elementary School	0.3 acres per 100 students
Public Middle School	0.3 acres per 100 students
Public High School	0.3 acres per 100 students
Church	2.5 acres per 1,000 persons
Other	4.5 acres per 1,000 persons
Public Outdoor Recreation[b]	
Regional and Multi-Community	As recommended in the Local and Regional Park and Open Space Plans
Community--	
In Park Sites	2.2 acres per 1,000 persons
In Middle Schools or High School Sites	0.9 acres per 1,000 persons
Neighborhood--	
In Park Sites	1.7 acres per 1,000 persons
In Elementary School Sites	1.6 acres per 1,000 persons

[a] Gross areas include associated street rights-of-way and off-street parking for each land use category.

[b] See Table 26 for more detailed standards.

Source: SEWRPC

OBJECTIVE NO. 2

A spatial distribution of the various land uses which will result in a compatible arrangement of land uses.

PRINCIPLE

The proper allocation of uses to land can avoid or minimize hazards and dangers to health, safety, and welfare and maximize amenity and convenience in terms of accessibility to supporting land uses.

STANDARDS

1. Urban residential uses should be located in areas which are served with centralized public sanitary sewerage and water supply facilities and which contain, within a reasonable walking distance, necessary supporting local service uses, such as neighborhood parks, local commercial establishments, and elementary school facilities; and should have reasonable access, through the appropriate component of the transportation system, to employment; commercial, cultural, and governmental centers; and secondary school and higher educational facilities.

2. Rural and suburban residential uses should have reasonable access, through the appropriate component of the transportation system, to local service uses; employment, commercial, cultural, and governmental centers; and secondary school and higher educational facilities.

3. Industrial uses should be located so as to have direct access to arterial street and highway facilities and reasonable access, through an appropriate component of the transportation system, to residential areas; and should not be intermixed with commercial, residential, governmental, recreational, or institutional uses.

4. Neighborhood and community level commercial uses should be located in centers of concentrated activity on only one side of an arterial street and should be afforded direct access to the arterial street system.

OBJECTIVE NO. 3

The location of facilities offering goods and services so as to afford maximum convenience to the resident population of the study area.

PRINCIPLE

The location and extent of commercial facilities, educational facilities, transportation facilities, recreational facilities, and employment opportunities are important determinants of the quality of life in the City of Elkhorn and therefore should be preserved and expanded as required to meet the needs of the resident population.

STANDARDS

1. Sites for facilities to serve the neighborhood and community should be provided in accordance with the standards set forth in Table 25.

2. In the central business district, parking should be provided sufficiently near concentrations of demand so that 90 percent of the short-term parkers need walk no more than one block or about 600 feet.

OBJECTIVE NO. 4

A spatial distribution of the various land uses which will result in the protection and wise use of the natural resources of the area, including soils, lakes and streams, wetlands, woodlands, and wildlife.

PRINCIPLE

The proper allocation of land uses can assist in maintaining an ecological balance between the activities of man and the natural environment which supports him.

Soils Principle

The proper relation of urban and rural land use development to soil type and distribution can serve to avoid costly environmental and developmental problems, to aid in the establishment of better settlement patterns, and to promote the wise use of an irreplaceable resource.

Table 25

COMMUNITY FACILITY SITE AREA AND SERVICE RADIUS FOR THE CITY OF ELKHORN

Type	Number of Persons Served	Required Site Area (gross acres)	Maximum One-Way Walking Distance (miles)	Maximum One-Way Travel Time (minutes)	
				Automobile at 25 miles per hour	Transit Facility Total Elapsed Time
Commercial Facilities					
Local Retail Sales and Service Center	4,000-8,000	6.5 minimum	0.75	3	--
Community Retail Sales and Service Center	10,000-25,000	15-40	1.50	15	20
Community Industrial Facility	300-5,000 employees	20-640	--	15	20
Local Transit Facilities	--	--	0.75	--	--
Educational Facilities					
Public Elementary School (grades K-5)	500 students	11	0.50	--	--
Public Middle School (grades 6-8)	900 students	19	1.50	15	20
Public Senior High School (grades 9-12)	2,300 students	48	--	20	30

Source: SEWRPC.

STANDARDS

1. Sewered urban development should not be located in areas covered by soils identified in the regional detailed operational soil survey as having severe or very severe limitations for such development.

2. Unsewered suburban residential development should not be located in areas covered by soils identified in the regional detailed operational soil survey as having severe or very severe limitations for such development.

3. Rural development, including agricultural and rural residential development, should not be located in areas covered by soils identified in the regional detailed operational soil survey as having severe or very severe limitations for such uses.

Lakes and Streams Principle

Inland lakes and streams contribute to the atmospheric water supply through evaporation; provide a suitable environment for desirable and sometimes unique plant and animal life; provide the population with opportunities for certain scientific, cultural, and educational pursuits; constitute prime recreational areas; provide a desirable aesthetic setting for certain types of land use development; serve to store and convey floodwaters; and provide certain water withdrawal requirements.

STANDARDS

1. The flow capacity of perennial stream channels and associated floodlands shall not be reduced by urban or rural development.

2. Floodlands should not be allocated to any urban development which would cause or be subject to flood damage.

3. The floodwater storage capacity of floodlands shall not be reduced by urban or rural development.

Wetlands Principle

Wetlands support a wide variety of desirable and sometimes unique plant and animal life; assist in the stabilization of lake levels and streamflows; trap and store plant nutrients in runoff, thus reducing the rate of enrichment of surface waters and obnoxious weed and algae growth; contribute to the atmospheric oxygen supply; contribute to the atmospheric water supply; reduce storm water runoff by providing area for floodwater impoundment and storage; trap soil particles suspended in runoff and thus reduce stream sedimentation; and provide the population with opportunities for certain scientific, educational, and recreational pursuits.

STANDARD

All wetland areas adjacent to streams or lakes, all wetlands within areas having special wildlife and other natural values, and all wetlands having an area in excess of 50 acres should not be allocated to any urban development except limited recreation and should not be drained or filled.

Woodlands Principle

Woodlands assist in maintaining unique natural relationships between plants and animals; reduce storm water runoff; contribute to the atmospheric oxygen supply; contribute to the atmospheric water supply through transpiration; aid in reducing soil erosion and stream sedimentation; provide the resource base for the forest product industries; provide the population with opportunities for certain scientific, educational, and recreational pursuits; and provide a desirable aesthetic setting for certain types of land use development.

STANDARDS

1. High- and medium-value woodland areas having a minimum area of five acres should not be allocated to any urban development except limited recreation.

2. A minimum community aggregate of five acres of woodland per 1,000 population should be maintained for recreational pursuits.

Wildlife Principle

Wildlife, when provided with a suitable habitat, will supply the population with opportunities for certain scientific, educational, and recreational pursuits; constitutes an integral component of the life systems which are vital to beneficial natural processes, including the control of harmful insects and other noxious pests and the promotion of plant pollination; provides food sources; offers an economic resource for the recreation industries; and serves as an indication of environmental health.

STANDARD

The most suitable habitat for wildlife--that is, the area wherein fish and game can best be fed, sheltered, and reproduced--is a natural habitat. Since the natural habitat for fish and game can best be achieved by preserving or maintaining in a wholesome state other resources such as soil, air, water, wetlands, and woodlands, the standards for each of these other resources, if met, would ensure the preservation of a suitable wildlife habitat and population.

OBJECTIVE NO. 5

The preservation of sufficient high-quality open space lands for protection of the underlying and sustaining natural resource base and enhancement of the social and economic well being and environmental quality of the area.

PRINCIPLE

Ecological balance and natural beauty are primary determinants of the City's ability to provide a pleasant and habitable environment for all forms of life and to maintain social and economic well being. Preservation of the most significant aspects of the natural resource base, that is, primary environmental corridors and prime agricultural lands, contributes to the maintenance of the ecological balance, natural beauty, and economic well being of the City.

Primary and Secondary Environmental Corridors Principle

The primary and secondary environmental corridors are a composite of the best individual elements of the natural resource base, including lakes, rivers, and streams and their associated floodlands; wetlands; woodlands; wildlife habitat areas; rugged terrain consisting of slopes 12 percent or greater; wet, poorly drained, or organic soils; and significant geological formations. By protecting these elements of the natural resource base, flood damage can be reduced, soil erosion abated, water supplies protected, air cleansed, wildlife population enhanced, and continued opportunities provided for scientific, educational, and recreational pursuits.

STANDARDS

1. All remaining undeveloped lands within the designated primary environmental corridors in the city planning area should be preserved in essentially natural, open uses.

2. All remaining undeveloped lands within the designated secondary environmental corridors in the city planning area should be considered for preservation and use as drainageways, floodwater detention areas, and neighborhood parks as urban development proceeds.

Prime Agricultural Lands Principle

Prime agricultural lands constitute the most productive farmlands in the city study area and, in addition to providing food and fiber, contribute significantly to maintaining the ecological balance between plants and animals; provide locations close to urban centers for the production of certain food commodities, which may require nearby population concentrations for an efficient production-distribution relationship; provide open spaces which give form and structure to urban development; and serve to maintain the natural beauty and unique cultural heritage of the city study area.

STANDARDS

1. Parcels 35 acres or larger in size, which have 50 percent or more of their area covered by national prime farmlands as designated by the U. S. Department of Agriculture, Soil Conservation Service, and which are included within national prime farmland parcel aggregates of 500 acres or larger, should be preserved in agricultural use.

2. Nonfarm residential development should not be located in prime agricultural areas. Nonfarm residential development in other agricultural areas should be discouraged, but, if permitted, should be limited to densities equivalent to a lot area of five acres or greater in size per dwelling unit providing that the soils are adequately permeable and free from severe bedrock, groundwater, flooding, and steep slope hazards for the installation of an onsite soil absorption sewage disposal system.

OBJECTIVE NO. 6

The provision of an integrated system of public general-use outdoor recreation sites and related open space areas which will allow the resident population of the area and Region adequate opportunity to participate in a wide range of outdoor recreational activities.

PRINCIPLE

Attainment and maintenance of good physical and mental health is an inherent right of all residents of the city area. The provision of public general-use outdoor recreation sites and related open space areas contributes to the attainment and maintenance of physical and mental health by providing opportunities to participate in a wide range of both intensive and extensive outdoor recreational activities. Moreover, an integrated park and related open space system, properly related to the natural resource base--such as the existing surface water network, can generate the dual benefits of satisfying recreational demands in an appropriate setting while protecting and preserving valuable natural resource amenities. Finally, an integrated system of public general-use outdoor recreation sites and related open space areas can contribute to the orderly growth of the city area by lending form and structure to urban development patterns.

Public General-Use Outdoor Recreation Sites Principle

Public general-use outdoor recreation sites promote the maintenance of proper physical and mental health by providing opportunities to participate in such athletic recreational activities as baseball, swimming, tennis, and ice skating--activities that facilitate the maintenance of proper physical health because of the exercise involved--as well as opportunities to participate in such less athletic activities as pleasure walking, picnicking, or just rest and reflection. These activities tend to reduce everyday tensions and anxieties and thereby help maintain proper physical and mental well being. Well-designed and properly located public general-use outdoor recreation sites also provide a sense of community, bringing people together for social and cultural as well as recreational activities, and thus contribute to the desirability and stability of residential neighborhoods and therefore to the communities in which such facilities are provided.

STANDARDS

1. The public sector should provide general-use outdoor recreation sites sufficient in size and number to meet the recreation demands of the resident population. Such sites should contain the natural resource or man-made amenities appropriate to the recreational activities to be accommodated therein and be spatially distributed in a manner which provides ready access by the resident population. To achieve this standard, the site requirements indicated in Table 26 should be met.

2. Public general-use outdoor recreation sites should, to the maximum extent practicable, be located within the designated primary environmental corridors of the city area.

Recreation-Related Open Space Principle

Effective satisfaction of recreation demands within the Region cannot be accomplished solely by providing public general-use outdoor recreation sites. Certain recreational pursuits such as hiking, biking, pleasure driving, and ski touring are best provided for through a system of recreation corridors located on or adjacent to linear resource-oriented open space lands. A well-designed system of recreation corridors offered as an integral part of linear

Table 26

STANDARDS FOR PUBLIC GENERAL-USE OUTDOOR RECREATION SITES

Site Type	Size (gross acres)	Publicly Owned General-Use Sites							
		Parks				Schools[a]			
		Minimum per Capita Acreage Requirements (acres per 1,000 persons)[d]	Typical Facilities	Maximum Service Radius (miles)[b]		Minimum per Capita Acreage Requirements (acres per 1,000 persons)[f]	Typical Facilities	Maximum Service Radius (miles)[c]	
				Urban[e]	Rural			Urban[e]	Rural
I[g] Regional	250 or more	5.3	Camp sites, swimming beach, picnic areas, golf course, ski hill, ski touring trail, boat launch, nature study area, playfield, softball diamond, passive activity area[h]	10.0	10.0	--	--	--	--
II[i] Multi-Community	100-249	2.6	Camp sites, swimming pool or beach, picnic areas, golf course, ski hill, ski touring trail, boat launch, nature study area, playfield, softball and/or baseball diamond; passive activity area[h]	4.0[j]	10.0[j]	--	--	--	--
III[k] Community	25-99	2.2	Swimming pool or beach, picnic areas, boat launch, nature study area, playfield, softball and/or baseball diamond, tennis court, passive activity area[h]	2.0[l]	--	0.9	Playfield, baseball diamond, softball diamond, tennis court	0.5-1.0[m]	--
IV[n] Neighborhood	Less than 25	1.7	Wading pool, picnic areas, playfield, softball and/or baseball diamond, tennis court, playground, basketball goal, ice-skating rink, passive activity area[h]	0.5-1.0[o]	--	1.6	Playfield, playground, baseball diamond, softball diamond, tennis court, basketball goal	0.5-1.0[m]	--

[a] In urban areas, the facilities commonly located in Type III or Type IV school outdoor recreation areas often provide a substitute for facilities usually located in parks by providing opportunities for participation in intensive nonresource-oriented activities.

[b] The identification of a maximum service radius for each park type is intended to provide another guideline to assist in the determination of park requirements and to assure that each resident of the area, as well as the Region, has ready access to the variety of outdoor recreation facilities commonly located in parks.

[c] The identification of a maximum service radius for each school site is intended to assist in the determination of outdoor recreation facilities requirements and to assure that each urban resident has ready access to the types of facilities commonly located *in school recreation areas.*

[d] For Type I and Type II parks, which generally provide facilities for resource-oriented outdoor recreation activities for the total population of the Region, the minimum per capita acreage requirements apply to the total resident population of the Region. For Type III and Type IV sites, which generally provide facilities for intensive nonresource-oriented outdoor recreation activities primarily in urban areas, the minimum per capita acreage requirements apply to the resident population of the study area.

[e] Urban areas are defined as areas containing a closely spaced network of minor streets which include concentrations of residential, commercial, industrial, governmental, or institutional land uses having a minimum total area of 160 acres and a minimum population of 500 persons. Such areas are usually incorporated and are served by sanitary sewerage systems. These areas have been further classified into the following densities: low-density urban areas, or areas with 0.70 to 2.29 dwelling units per net residential acre; medium-density urban areas, or areas with 2.30 to 6.99 dwelling units per net residential acre; and high-density urban areas, or areas with 7.00 to 17.99 dwelling units per net residential acre.

[f] For public school sites, which generally provide facilities for intensive nonresource-oriented outdoor recreation activities, the minimum per capita acreage requirements apply to the resident population residing in urban areas.

[g] Type I sites are defined as large outdoor recreation sites having a multi-county service area. Such sites rely heavily on natural resource amenities for their recreational value and character. Type I parks provide opportunities for participation in a wide variety of resource-oriented outdoor recreation *pursuits.*

[h] A passive activity area is defined as an area within an outdoor recreation site which provides an opportunity for such less athletic recreational pursuits as pleasure walking, rest and relaxation, and informal picnicking. Such areas generally are located in all parks or in urban open space sites and usually consist of a landscaped area with mowed lawn, shade trees, and benches.

[i] Type II sites are defined as intermediate-size sites having a countywide or multi-community service area. Like Type I sites, such sites rely on natural resource amenities for their recreational value and character. Type II parks, however, usually provide a smaller variety of recreation facilities and have smaller areas devoted to any given activity.

[j] In general, each resident of the study area should reside within 10 miles of a Type I or Type II park.

[k] Type III sites are defined as intermediate-size sites having a multi-neighborhood service area. Such sites rely more on the development characteristics of the area to be served than on natural resource amenities for location.

[l] In urban areas, the need for a Type III site is met by the presence of a Type II or Type I site. Thus, within urban areas having a population of 7,500 or greater, each urban resident should be within two miles of a Type III, II, or I park site.

[m] The typical service radius of school outdoor recreation facilities is governed by individual *facilities within the* school site and by population densities in the vicinity of the site. In medium-density urban areas, each resident should reside within 0.75 mile of facilities commonly located in a Type III or Type IV school outdoor recreation area; and in low-density urban areas, each urban resident should reside within one mile of the facilities commonly located in a Type III or Type IV school outdoor recreation area.

[n] Type IV sites are defined as small sites which have a neighborhood as their service area. Such sites usually provide facilities for intensive nonresource-oriented outdoor recreation activities and are generally provided in urban areas. These acreage standards relate to lands required to provide for recreation facilities typically located in a neighborhood and are exclusive of the school building site and associated parking area and any additional natural areas which may be incorporated into the design of the park site such as drainageways and associated storm water retention basins, areas of poor soils, and floodland areas.

[o] The maximum service radius of Type IV parks is governed primarily by the population densities in the vicinity of the park. In medium-density urban areas, each resident should reside within 0.75 mile of a Type IV park; and in low-density urban areas, each resident should reside within one mile of a Type IV park.

Source: SEWRPC.

open space lands can also serve to physically connect existing and proposed public parks, thus forming a truly integrated park and recreation-related open space system. Such open space lands, in addition, satisfy the human need for natural surroundings, serve to protect the natural resource base, and ensure that many scenic areas and areas of natural, cultural, or historic interest assume their proper place as form determinants for both existing and future land use patterns.

STANDARD

The public sector should provide sufficient open space lands to accommodate a system of resource-oriented recreation corridors to meet the resident demand for extensive trail-oriented recreational activities. To fulfill these requirements, the recreation-related open space standards contained in Table 26 should be met.

OBJECTIVE NO. 7

A spatial distribution of the various land uses which is properly related to the supporting transportation, utility, and public facility systems in order to ensure the economical provision of transportation, utility, and public facility services.

PRINCIPLE

The transportation and public utility facilities and the land use pattern which these facilities serve and support are mutually interdependent in that the land use pattern determines the demand for, and loadings upon, transportation and utility facilities; and these facilities in turn, are essential to, and form a basic framework for, land use development.

STANDARDS

1. Urban development should be located so as to maximize the use of existing transportation and utility systems.

2. The transportation system should be located and designed to provide access not only to all land presently devoted to urban development but to land proposed to be used for urban development.

3. All lands developed or proposed to be developed for urban residential use should be located in areas serviceable by an existing or proposed public sanitary sewerage system and preferably within the gravity drainage area tributary to such systems.

4. All land developed or proposed to be developed for urban residential use should be located in areas serviceable by an existing or proposed public water supply system.

5. Adequate storm water drainage facilities should be provided for all urban development.

6. The transportation system should be functionally classified, and arterial streets should be located to minimize the penetration of existing and proposed residential areas by through traffic.

7. Transportation terminal facilities, such as off-street parking and off-street truck loading, should be located in proximity to the principal land uses to which they are accessory.

OBJECTIVE NO. 8

The preservation, development, and redevelopment of a variety of suitable industrial and commercial sites in terms of both physical characteristics and location.

PRINCIPLE

The production and sale of goods and services are among the principal determinants of the level of economic vitality in any society, and the important activities related to these functions require areas and locations suitable to their purpose.

STANDARDS

1. Local industrial development should be located in planned industrial districts which meet the following standards:

   a. Direct access to the arterial street and highway system.
   b. Available, adequate water supply.
   c. Available, adequate public sanitary sewer service.
   d. Available, adequate storm water drainage facilities.
   e. Available, adequate power supply.
   f. Site should be covered by soils identified in the regional soils survey as having very slight, slight, or moderate limitations for industrial development.

2. Local commercial development should be located within the Elkhorn central business district (CBD) and within other designated community and neighborhood areas.

OBJECTIVE NO. 9

An integrated transportation system which, through its location, capacity, and design, will effectively serve the existing and proposed land use pattern and promote the implementation of the plan, meeting the anticipated travel demand generated by the existing and proposed land uses.

PRINCIPLE

An integrated area transportation system serves to freely interconnect the various land use activities within the neighborhoods, City, and Region, thereby providing the attribute of accessibility essential to the support of these activities.

STANDARD

The transportation system should provide an orderly, functional hierarchy of arterial, collector, and land access streets and pedestrian paths to service the area.

OBJECTIVE NO. 10

Provide facilities necessary to maintain high-quality fire protection throughout the City.

PRINCIPLE

The adequacy of fire protection in the City is dependent upon the relationship between the size and distribution of the city population and the location of facilities available to service that population.

STANDARD

Fire stations and equipment should be distributed based upon the standards shown in Table 27.

OBJECTIVE NO. 11

The provision of adequate locations and choices of housing offering a variety of housing types for varying age and income groups and for different-size households.

PRINCIPLE

Adequate choice in size, cost, and location of housing units will assure equal opportunity.

STANDARD

Housing units within the Elkhorn area should be geographically well distributed and include a full range of housing by type, size, and cost.

The objectives, principles, and standards set forth in this chapter express the physical development intent of the City of Elkhorn. The standards perform a particularly important function in land use plan design since they form the basis upon which estimates of future community land use needs are based. Community land use requirements are developed in Chapter IV based upon these objectives, principles, and standards.

URBAN DESIGN CRITERIA

In order to develop physical solutions to the urban design problems outlined and discussed in Chapter II, certain urban design criteria must be agreed upon. In this respect, urban design criteria can be defined as a body of information which can be applied to the development of a solution or solutions to a specific urban design problem or set of problems. Specific urban design decisions should be based, in part, upon the urban design criteria, as well as upon the underlying objectives, principles, and standards outlined herein. Urban design criteria are of a high level of specificity in order to assist in the development of detailed urban design solutions to the highly specific urban design problems outlined. Urban design criteria have been developed with respect to

Table 27

FIRE COMPANY DISTRIBUTION STANDARDS

District and Required Fire Flow	Optimum Service Radius in Miles	
	From Engine, Hose, or Engine-Ladder Company	From Ladder Company
High-Value District (commercial, industrial, and institutional)		
Where required fire flow is 9,000 gallons per minute or more	0.75	1.00
Where required fire flow is 5,000 to 8,999 gallons per minute	1.00	1.25
Where required fire flow is less than 4,500 gallons per minute	1.50	2.00
Residential District		
Where required fire flow is more than 2,000 gallons per minute or where there are buildings in the district three or more stories in height, including tenement houses, apartments, or hotels	1.50	2.00
Same as above, but where the life hazard is above normal	1.00	1.25
For buildings having an average separation of less than 100 feet (and a fire flow requirement of 2,000 gallons or less per minute)	2.00	3.00
For buildings having an average separation of 100 feet or more (and a fire flow requirement of 2,000 gallons or less per minute)	4.00	4.00

NOTE: The above distances should be considered as direct street travel distances. Also, the above distances should be reduced if a severe hazard to life exists; if streets are narrow or in poor condition; if traffic, one-way streets, topography, or other unusual locational conditions hinder response; or if other circumstances peculiar to the particular district or municipality indicate that such a reduction is needed.

Source: SEWRPC.

the Elkhorn central business district (CBD) development and communitywide residential development. These criteria are used, in part, to arrive at the designs for city development outlined in the recommended plans presented in Chapter V.

Urban Design Criteria for the CBD

With respect to the City of Elkhorn central business district, the urban design criteria are concerned with urban facades, storefronts, store entries, rear and side yards, urban scale and mass, urban rooflines, materials, colors, pedestrian circulation, vehicular circulation, parking, service areas, signage, urban landscape plant selection, street lighting, street furniture, and above-ground utilities. These urban design criteria are discussed in more detail below.

Urban Facades: Since several of the storefronts, store entries, and general urban facades of the Elkhorn CBD area still retain their original architectural character to some degree, every effort should be made to enhance or recapture this inherent urban design attribute.

The structural shapes of buildings, their proportions, the placement of openings, the placement of awnings, and various other details all contribute to the overall CBD streetscape appearance. Although the building facades of two adjacent buildings may be different, their overall appearance can be made compatible through the proper use of these visual elements.

Canopies and awnings, in addition to providing shade from direct sunlight and providing protection to pedestrians from elements of the weather, can both preserve and promote the overall horizontal visual continuity of the Elkhorn CBD and can assist in the development of a uniform and visually compatible signage system. Street level awnings should have a valance about 12 inches wide, and the bottom of the valance should not be less than 7 feet above the grade of the walk. Awnings for upper-story windows should extend more than halfway down the windows and should have a valance of about 10 inches.

Rear Yards and Side Yards: Rear and side yards should be kept clean and proper garbage receptacles should be used. Other unsightly features should be covered from view in a creative fashion. Rear or side entrances that are used by the general public should provide a walkway which exhibits safe and attractive features, including landscape plantings.

Urban Scale and Mass: The relative proportion of a building to its neighboring buildings, of a building to the pedestrian or observer, or of a building to the surrounding Elkhorn CBD area in general should be considered when new buildings in the Elkhorn CBD are built or when existing buildings are remodeled or altered. Several existing buildings of the CBD exhibit a very human and uniform scale and mass, which represents one of the most prominent visual aspects of the overall Elkhorn CBD area. A number of visual elements which contribute to this overall scale and mass include the rhythm and proportion of the elements of the building facades, the architectural detailing, the visual directional emphasis of the streetscape (which can be either a horizontal or vertical line direction), the symmetrical or asymmetrical character of the building facades, the mass of individual buildings, the presence or absence of landscape planting materials, the size and configuration of open

spaces, the use of building materials, the use of color, building height, and the presence or absence of street furniture. These elements of urban scale and mass should be maintained and enhanced whenever possible.

Urban Rooflines: Since the majority of the roofs in the Elkhorn CBD are flat, they are not easily viewed from the roads. However, the rooflines and parapet walls of many of these structures have pronounced and similar cornice and brick corbel details which create both interest and visual unity among some of the structures. These upper edges of the parapet walls (or coping) and cornices visually define the upper edge or height of the building and/or streetscape (a cornice is the projecting member at the top of a wall with decorative and utilitarian coping, and a corbel is a type of bracket formed by extending successive courses of brick so that they stand out from the wall surface). The visual continuity of these urban design elements should be maintained in the Elkhorn CBD, and building development or redevelopment with opposing rooflines should be discouraged.

Materials: Material selection for both architectural and landscape design in the Elkhorn CBD should be based upon several areas of concern, including material unity, the atmosphere desired, the material composition of surrounding buildings and landscape features, the compatibility with other materials, and climatic considerations. Since the primary exterior materials used in the Elkhorn CBD are primarily brick and concrete masonry, wood and, to a limited extent, concrete, deviation from these materials for future construction should be minimized. Through the use of these predominant materials in the CBD, the overall building facade texture of the CBD will be maintained.

Colors: The selection of colors in the Elkhorn CBD for the buildings is generally an individual decision. However, the use of colors does have a significant effect upon the overall appearance of the CBD. Colors should be selected based upon the colors of existing wood and exposed masonry buildings and should blend well with these given existing colors. "Earthy" colors, which are the reds, browns, soft greens, and bieges, would be appropriate based upon the colors of many of the existing Elkhorn CBD brick masonry buildings. Colors which clash with the overall visual character of the Elkhorn CBD should be avoided.

Pedestrian Circulation: The pedestrian movement system in the Elkhorn CBD should form linkages between the various activities in the CBD area. The system should eliminate conflict with vehicular circulation or, if conflicts cannot be totally avoided, the conflicts should be minimized. Spatial sequences, visual aspects, and pavement texture should also be taken into consideration in the placement of new sidewalks so that the pedestrian is offered a variety of visually pleasing experiences adding to his or her overall enjoyment of the CBD area. A recommended minimum sidewalk width is five feet. Provisions for the handicapped in sidewalk construction should also be made pursuant to Section 66.616 of the Wisconsin Statutes.

Vehicular Circulation: The vehicular circulation system should be developed for easy access to the Elkhorn CBD parking facilities from the community. Vehicular and pedestrian conflicts should be avoided where possible and, where conflicts cannot be totally avoided, conflicts should be minimized. Also, delivery and service circulation patterns should not conflict with customer circulation. The vehicular circulation system should also provide visually pleasing experiences to the motorist.

Parking: Parking spaces in the Elkhorn CBD should be provided on the basis of four spaces per 1,000 square feet of gross leasible building area. The size and design of parking areas in the CBD should be such that the character of the Elkhorn CBD is maintained, and parking areas should be attractively landscaped. The distance between parking and commercial areas should be minimized.

Service Areas: Service and loading areas in the Elkhorn CBD should be located for easy vehicular service access. Service and loading areas should not conflict with pedestrian or general vehicular traffic in the Elkhorn CBD. Also, service and loading areas which are generally not aesthetically pleasing should be oriented or designed so as to obscure visual contact from the customers of the area.

Signage: In addition to conforming with the rules and regulations of the zoning ordinance, signs should be designed so that they are in keeping with the overall character of the Elkhorn CBD and its buildings. Lettering on signs in the Elkhorn CBD should be functional as well as visually pleasing. Truly functional lettering is of a typeface which is properly spaced, is easy to read, and makes its message clear from the distance it is intended to be read. In instances where shop owners wish to be in keeping with the overall character of the late 19th century architectural style of several of the Elkhorn CBD buildings, a 19th century style lettering which accomplishes these functions could be used. Most sarif or sans sarif lettering styles fall into this category. Generally, the fewer the words on the sign face, the more likely people will be able to read the sign with ease. Since the building facades in the Elkhorn CBD have predominantly flat storefronts and are oriented parallel to CBD streets, flush-mounted face signs should be used. Standard "franchise" and "brand name" signs should be avoided. Signs should be placed in visually pleasing and logical places on the facade, which can include areas of the building facade which are void of openings, projections, and architectural details. Generally, the most visually effective sign is one with a dark background and light-colored letters.

Urban Landscape Plant Selection: Landscape plantings are an important part of an attractive CBD. Landscape plantings have functional as well as aesthetic characteristics which would improve the CBD to a great extent. Plantings of trees and shrubs can provide shade and shelter, act as limited noise buffers and visual screens, assist in the channeling of pedestrian and vehicular traffic, act as windbreaks, and decrease insolation (derived from incoming solar radiation) before it reaches the ground, thus preventing re-radiation (long-wave radiation) from asphalt and concrete surfaces.

Landscape plantings in the Elkhorn CBD should be selected based, in part, upon the soil types found in the Elkhorn CBD. SEWRPC Planning Report No. 8, Soils of Southeastern Wisconsin, provides a guide for the selection of trees, shrubs, and vines for landscape planting. The guide was based upon the woodland suitability groupings of soils. Soils in the Elkhorn CBD are the Calamus silt loam. The Calamus silt loam is characterized in profile by a 0- to 10-inch surface soil of dark, grayish-brown, friable, granular silt loam; a 10- to 16-inch subsoil of dark, yellowish-brown, firm, subangular blocky silty clay loam; a 16- to 36-inch dark yellowish-brown, firm, subangular blocky silty clay loam with a few pale brown and yellow mottles; a 36- to 45-inch dark yellowish-brown, friable, subangular blocky silt loam with distinct yellow and strong brown

mottles; and a substratum of 45 to 60 inches of brown, friable, massive loamy glacial till containing many rounded dolomite fragments. The soil generally has a pH value of 5.6 to 6.5, which can range from medium acidity to slight acidity. The woodland suitability grouping of the Calamus silt loam is 1. Various landscape planting materials suitable for planting in this soil type and their respective characteristics are provided in Appendices D, E, and F of this report to serve as a guide for future landscape plantings in the Elkhorn CBD. Generally, street trees should be planted 30 to 40 feet apart to allow for maximum tree spread at maturity.

Street Lighting: Street lighting in the Elkhorn CBD should serve four purposes. First, street lighting should provide for the safe movement of pedestrian and vehicular traffic. Second, it should aid in the provision of an environment which promotes security and crime prevention. Third, street lighting should aid in creating an aesthetically pleasing environment at nighttime as well as during the daylight hours. And, fourth, street lighting should assist in promoting the use of Elkhorn CBD buildings both day and night. Generally, primary lighting luminaires in the Elkhorn CBD should be mounted on posts at a height of 10 to 15 feet. This height allows for the lighting to relate to both human and building scale. Lighting fixtures or luminaires should be placed so that light overlaps at a height of about seven feet. Post and luminaire design should reflect the overall character of the Elkhorn CBD. Recommended illumination for the Elkhorn CBD area should be between 0.9 to 1.2 footcandles.[1]

Street Furniture: Street furniture includes a myriad of man-made objects which serve the functions of adding variety and serving pedestrian needs in a CBD area. Street furniture items include lighting luminaires and posts, plant containers, street seating, drinking fountains, sculpture, play equipment, garbage receptacles, fire hydrants, bollards, kiosks, sun-shading devices, and signage. The design and placement of such items should contribute to the overall theme and design theme of the Elkhorn CBD, serving both an aesthetic function and a utilitarian function, while adding a sense of design continuity and human scale to the CBD area.

Above-Ground Utility Wires: In the CBD, the relocation of above-ground utilities either underground or, where possible, to alleys, should be considered since these wires detract from the overall appearance of the Elkhorn CBD and add to visual clutter.

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[1]Recommended standards from the U. S. Department of Transportation, Federal Highway Administration, Roadway Lighting Handbook, U. S. Government Printing Office, Washington, D. C., December 1978, p. 118. The recommended illumination values shown are meaningful only when designed in conjunction with other elements. The most critical elements are illumination depreciation, quality, uniformity, luminaire mounting heights, spacing, transverse location of luminaires, luminaire selection, traffic conflict areas, border areas, transition lighting, alleys, and roadway lighting layouts. It should be pointed out here that several recently renovated central business districts have provided up to 18 footcandles. The number of footcandles provided should support and encourage pedestrian use within the framework of an overall lighting plan for the CBD area.

Urban Design Criteria for Residential and Other Urban Development

As discussed earlier, urban design criteria have also been developed for other urban and residential development, including streets, blocks, lots, solar access, general landscaping, easements, storm water drainage, and erosion/sedimentation controls. These urban design criteria are discussed in more detail below.

Streets:

Limitations of Access to Arterial Streets--Whenever proposed residential land uses abut an arterial street or highway, the character of the residential uses and the capacity and safety of the arterial facility should be protected by limiting access from the abutting land uses and by separating through and local traffic, where possible, by reversed frontage. In addition, a planting screen should be provided in a nonaccess reservation along the rear property line.

Street Cross-Sections--Figure 25 summarizes graphically the cross-sectional design criteria for arterial streets, collector streets, minor streets, and cul-de-sacs in the Elkhorn study area.

Street Grades--Unless necessitated by exceptional topography, the maximum grade of any street should not exceed the following: arterial streets, 6 percent; collector streets, 8 percent; minor streets, alleys, and frontage streets, 12 percent; and pedestrian ways, 12 percent unless steps of acceptable design are provided. In addition, the grade of any street should not exceed 12 percent or be less than 0.5 percent. Street grades should be established so as to avoid excessive grading, the promiscuous removal of ground cover and tree growth, and any unnecessary leveling of the topography.

Street Intersections--Streets should intersect each other at as near to right angles as topography and other limiting factors of design permit. In addition, the number of streets converging at one intersection should be held to a minimum, preferably to not more than two streets at one intersection; the number of intersections along arterial streets and highways should be held to a minimum, and the distance between such intersections should generally not be less than 1,200 feet; and property lines at street intersections should be rounded with a minimum radius of 15 feet or should be cut off by a straight line through the joints of tangency of an arc having a radius of 15 feet.

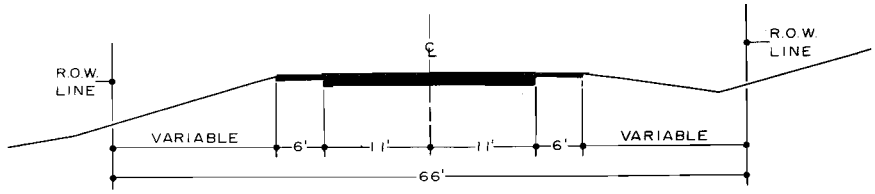
Street Alignment--When a continuous street centerline deflects at any point by more than 10 degrees, a circular curve should be introduced having a radius of curvature on the centerline of not less than the following: arterial streets, 500 feet; collector streets, 300 feet; and minor streets, 100 feet. A tangent at least 100 feet in length should be provided between reverse curves on arterial and collector streets. In addition, minor and collector streets should not necessarily continue across arterial streets. If the distance between the centerline intersections of any street and any other intersecting street is less than 250 feet measured along the centerline of the intersecting streets, then the street location should be adjusted so that the distance is increased or the adjoinment across the intersecting street is continuous, thus avoiding a jog in the flow of traffic.

Street Orientation for Solar Access--In order to facilitate solar access where topography and other natural features permit, streets should generally be layed

Figure 25

TYPICAL RURAL AND URBAN STREET AND HIGHWAY CROSS SECTIONS

RURAL AREA
TYPICAL CROSS SECTION "A"
MINIMUM TWO LANE ARTERIAL

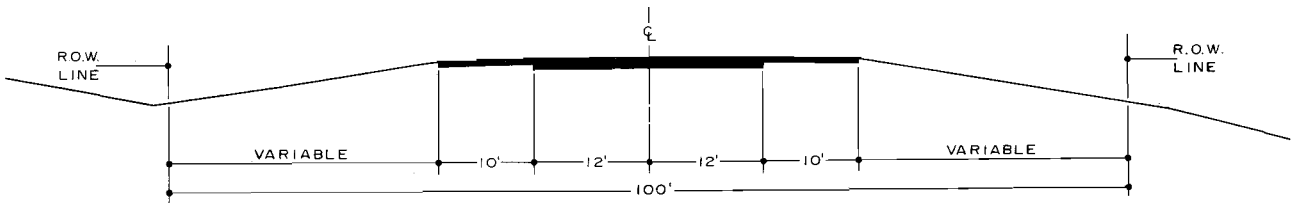


GRAVEL BASE VARIES
22' HIGH TYPE PAVEMENT, 66' R.O.W.

CAPACITY RANGE:

LEVEL OF SERVICE	MAXIMUM SERVICE VOLUME
B	4,400 VEH./DAY
C	7,400 VEH./DAY

RURAL AREA
TYPICAL CROSS SECTION "B"
DESIRABLE TWO LANE ARTERIAL

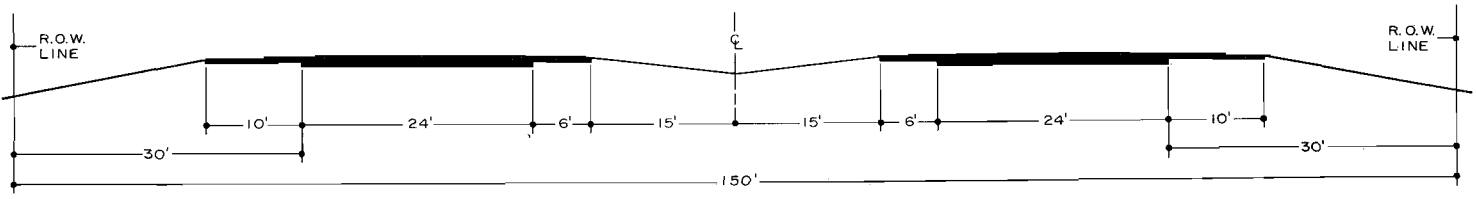


GRAVEL BASE VARIES
24' HIGH TYPE PAVEMENT, 100' R.O.W.

CAPACITY RANGE:

LEVEL OF SERVICE	MAXIMUM SERVICE VOLUME
B	5,200 VEH./DAY
C	8,500 VEH./DAY

RURAL AREA
TYPICAL CROSS SECTION "C"
DESIRABLE FOUR LANE ARTERIAL



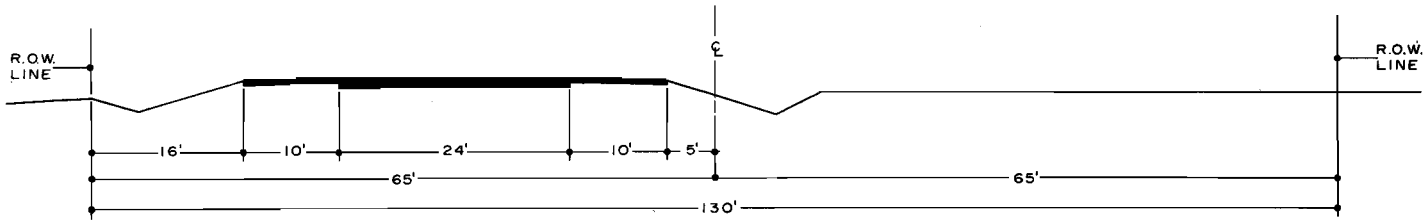
GRAVEL BASE VARIES
DUAL 24' HIGH TYPE PAVEMENT, 150' R.O.W.

CAPACITY RANGE:

LEVEL OF SERVICE	MAXIMUM SERVICE VOLUME
B	8,700 VEH./DAY
C	13,400 VEH./DAY

Figure 25 (continued)

URBANIZING AREA
TYPICAL CROSS SECTION "D"
DESIRABLE TWO LANE ARTERIAL
(INITIAL STAGE OF FUTURE FOUR LANE ARTERIAL)

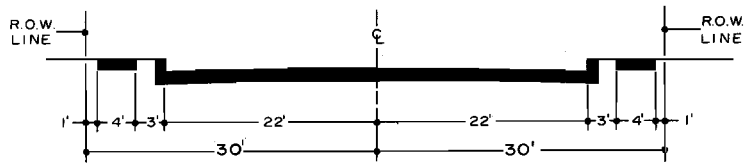


GRAVEL BASE VARIES
24' HIGH TYPE PAVEMENT, 130' R.O.W.

CAPACITY RANGE:

LEVEL OF SERVICE	MAXIMUM SERVICE VOLUME
RURAL	
B	5,200 VEH./DAY
C	8,500 VEH./DAY
URBAN	
B	6,100 VEH./DAY
C	6,800 VEH./DAY
D	7,400 VEH./DAY

URBAN AREA
TYPICAL CROSS SECTION "E"
MINIMUM TWO LANE ARTERIAL

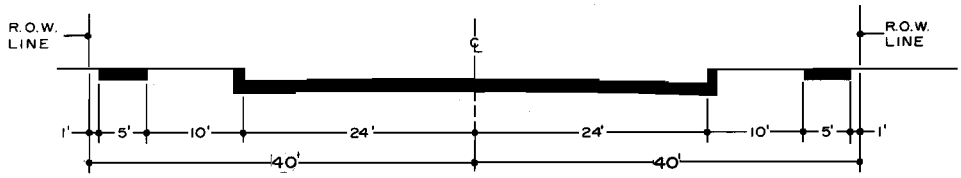


6" GRAVEL BASE
44' HIGH TYPE PAVEMENT, 60' R.O.W.
SIDEWALK, STREET LIGHTING

CAPACITY RANGE:

LEVEL OF SERVICE	MAXIMUM SERVICE VOLUME
B	8,200 VEH./DAY
C	8,500 VEH./DAY
D	9,100 VEH./DAY

URBAN AREA
TYPICAL CROSS SECTION "F"
DESIRABLE TWO LANE ARTERIAL



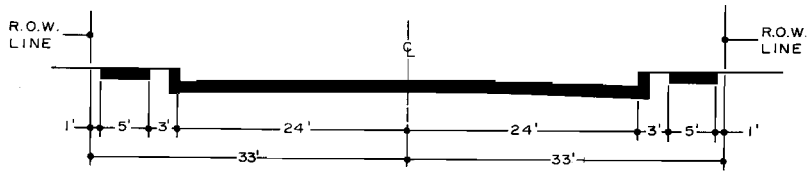
6" GRAVEL BASE
48' HIGH TYPE PAVEMENT, 80' R.O.W.
(ADDITIONAL R.O.W. MAY BE RESERVED IN UNDEVELOPED AREAS)
SIDEWALK, STREET LIGHTING

CAPACITY RANGE:

LEVEL OF SERVICE	MAXIMUM SERVICE VOLUME
B	9,100 VEH./DAY
C	9,500 VEH./DAY
D	10,300 VEH./DAY

Figure 25 (continued)

URBAN AREA
TYPICAL CROSS SECTION "G"
MINIMUM FOUR LANE ARTERIAL

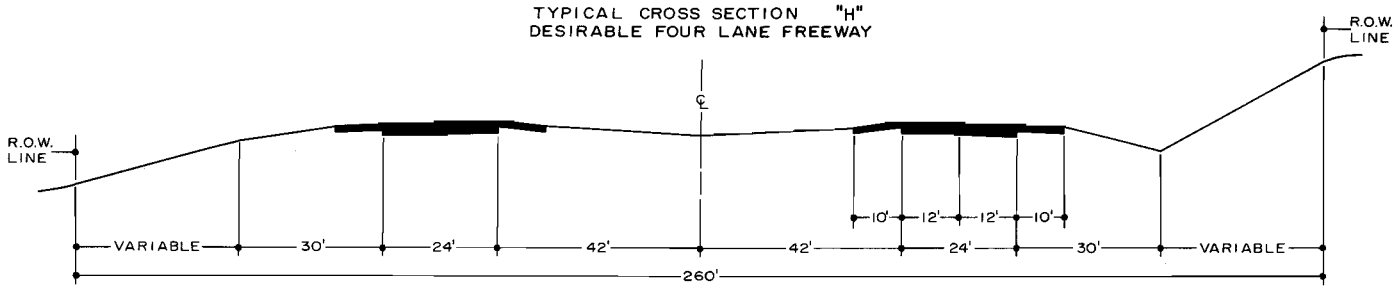


6" GRAVEL BASE
48' HIGH TYPE PAVEMENT, 66' R.O.W.
SIDEWALK, STREET LIGHTING

CAPACITY RANGE:

LEVEL OF SERVICE	MAXIMUM SERVICE VOLUME
B	11,800 VEH./DAY
C	12,800 VEH./DAY
D	14,600 VEH./DAY

RURAL AREA
TYPICAL CROSS SECTION "H"
DESIRABLE FOUR LANE FREEWAY

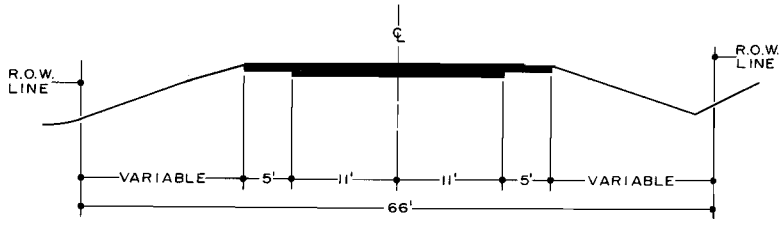


DUAL 24' HIGH TYPE PAVEMENT, 260' R.O.W.

CAPACITY RANGE:

LEVEL OF SERVICE	MAXIMUM SERVICE VOLUME
A	19,200 VEH./DAY
B	27,500 VEH./DAY
C	37,500 VEH./DAY

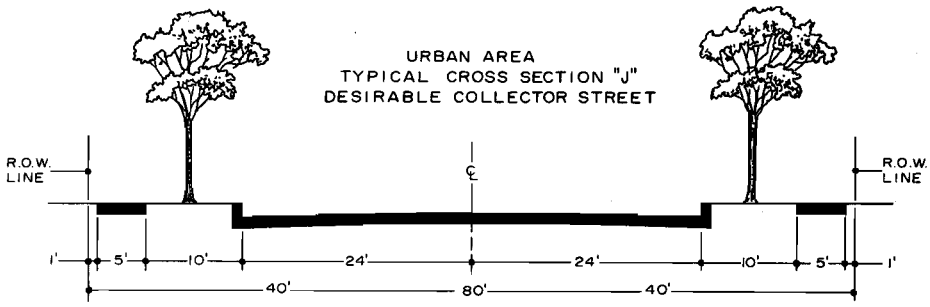
RURAL AREA
TYPICAL CROSS SECTION "I"
DESIRABLE TWO LANE
COLLECTOR OR MINOR STREET[a]



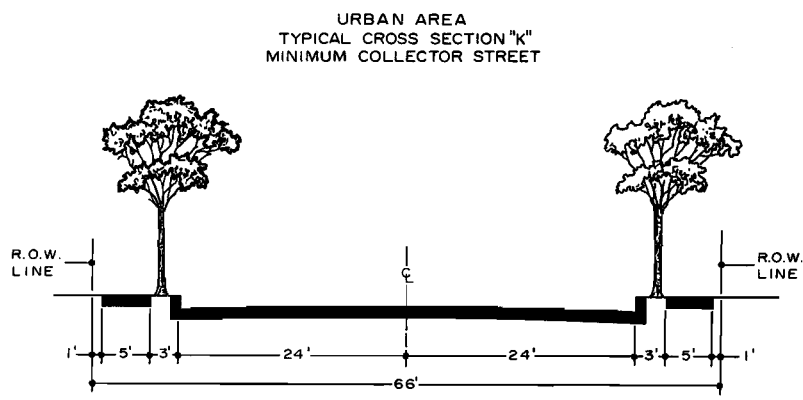
GRAVEL BASE VARIES

22' BITUMINOUS PAVEMENT

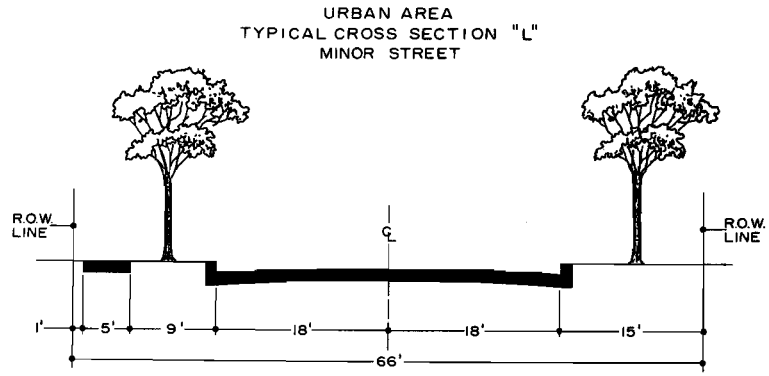
Figure 25 (continued)



6" GRAVEL BASE
48' HIGH TYPE PAVEMENT
80' R.O.W.



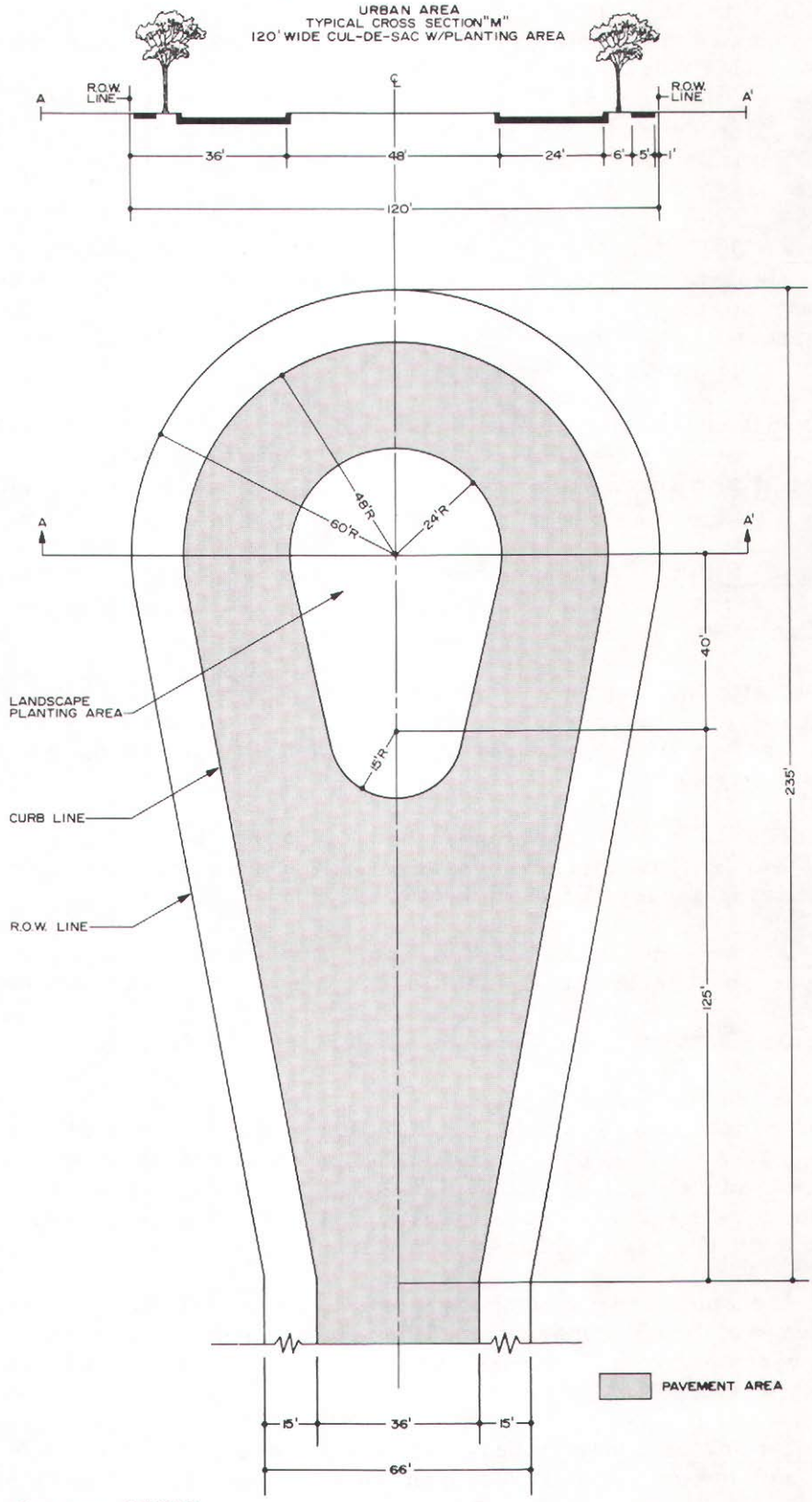
6" GRAVEL BASE
48' HIGH TYPE PAVEMENT, 66' R.O.W.



6" GRAVEL BASE
36' HIGH TYPE PAVEMENT
66' R.O.W.

Source: SEWRPC.

Figure 25 (continued)



Source: SEWRPC.

out in an east-west direction, with a maximum of 10 degrees variation to the northwest and a maximum of 25 degrees variation to the southwest, as shown in Figure 26. In situations where topography and other natural features do not permit streets to be laid out in an east-west direction, lot and/or building orientation should be made flexible to compensate for these natural barriers to solar access. Developments along north-south streets should be encouraged to have the structures built with the long roof axis perpendicular to the street right-of-way, with a maximum of 10 degrees variation to the northwest and a maximum of 25 degrees variation to the southwest, also as shown in Figure 26.

Half Streets--The platting of half streets should be avoided. Half streets put an unrealistic reliance on the chance that adjacent property owners will develop their adjacent properties at the same time. If half streets are allowed and then improved, their narrow width may result in street maintenance, as well as traffic circulation, problems.

Cul-de-Sac Streets--Cul-de-sacs which are designed to have one end permanently closed should generally not exceed 600 feet in length. Such cul-de-sac streets should terminate in a circular turnaround having a design as described graphically in Figure 25-M.

Handicap and Bicycle Access--Wheelchair and bicycle curb ramps should be installed at street intersection crosswalks pursuant to Section 66.616 of the Wisconsin Statutes.

Blocks: The widths, lengths, and shapes of blocks should be suited to the planned use of the land; zoning requirements; the need for convenient access, control, and safety of street traffic; and the limitations of and opportunities provided by topography.

Length--Blocks in residential areas should not be less than 600 feet nor more than 1,200 feet in length unless otherwise dictated by exceptional topography or other limiting factors of good design.

Pedestrian Ways--Pedestrian ways of not less than 16 feet in width may be required near the center of and entirely across any block more than 900 feet in length to provide adequate pedestrian circulation or access to schools, parks, shopping centers, churches, or transportation facilities.

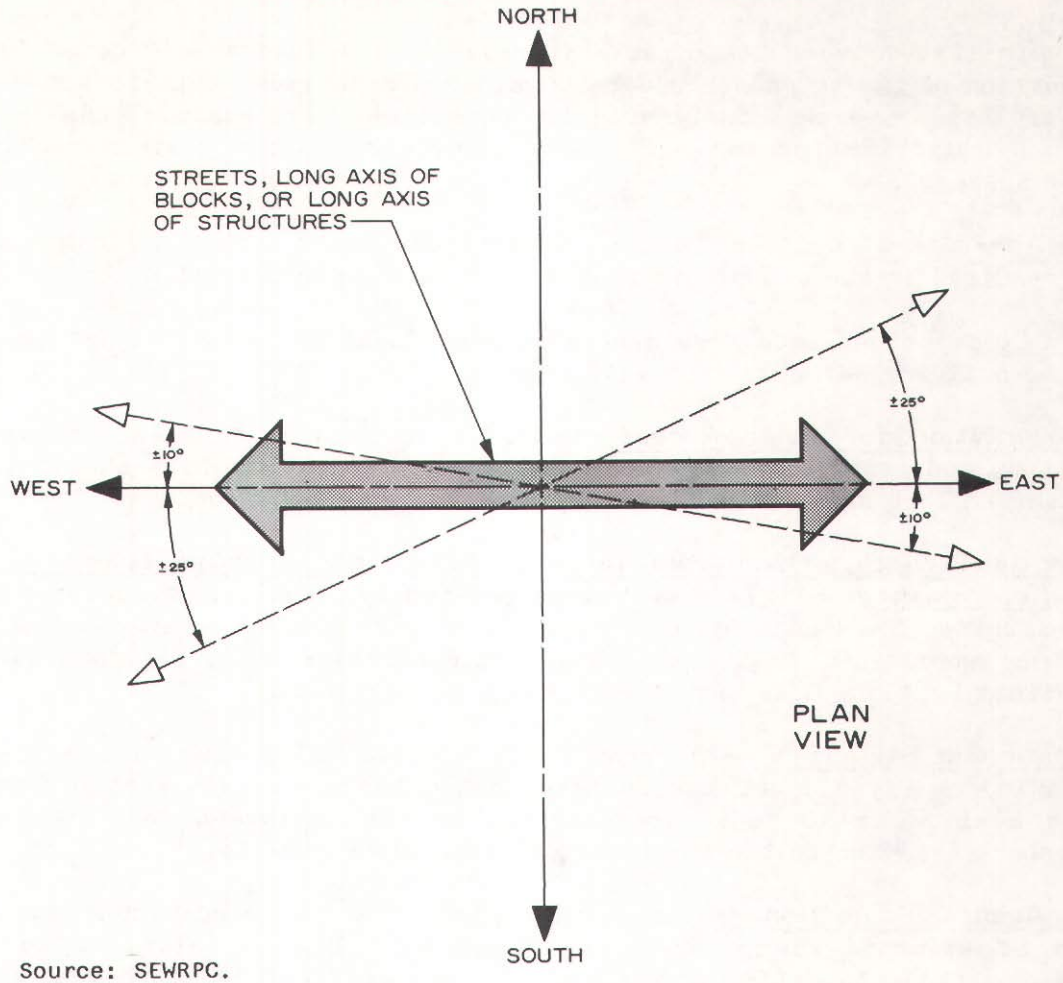
Width--Blocks should be wide enough to provide for two tiers of lots of an appropriate depth except where required to separate residential development from through traffic. Width of lots or parcels reserved or designated for commercial or industrial use shall be adequate to provide for the off-street service and parking areas required by the use contemplated, and shall be adequate to meet the area zoning restrictions for such use.

Utilities--Telephone and electric power lines should, where practical, be placed on mid-block easements of not less than 20 feet in width centered on the property line and, where possible, along rear lot lines for underground construction.

Block Orientation for Solar Access--In order to facilitate solar access where topography and other natural features permit, generally blocks should be laid

Figure 26

ORIENTATION FOR SOLAR ACCESS



Source: SEWRPC.

out with the long axis of the block oriented in an east-west direction with a maximum of 10 degrees variation to the northwest and a maximum of 25 degrees variation to the southwest, as shown in Figure 26.

Lots: Size, shape, and orientation of lots shall be appropriate for the location of the subdivision and for the type of development and use contemplated. The lots should be designed to provide an aesthetically pleasing building site and a proper architectural setting for the building contemplated.

Side Lots--Side lot lines should be at right angles to straight street lines or radial to curved street lines on which the lots face. Lot lines should follow municipal boundary lines rather than cross them.

Double Frontage--Double frontage or "through" lots should be prohibited except where necessary to provide separation of residential development from arterial traffic or to overcome specific disadvantages of topography and orientation.

Access--Every lot should front or abut a public street for a distance of at least 40 feet.

Lot Size--Area and dimensions of all lots should conform to the requirements of the City of Elkhorn Zoning Ordinance.

Lot Depth--Excessive depth of lots in relation to width should be avoided and a proportion of two to one should be considered a maximum depth-to-width ratio. Depth of lots or parcels designated for commerical or industrial use should be adequate to provide for the off-street service and parking areas required by the use contemplated.

Lot Width--Lots within the interior of a block should have the minimum average width required in the proposed zoning districts for the City of Elkhorn.

Corner Lots--Corner lots should have an additional width of 10 feet to permit adequate building setbacks from side streets.

Lot Orientation for Solar Access--In order to facilitate solar access where topography and other natural features permit, residential lots should be laid out with the long axis of the lot in a north-south orientation.

Residential Structure Orientation for Solar Access and Energy Conservation: Code Conformance--Single-family and two-family dwelling structures should be constructed in such a manner as to meet the minimum energy conservation standards as defined in the Wisconsin Administrative Code, Section Ind. 22 of the Uniform Dwelling Code, entitled "Energy Conservation."

Orientation of Structures--In order to facilitate solar access, generally the long axis of a residential structure should be in an east-west orientation, with a maximum of 10 degrees variation to the northwest and a maximum of 25 degrees variation to the southwest, as shown in Figure 26.

Solar Access Protection--Solar access protection for individual properties should be afforded to south-facing slopes with high insolation, to south-facing rooftops, to walls, to portions of lots adjacent to south-facing walls, and to portions of lots which could be used as locations for detached solar collection devices.

Building Shadows--Buildings should not be of a height which would cast a shadow during the daylight hours between 9 a.m. and 3 p.m. of the winter solstice on any portion of another building, or parcel of land if no building exists.

General Landscaping: Every effort should be made to protect and retain all existing trees, shrubbery, vines, and grasses not actually lying in public roadways, drainageways, paths, and trails. Trees should be protected and preserved during construction in accordance with sound conservation practices, including the preservation of trees by use of properly designed wells or islands or retaining walls whenever abutting grades are altered.

Soils and Landscape Tree Planting--A general landscape guide for the planting and selection of various trees to perform a variety of functions such as shade, street landscaping, lawn landscaping, hedges, screens, and windbreaks for the City of Elkhorn study area, based upon soils types found in the Elkhorn area, is contained in SEWRPC Planning Report No. 8, Soils of Southeastern Wisconsin. As previously discussed, a more specific guide for the Elkhorn CBD area is included in this report as Appendices D, E, and F.

Cutting and Clearing--Tree cutting and shrubbery clearing should not exceed 30 percent of the lot or tract and should be conducted so as to prevent erosion and sedimentation and preserve and improve scenic qualities.

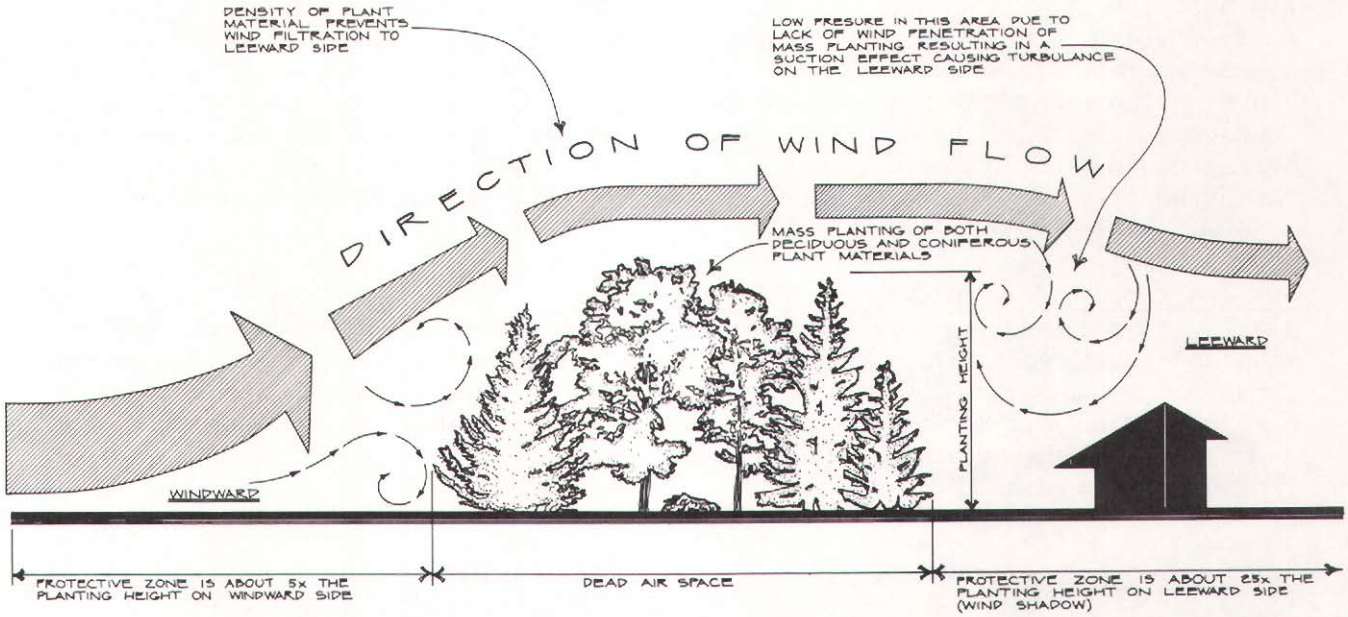
Paths--Paths and trails in wooded and wetland areas should not exceed 10 feet in width unless otherwise approved by the City of Elkhorn, and should be designed and constructed so as to result in the least removal and disruption of trees and shrubs and the minimum impairment of natural beauty.

Street Trees--At least one street tree of an approved species and of at least six feet in height should be planted for each 50 feet of frontage on proposed dedicated streets. However, the placement and selection of street tree species should not hamper or interfere with solar access to natural light and air for nearby lots. Tree species should be selected, in part, based upon soil conditions and species hardiness to soil conditions, as set forth in SEWRPC Planning Report No. 8, previously discussed.

Wind and Landscape Planting--With respect to wind, landscaping should be done in such a way that it will minimize winter wind and promote summer wind effects on structures; winter wind protection is afforded by planting landscaping of an adequate height on the west of structures. However, if solar access would be blocked, low shrubs should be used to divert or enhance winds. An optimum distance between a winter windbreak and a structure is approximately twice the tree height. A coniferous windbreak that is two rows wide is nearly optimum for efficiency, and additional rows would not significantly increase its effectiveness as a windbreak. Some of the effects landscape plantings have on wind are illustrated in Figure 27.

Figure 27

LANDSCAPE PLANTING AND WIND PROTECTION

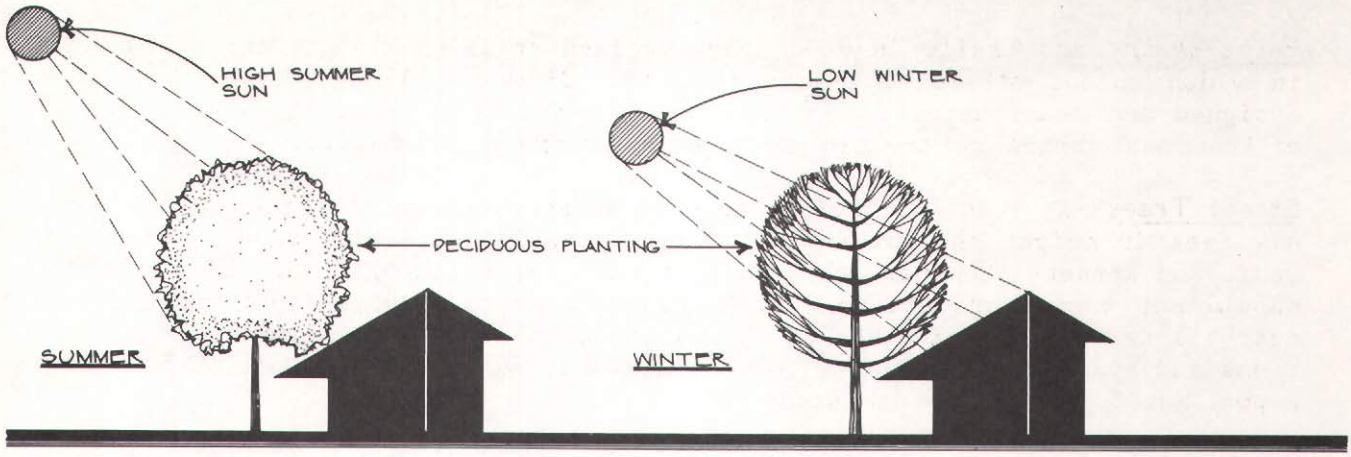


A mass planting of landscape materials, including both deciduous and coniferous varieties, can decrease the wind velocity about five times the planting height on its windward side and about twenty-five times its height on the leeward (wind shadow) side of the mass planting.

Source: SEWRPC.

Figure 28

LANDSCAPE PLANTING AND SOLAR ACCESS



Generally, landscape plantings to the south of structures would be broad, deciduous species with open twig patterns affording the passage of light through the branch structure in the winter. The choice of deciduous plantings should be made since they drop their leaves in the fall and allow low winter sun to penetrate their branching structure. In the summer, the deciduous plantings can also provide sun shading of the structure, thus lowering unwanted summer heat gain.

Source: SEWRPC.

Noise and Landscape Planting--Groups of trees, shrubs, and other masses such as earth berms can serve as noise barriers and should be utilized where noise could create problems for neighboring land uses. Such landscaped noise barriers are most effective when the barrier is near the noise source or receiver. Under daytime conditions, dense landscape plantings provide noise reductions of 5 to 8 dBA[2] of traffic noise. Also, earth berms 12 feet high, when combined with dense landscape plantings, can reduce truck noise by 10 to 15 dBA. However, landscaped sound barriers can be expected to be less effective at night than during the day, since when surface air is cool (inversions), the noise will be refracted over any noise barrier. Landscape planting noise barriers should be used whenever possible.

Solar Access and Landscape Planting--With respect to solar access, landscaping planted to the south of structures should be short, broad, deciduous species with open twig patterns, affording the passage of light through the branch structure in the winter as shown in Figure 28. Landscaping should not be of a height which would cast a shadow during the daylight hours between 9 a.m. and 3 p.m. of the winter solstice on any portion of a building, or parcel of land if no building exists.

[2]The source of acoustic energy is characterized by its sound pressure level (SPL), usually measured in decibels (dB), by the tonal composition of the noise and by the variation of SPL in time. Many scales for measuring noise have been devised. Of these scales, the A weighted measure of SPL (written as dBA) is becoming more and more common as a measure of environmental noise. For this measure, the weighting of the tonal composition of the noise is similar to that of the human ear.

Solar Access and Open Space--In residential areas, the location of open space should be such that whenever possible the open space acts as a buffer between short structures and the shadows cast by neighboring structures or landscape materials.

Easements: Utility easements of widths adequate for the intended purpose but not less than 10 feet on each side of all rear lot lines and on side lot lines or across lots may be required by the City of Elkhorn where necessary or advisable for electric power and communication wires and conduits; storm and sanitary sewers; and gas, water, and other utility lines. Where a subdivision is traversed by a watercourse, a drainageway or easement should be provided as may be required by the City Engineer. Solar access easements may be incorporated into preliminary and final plats or can be handled on an individual lot basis between property owners.

Storm Water Drainage: Storm water drainage facilities should be adequate to serve the subdivision and may include curbs and gutters, catch basins and inlets, storm sewers, road ditches, culverts, open channels, water retention structures, and settling basins. The facilities should be of adequate size and grade to hydraulically accommodate the maximum potential values of flow through and from the subdivision, and shall be so designed as to prevent and control soil erosion and sedimentation and to present no hazards to life or property.

Where feasible, storm water drainage facilities should be landscaped open channels of adequate size and grade to hydraulically accommodate maximum potential volumes of flow. These design details are subject to review by the City Engineer.

Erosion/Sedimentation Control: Earth-moving activities such as grading, topsoil removal, mineral extraction, road cutting, waterway construction or enlargement, excavation, channel clearing, ditching, drain tile laying, dredging, and lagooning should be conducted so as to prevent erosion and sedimentation and to least disturb the natural fauna, flora, watercourse, water regiment, and topography. Cut and filled lands outside of street rights-of-way should be graded to a maximum slope of 25 percent or to the angle of repose of the soil.

The subdivider should plant those grasses, trees, and vines--the species and size of which are to be determined by the City, or, in the case of trees, those shown in SEWRPC Planning Report No. 8--necessary to prevent soil erosion and sedimentation. The City of Elkhorn may require the subdivider to provide or install certain protection and rehabilitation measures, such as fencing, slopes, seeding, trees, shrubs, riprap, wells, revetments, jetties, clearing, dredging, snagging, drop structures, brush mats, willow poles, and grade stabilization structures.

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Chapter IV

DEFINITION OF COMMUNITY LAND USE AND FACILITY REQUIREMENTS FOR THE YEAR 2000

INTRODUCTION

The objectives, principles, and standards set forth in the previous chapter express the physical development goals of the City, the supporting rationale behind each goal, and the standards to be used as a basis for generating and evaluating alternative land use plans and development proposals. The standards perform a particularly important function in the plan formulation process since they are utilized to identify future land use requirements. The standards adopted by the City consist of two types: comparative and absolute. Comparative standards can be applied only through a comparison of alternative plan proposals. Absolute standards can be applied individually to each alternate plan proposal since they are expressed in terms of maximum, minimum, or desirable values.

As part of the land use planning process, the standards listed in Chapter III were applied to the forecast population level and other pertinent anticipated future conditions for the study area. This analysis provided a set of basic land use and community utility and facilities requirements to be met in the land use plan design. In addition, certain other general and specific requirements and certain recommendations contained in regional plans prepared by the Regional Planning Commission were incorporated into the land use plan for the City. The land use and community facility requirements for the City used in the land use planning design process are described in the following paragraphs.

LAND USE REQUIREMENTS

The land use requirements of the City's probable future resident population were determined by applying two basic types of standards: per capita standards and accessibility standards. The application of per capita standards, expressed as the number of acres of a given land use category per hundred or per thousand population, was intended to determine the total number of acres of land needed to satisfy each basic land use requirement of the resident population for the year 2000. The application of accessibility standards, expressed as a maximum service area for certain sites, land uses, and facilities, was intended to ensure that they are spatially distributed in a convenient and efficient manner to the population which they are to serve.

Table 28 summarizes future urban land use requirements in the Elkhorn study area through the year 2000. The table utilizes the land use standards set forth under land use development Objective No. 1 and Table 24 for residential, commercial, industrial, governmental and institutional, and recreational development. Land needs for each urban land use category were determined by applying the appropriate land use development standard to the 1980 to 2000 forecast population increment. The table indicates that a need to convert about 493 acres of rural land in the study area to urban use by the year 2000 may be expected. It should be noted that about 316 acres, or about 64 percent, of

Table 28

LAND USE REQUIREMENTS IN THE CITY OF ELKHORN URBAN SERVICE AREA: 2000

Urban Land Use Category	1980 Gross Area[a]		Estimated[b] 1980 Populations	Development Ratios 1980	SEWRPC Development Standards	Forecast A Incremental Populations: 1980-2000	Incremental Land Use Acreages Required by SEWRPC Development Standards (gross acres)	Incremental Land Use Acreages Required After Consideration of 1980 Gross Area (gross acres)	Total Urban Land Requirements: 2000	
	Acres	Percent							Gross Acres	Percent
Residential.....	510.5	18.2	4,587 persons	111.3 gross acres per 1,000 persons	90 gross acres per 1,000 persons	3,513 persons	316.2	316.2	826.7	29.5
Commercial.....	80.4[c]	2.9	1,224[d] employees	6.6 gross acres per 100 employees	6 gross acres per 100 employees	664[d] employees	39.8	39.8	120.2	4.3
Industrial.....	122.8	4.4	1,739 employees	7.1 gross acres per 100 employees	12 gross acres per 100 industrial employees	954 employees	114.5	114.5	237.3	8.5
Governmental and Institutional										
Schools.....	32.5	1.2	1,546[f] students	2.1 gross acres per 100 students	0.9 gross acres per 100 students	99 students	--	--[g]	32.5	1.2
Other.....	137.2	4.9	4,587 persons	29.9 gross acres per 1,000 persons	7.0 gross acres per 1,000 persons	3,513 persons	--	--	137.2	4.9
Recreational.....	186.0	6.6	4,587 persons	40.5 gross[e] acres per 1,000 persons	6.4 gross acres per 1,000 persons	3,513 persons	22.5	22.5	208.5	7.4
Other.....	1,731.3	61.8	--	--	--	--	- 493.0	--	1,238.3	44.2
Total.....	2,800.7	100.0	--	--	--	--	--	493.0	2,800.7	100.0

[a] Gross areas include associated street rights-of-way and off-street parking for each land use category.

[b] Based upon U. S. Bureau of the Census preliminary 1980 Census.

[c] Includes commercial land uses in the total City of Elkhorn study area.

[d] Estimated population for the total City of Elkhorn study area.

[e] This number appears high in comparison to the SEWRPC development standard of 6.4 acres per 1,000 persons. However, the Walworth County Agricultural Park occupies about 97 acres of the total 186.0 acres of total park area. Walworth County Agricultural Park is a specialized private park. Consequently, a figure of 19.4 may be more realistic.

[f] For West Side Primary School, Elkhorn Area Middle School, and Elkhorn Area High School only.

[g] The existing West Side Primary School has an additional capacity of 86 students; Elkhorn Area Middle School an additional capacity of 217; and Elkhorn Area High School an additional capacity of 151 students. These additional capacities far exceed the forecast incremental school-age population of 99 students for the year 2000.

Source: SEWRPC.

this total area will be needed to accommodate anticipated new residential growth. As is reflected in Table 28, new residential growth will also generate significant additional urban land needs in the other urban land use categories. The table is expressed in gross acres of each given land use category which, by definition, includes all supporting public street rights-of-way.

Table 28 indicates that an additional 39.8 acres of commercial land will be needed by the year 2000. The additional 39.8 acres of commercial land represents a 49.5 percent increase over the 1980 commercial land use of 80.4 acres. Since one of the issues addressed by the City in Chapter III was the expansion of commercial development in the City, this expansion should occur in the existing Elkhorn CBD area rather than be developed at locations scattered throughout the study area. This will serve to maintain a viable downtown area. Some additional commercial area has been allocated to the logical and orderly expansion of existing neighborhood and highway-oriented business areas located outside the Elkhorn CBD.

Table 28 indicates that there will be a need for an additional 114.5 acres of industrial land in the area by the year 2000. The additional 114.5 acres of industrial land use represents an increase of about 93 percent over the 1980 figure of 122.8 acres of industrial land. This seemingly large increase is due to the highly compact nature of the existing industrial development in the City. The use of the standard, outlined in Objective No. 1 and Table 24, of 12 gross acres of industrial development per 100 industrial employees allows adequate space for primary industrial buildings, accessory buildings, and necessary off-street parking for employees. Generally, industrial uses should be located near supporting transportation facilities, such as a railroad and/or major arterial streets and highways.

TRANSPORTATION REQUIREMENTS

The arterial street and highway facilities required to serve the probable future traffic demands within the study area, as recommended in the adopted regional transportation system plan, are shown on Map 29. State trunk highways (STH) are shown in red and county trunk highways (CTH) in blue. The regional plan generally maintains the existing arterial street pattern in the area. The plan also indicates the recommended number of traffic lanes and describes the types of cross-sections, as shown earlier in Figure 25, needed for each arterial street segment in the area in order to carry the anticipated arterial traffic volumes through the year 2000.

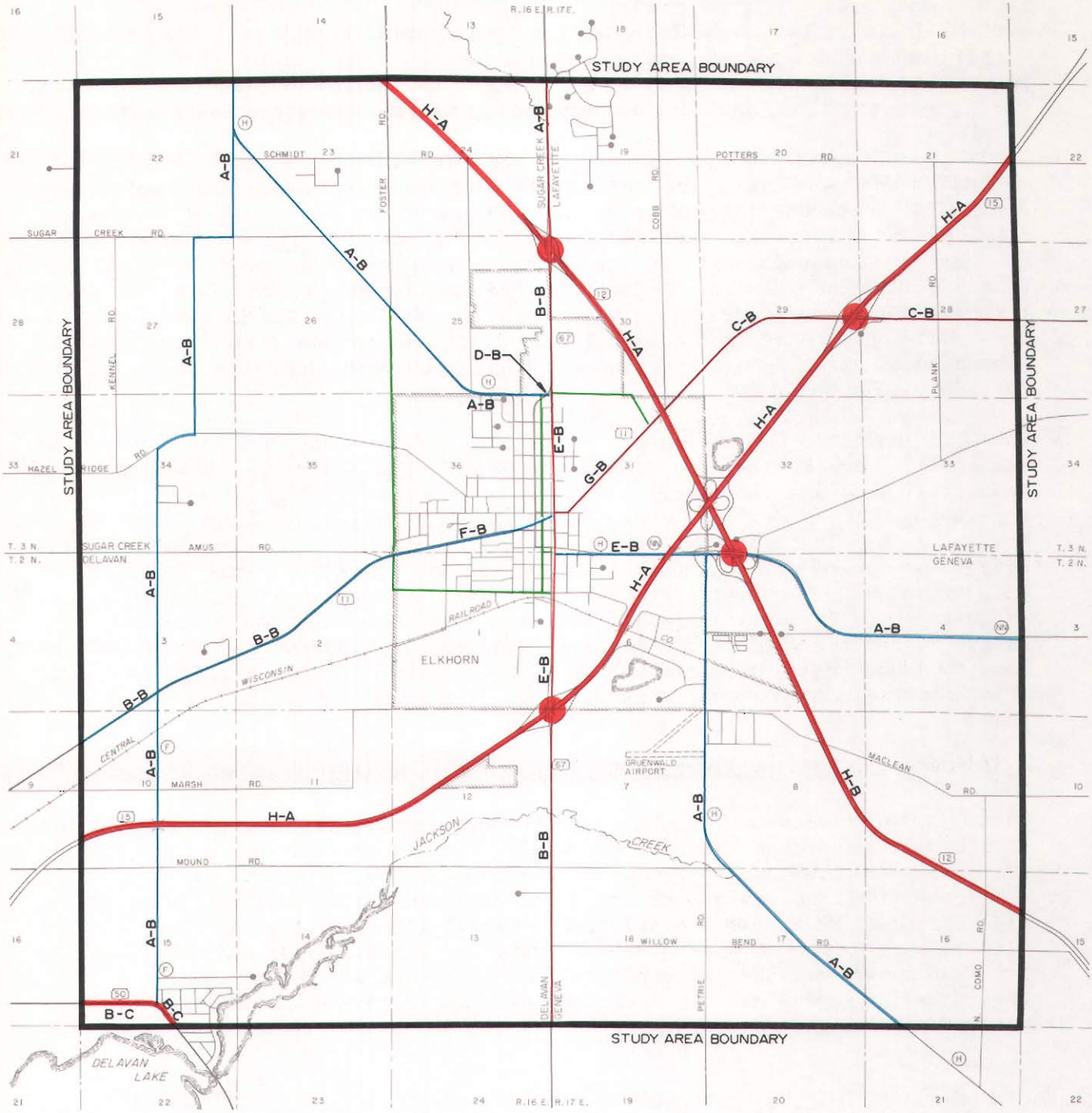
COMMUNITY FACILITIES NEEDS

Schools

Table 29 provides population estimates by age group and school grades for the City of Elkhorn study area. Specifically, the year 2000 student enrollment, as based upon the year 2000 total population forecast of 10,690 persons, would consist of 1,091 elementary school students (grades K-5), 429 middle school students (grades 6-8), and 652 high school students (grades 9-12). The total school-age population forecast for the year 2000 is 2,171, representing an increase of 530 students, or about 30 percent, over the 1970 total school-age

Map 29

TRANSPORTATION SYSTEM REQUIREMENTS FOR THE CITY OF ELKHORN STUDY AREA: 2000



LEGEND

- FREEWAY STATE TRUNK HIGHWAY
- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- LOCAL TRUNK HIGHWAY
- FREEWAY-NONFREEWAY INTERCHANGE

DESIGN CLASSIFICATION

C-B ← LEVEL OF SERVICE

└ TYPICAL CROSS SECTION

NOTE: SEE FIGURE 5 FOR LETTER CODES

GRAPHIC SCALE

0 1 MILE

0 2000 4000 6000 FEET

Source: SEWRPC.

Table 29

ACTUAL AND FORECAST SCHOOL-AGE POPULATION BY AGE GROUP FOR THE CITY OF ELKHORN STUDY AREA: 1970-2000

School-Age Group	1970 Census Population				1980 SEWRPC Estimate			
	City	Area Excluding City	Total Study Area	Percent of Total	City	Area Excluding City	Total Study Area	Percent of Total
Grades K-5 (ages 5-10)....	498	310	808	49.2	542	238	780	49.6
Grades 6-8 (ages 11-13)...	235	144	379	23.1	239	104	343	21.8
Grades 9-12 (ages 14-17)...	281	174	455	27.7	312	137	449	28.6
Total	1,014	628	1,642	100.0	1,093	479	1,572	100.0

School-Age Group	Forecast Population								Total Study Area	
	1990				2000				1970-2000	
	City	Area Excluding City	Total Study Area	Percent of Total	City	Area Excluding City	Total Study Area	Percent of Total	Change	Percent
Grades K-5 (ages 5-10)....	702	250	952	49.8	826	265	1,091	50.2	283	35.0
Grades 6-8 (ages 11-13)...	293	105	398	20.8	325	104	429	19.8	50	13.2
Grades 9-12 (ages 14-17)...	414	148	562	29.4	494	158	652	30.0	197	43.3
Total	1,409	503	1,912	100.0	1,645	527	2,172	100.0	530	32.3

Source: U. S. Bureau of the Census and SEWRPC.

population. The four schools within the Elkhorn study area--West Side Primary School, Elkhorn Area Middle School, Elkhorn Area High School, and Shadow Lawn Elementary School, have a combined school capacity of 2,125, which exceeds the forecast total for the year 2000. However, Shadow Lawn Elementary and West Side Primary have a combined capacity of only 625 students, which falls short of the forecast 1,091 elementary school students for the year 2000 within the study area. Facility expansion at these elementary school sites within the study area may be needed in order to accommodate the forecast year 2000 elementary school enrollment growth, unless this anticipated growth is accommodated by other elementary sites outside the study area yet within the boundary of the school district.

Recreation

SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, contains general recommendations addressing the needs of the City concerning the preservation of primary and secondary environmental corridors, the preservation of prime agricultural lands, and the provision of outdoor recreation sites and facilities. Recommendations in the regional park and open space plan include the development of a community park in the northeast corner of the City and the development of a neighborhood park in the northern portion of the City.

Public Library

SEWRPC Planning Report No. 19, A Library Facilities and Services Plan for Southeastern Wisconsin, recommends that the Matheson Memorial Library remain as the library which services the City of Elkhorn study area. Within the Elkhorn study area, the Matheson Memorial Library is envisioned to serve about 10,700 persons by the year 2000. The American Library Association[1] has recommended that the minimum total-square-foot area of a small public library serving a population of about 10,000 should be about 0.7 square foot per capita served.

Using the American Library Association standard for the year 2000 population forecast, a library facility of approximately 7,480 square feet in size would be needed. Since the present library facility is about 5,200 square feet in size, an additional 2,280 square feet of library building area may be needed to meet the needs of an increased year 2000 study area population. The present library site could accommodate building expansion but is somewhat limited with respect to parking area expansion.

Police and Fire Protection

As stated in Chapter II, the existing 9,660-square-foot Municipal Building affords adequate expansion room for the City Police Department, as well as for other municipal administrative offices, on its upper level. The City of Elkhorn Fire Department is centrally located and potential expansion space is available from adjoining vacant properties on its southern boundary.

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[1]Joseph L. Wheeler, The Small Library Building, American Library Association, Chicago, p. 10.

Chapter V

THE LAND USE PLAN

INTRODUCTION

A land use plan is an official statement of a municipality setting forth major objectives concerning the desirable physical development of the community. The land use plan for the City of Elkhorn, as set forth in this report, consists of recommendations for the type, amount, and spatial location of the various land uses required to serve the needs of the residents of the City of Elkhorn and environs to the year 2000. The plan is intended to be used as a tool to help guide the physical development of the community into a more functional, healthful, efficient, and attractive pattern. In accord with the broad objectives of local government, the plan is intended to promote the public health, safety, morals, order, convenience, prosperity, and general welfare of the community.

The land use plan should promote the public interest rather than the interests of individuals or special groups within the community. The very nature of the plan contributes to this purpose, for it facilitates consideration of the relationship of any development proposal, whether privately or publicly advanced, to the overall physical development of the entire community. The plan contributes to responsible democratic government by helping duly elected and appointed public officials to safeguard and promote the public interest. The plan also contributes to democratic government by providing a focus for citizen participation in the planning and subsequent development process.

The plan is intended to assist in the political and technical coordination of community development. Political coordination seeks to assure that a majority of the citizens within the community are in accord with and working toward the same goals. Technical coordination seeks to assure a logical relationship between private land use development and public works development so that the planning and scheduling of public and private improvements will be efficient, avoiding conflict, duplication, and waste. Effective coordination of development requires a unified, integrated plan if the physical elements of the environment are to be managed without costly conflicts of function, and if the political forces of the community are to deal with controversial development issues, including the plan itself, in an equitable and constructive manner.

The land use plan should be long-range, providing a means of taking into account long-range development needs and proposals when considering short-range actions. This purpose is intended to achieve coordination of development through time to ensure that today's decisions will lead toward tomorrow's goals. In the case of Elkhorn, the land use plan is designed for a planning period extending to about the turn of the century. In this way, the plan is intended to provide for the future as well as present needs of the City and surrounding area.

The land use plan, however, should not be considered as rigid and unchangeable, but rather as a flexible guide to help city officials and concerned citizens in the review of development proposals as such proposals are advanced. As conditions change from those used as the basis for the preparation of the plan, the plan should be revised as necessary. Accordingly, the plan should be reviewed periodically to determine whether the land use development objectives, as set forth in Chapter III of this report, are still valid, as well as to determine the extent to which the various objectives are being realized through plan implementation over time.

The land use plan should represent a refinement of the adopted regional land use plan, so that it can meet areawide, as well as local, development objectives. The regional land use plan and, as a consequence, the city land use plan, while recognizing the effects and importance of the urban land market in shaping land use patterns, seek to influence the operation of that market in three ways in order to achieve a more healthful and attractive, as well as more efficient, settlement pattern. First, the plans recommend that development trends be altered by encouraging intensive urban development to occur only in those areas which are covered by soils suitable for such development, which are not subject to special hazards such as flooding, and which can readily be served by essential municipal facilities and services, including centralized sanitary sewer and public water supply. Second, the plans recommend that development trends be altered by discouraging intensive and incompatible urban development in delineated primary environmental corridors and other environmentally significant lands. Third, the plans recommend that existing development trends be altered by retaining in agricultural use the most productive farmlands.

The land use plans herein presented represent only several of many possible alternative patterns of land use development that could accommodate the future physical, social, and economic needs of the residents of the City and environs. The selection of the final plans involved the comparative evaluation of several alternative land use patterns and supporting community facility and utility proposals against the land use development objectives, principles, standards, and urban design criteria previously described in this report.

PLAN DETERMINANTS

The population forecasts presented in Chapter II of this report indicate that the City of Elkhorn and environs may be expected to reach a resident population level of approximately 10,700 persons by the turn of the century, an increase of about 4,000 persons over the 1980 level; and that the area within the corporate limits of the City of Elkhorn may be expected to reach a resident population level of approximately 8,100 persons over this same period, an increase of about 3,500 persons over the 1980 level. To accommodate this population increase, approximately 1,250 additional housing units will need to be added to the existing 1980 stock of 1,873 housing units in the City. This would, in turn, require the conversion of approximately 316 acres of open land to residential use in the City and environs. The forecast population increase, as indicated in Chapter IV, may be expected to be accompanied by a need for additional land for industrial, commercial, recreational, and institutional uses, as well as residential uses, which may require the conversion of some additional land from rural to urban use.

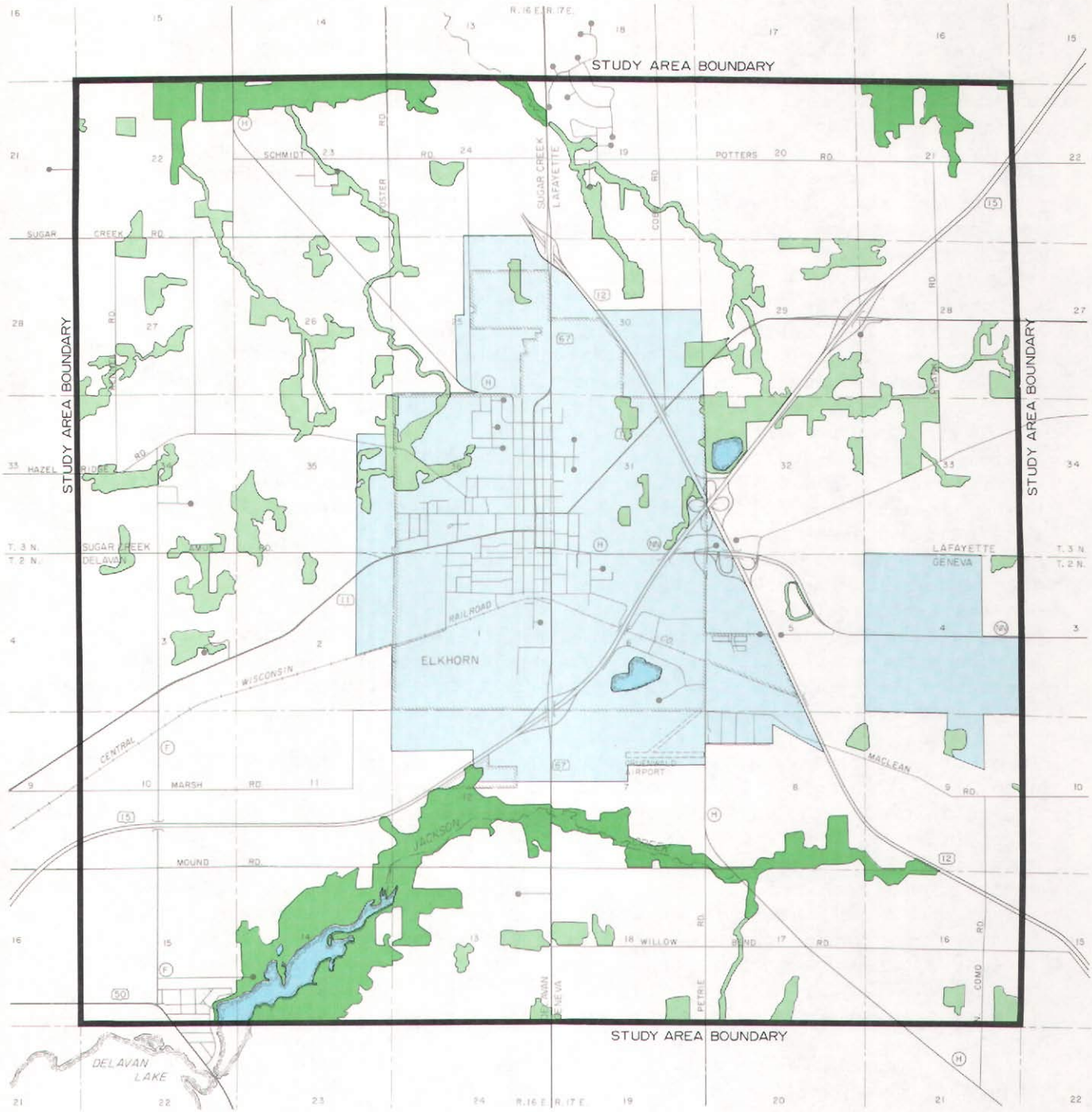
As pointed out in Chapter IV, in order to effectively guide land use development and redevelopment within the City of Elkhorn and environs into a pattern which is efficient, stable, safe, healthful, and attractive, it is necessary to carefully consider the existing and probable future amount and spatial location of the various land uses as they relate to the natural resource base of the area, as well as to the existing transportation system and community utilities and facilities. Natural conditions in the planning area make it highly desirable, if not absolutely essential, to provide public sanitary sewer and water supply services to all future urban development. Natural conditions also indicate the need to protect the primary environmental corridors, as well as other environmentally significant areas, from intensive urbanization.

As noted in Chapter II, the Walworth County Metropolitan Sewerage District on November 10, 1981, after public hearing, adopted a plan for the sanitary sewer service area to be served by the Walworth County Metropolitan Sewerage District sewage treatment plant. That portion of the Walworth County Metropolitan Sewerage District sanitary sewer service area relating to the City of Elkhorn and environs study area is shown on Map 30. A plan year 2000 resident population of about 8,100 persons could be accommodated within the proposed sewer service area. This would result in an urban density of about 2.5 dwelling units per net residential acre, assuming an average household size of 3.1 persons, and further assuming that about 90 percent of the proposed net sanitary sewer service area will developed by the year 2000. This density lies within the medium-density urban development range of 2.3 to 6.9 dwelling units per net residential acre as recommended by SEWRPC in the adopted regional land use plan for the City of Elkhorn study area. The year 2000 Elkhorn sanitary sewer service area, as shown on Map 30, represents the maximum extent of area envisioned to be served by sanitary sewer service to the year 2000 and may, in fact, accommodate some urban growth beyond the design year.

In order to formulate a land use plan for the Elkhorn urban service area based upon the Elkhorn area land use and facility requirements outlined in Chapter IV, an initial, generalized City of Elkhorn medium-density urban area for the year 2000 was formulated. The extent and configuration of this urban area is shown on Map 31. Map 31 shows the minimum amount and extent of medium-density urban growth required in order to serve the forecast year 2000 resident population of 8,100. The map further shows new urban development gravitating toward the eastern portion of the City along the existing STH 12 and STH 15 freeway rights-of-way. This concept was presented to the City Plan Commission by the SEWRPC staff in the early stages of the land use planning process and is more precisely described later in this report as the initial SEWRPC-recommended land use plan for the City. The City Plan Commission, however, felt that the plan should provide a greater geographic area for urban development than that shown on Map 31 in order to encompass lands for which the City had, in the past, made development commitments. Consequently, the initially defined extent and configuration of urban development as depicted on Map 31 was expanded to that shown on Map 32. This expansion was the result of deliberations at a number of City Plan Commission meetings, as well as of the testimony submitted at public hearings held during the planning process. The expanded medium-density urban service area, as shown on Map 32, formed an important basis for the development of the City Plan Commission-adopted land use plan described herein.

Map 30

THE ADOPTED WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT SEWER SERVICE AREA AS IT PERTAINS TO THE CITY OF ELKHORN STUDY AREA



LEGEND

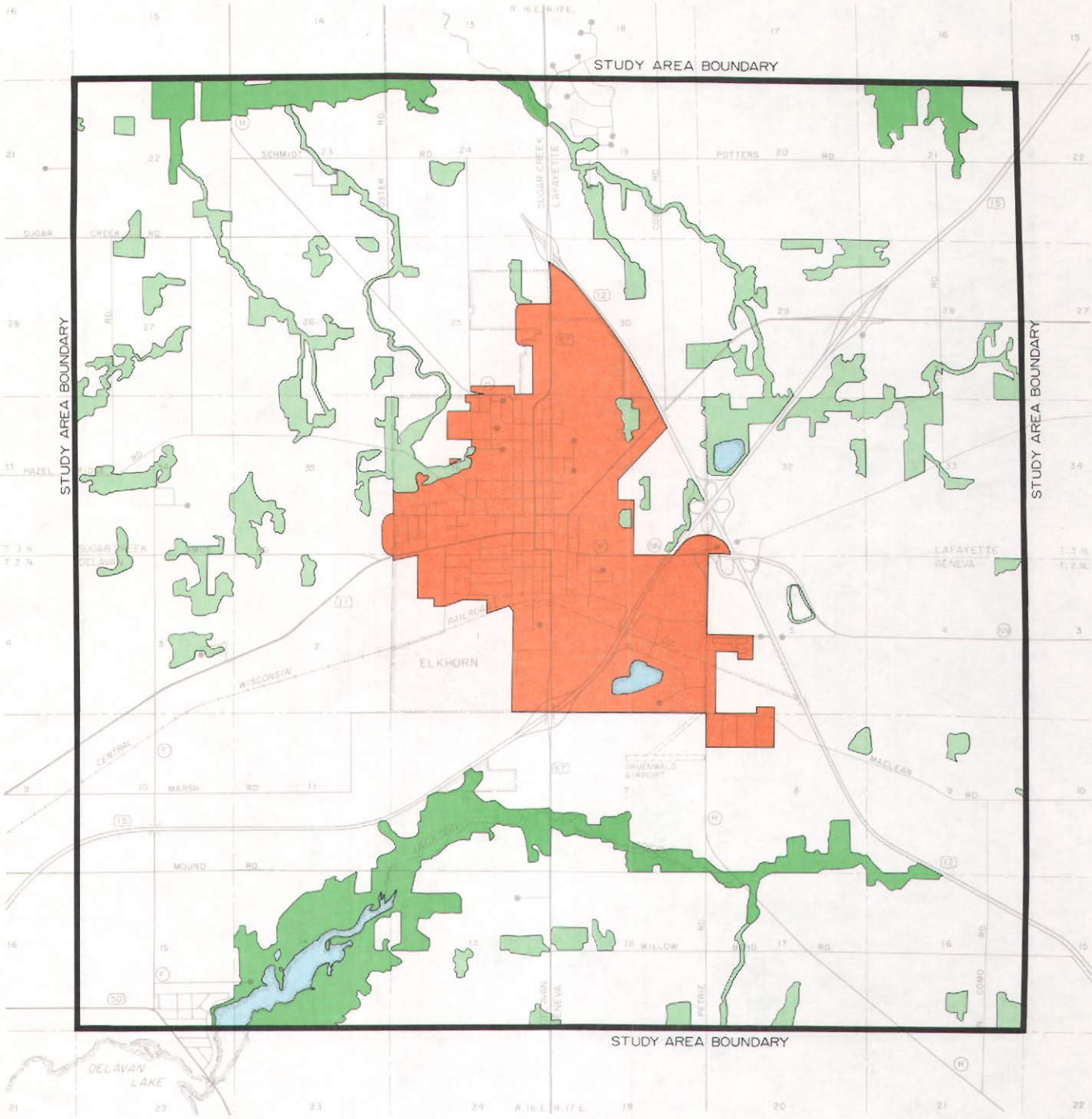
- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR OR OTHER ENVIRONMENTALLY SIGNIFICANT LANDS
- WATER
- NET SANITARY SEWER SERVICE AREA

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

Map 31

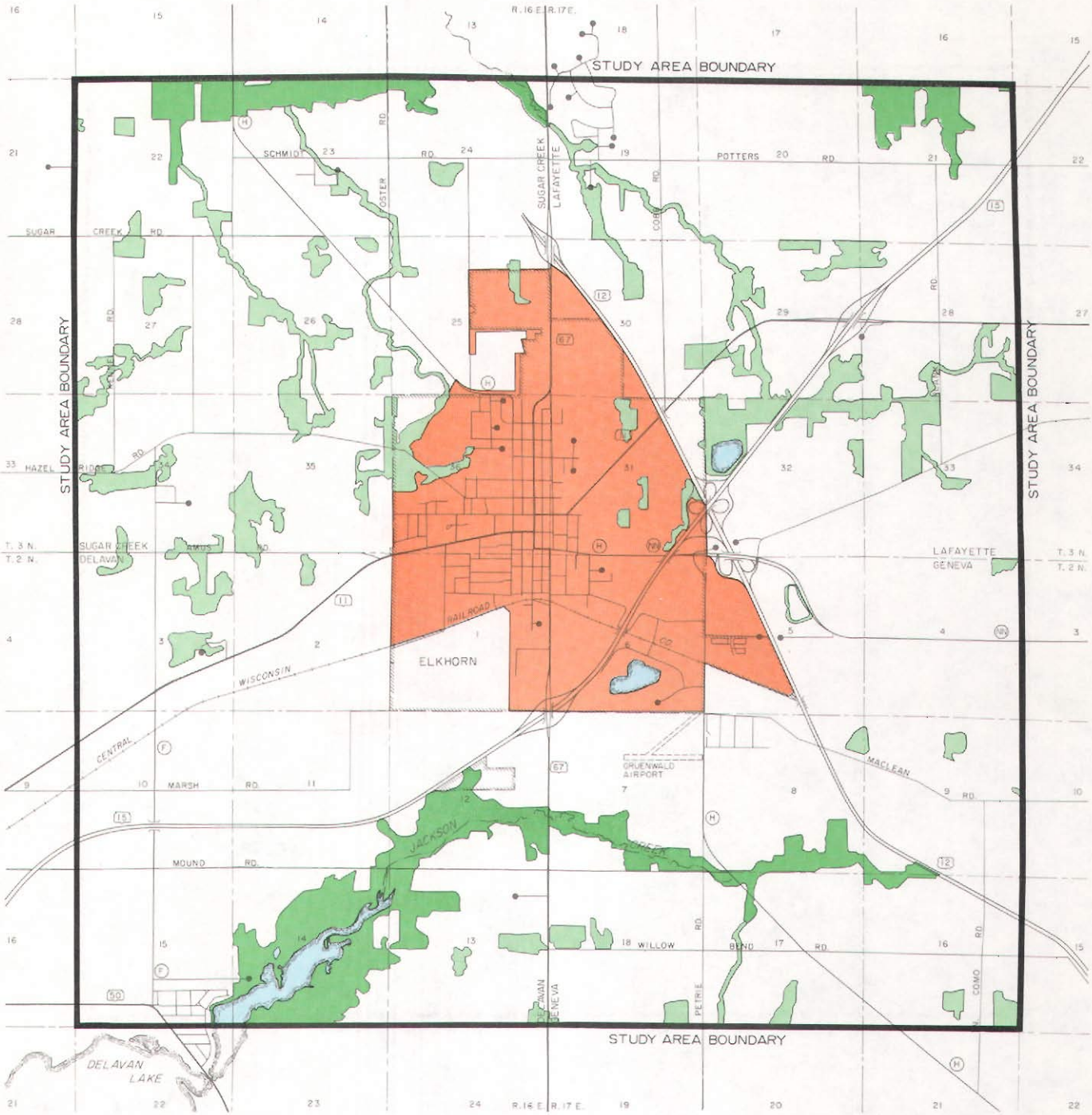
INITIAL DELINEATION OF THE EXTENT AND CONFIGURATION OF THE GENERALIZED FORECAST CITY OF ELKHORN MEDIUM-DENSITY URBAN AREA: 2000



Source: SEWRPC.

Map 32

FINAL DELINEATION OF THE EXTENT AND CONFIGURATION OF THE GENERALIZED FORECAST CITY OF ELKHORN MEDIUM-DENSITY URBAN AREA: 2000



LEGEND

- MEDIUM-DENSITY URBAN LAND USES
- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR AND OTHER ISOLATED NATURAL AREAS
- WATER
- OTHER LAND USES

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

As a consequence of this expansion of the initially defined medium-density urban service area, the land use plan developed provides somewhat more than the minimum required incremental land use needs to the year 2000 as those needs are set forth in Chapter IV. The increase in residential, commercial, and industrial land uses over the minimum acreage requirements for a plan year 2000 resident city population of 8,100 may indeed extend the plan design period well into the early part of the 21st century.

THE LAND USE PLAN FOR THE STUDY AREA

The land use plan for the City of Elkhorn study area is shown on Map 33. The map indicates both those areas in which urban development now exists and those areas in which such development may be permitted and encouraged in accordance with the land use development objectives, principles, and standards set forth in Chapter III. Table 30 summarizes existing 1980 and design year 2000 land uses in the Elkhorn study area.

Residential Land Uses

Those areas recommended in the plan for residential use, as shown on Map 33 and set forth in Table 30, total about 1,716 acres. The plan map identifies those areas recommended for low-density residential development at a density of from 0.7 to 2.2 dwelling units per net residential acre, or from 0.45 to 1.4 acres per dwelling unit. Such low-density development is diffused throughout the study area outside the City of Elkhorn. The low-density residential areas are comprised of existing land subdivisions, including such subdivisions created by certified survey maps. The plan map also identifies those areas recommended for medium-density urban development at a density of from 2.3 to 6.9 dwelling units per net residential acre, or from 6,320 to 18,940 square feet of lot area per dwelling unit. These medium-density residential areas are all located in and around the City of Elkhorn in the central portion of the 36-square-mile study area.

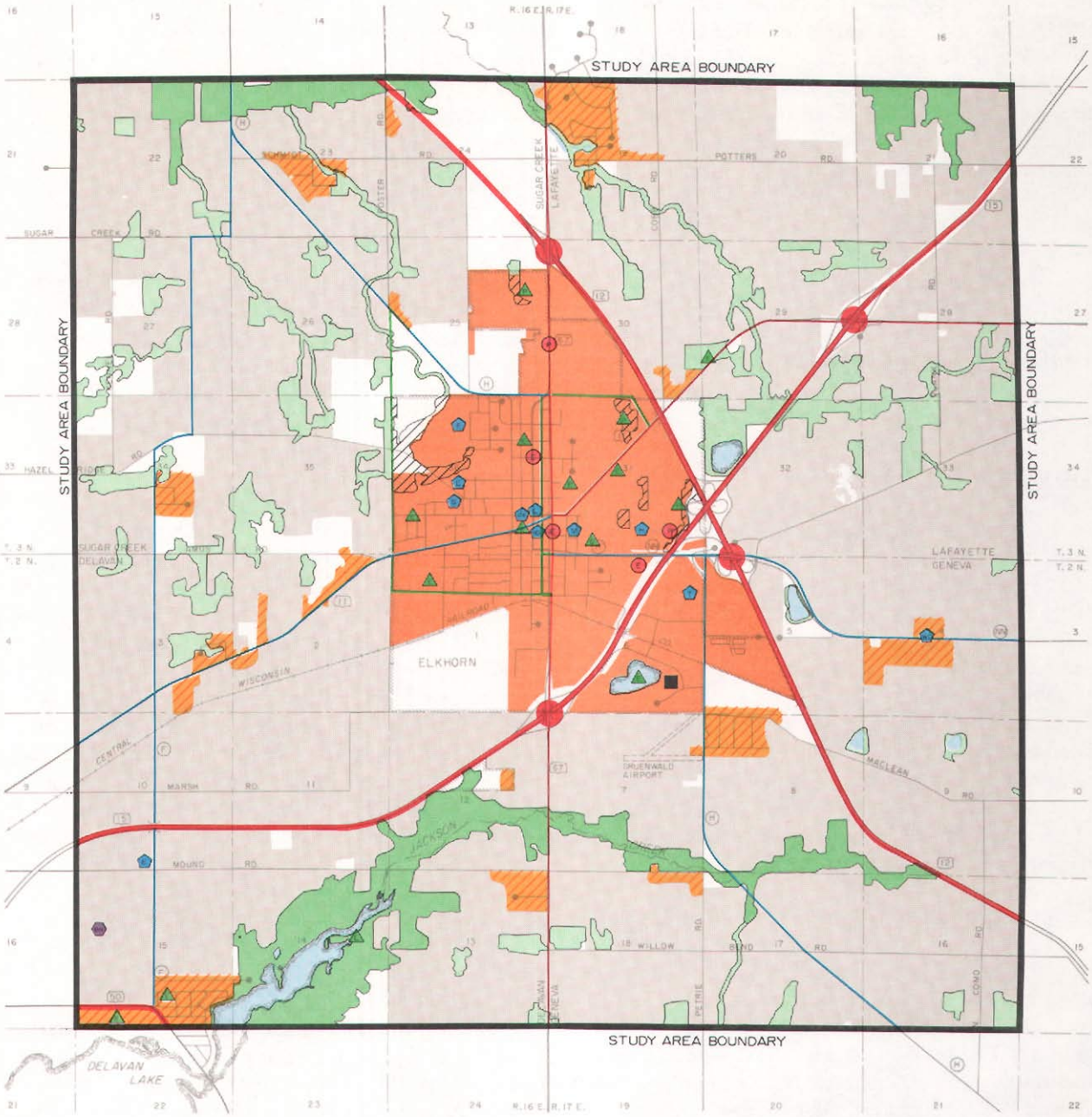
Commercial and Industrial Land Uses

The plan identifies five community-oriented commercial retail and service areas within the Elkhorn study area. Three of these five areas already exist, and include the Elkhorn central business district, the Value Village shopping center located at the intersection of CTH NN and STH 15, and the shopping area located along Wisconsin Street between Page Street and Second Avenue. Two of the five community-oriented commercial retail and service areas shown are proposed, and include an area located on the far north side of the City along STH 67, and another area located directly north of the Value Village shopping center along CTH NN. These five commercial areas, together with small scattered commercial sites that already exist, would encompass an area of 169 acres by the year 2000 if fully developed as planned.

The plan also identifies a community industrial area located on the south side of the City of Elkhorn. Existing as well as proposed industrial development in the Elkhorn study area would encompass about 457 acres of net industrial land area in the year 2000 if fully developed as planned.

Map 33

ADOPTED REGIONAL LAND USE PLAN FOR THE CITY OF ELKHORN STUDY AREA: 2000



LEGEND

- LOW DENSITY URBAN DEVELOPMENT (0.7-2.2 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- MEDIUM DENSITY URBAN DEVELOPMENT (2.3-6.9 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- COMMUNITY RETAIL AND SERVICE CENTER
  - E - EXISTING
  - P - PROPOSED
- COMMUNITY INDUSTRIAL PARK
- PARKS
  - E - EXISTING
  - P - PROPOSED
- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR AND OTHER ENVIRONMENTALLY SIGNIFICANT LANDS
- PRIME AGRICULTURAL LANDS
- OTHER AGRICULTURAL AND RURAL LANDS
- GOVERNMENTAL AND INSTITUTIONAL
  - E - ELEMENTARY SCHOOL
  - M - MIDDLE SCHOOL
  - H - HIGH SCHOOL
  - S - SPECIAL SCHOOL
  - T - TECHNICAL SCHOOL
  - C - CITY HALL
  - CT - COUNTY COURTHOUSE
  - L - LIBRARY
  - WC - WALWORTH COUNTY COMPLEX
- BASIC UTILITY / RECREATIONAL AIRPORT
- AREAS OF WET OR POORLY DRAINED SOILS WHICH WILL REQUIRE CAREFUL STUDY AND PROPER ENGINEERING TO ACCOMMODATE URBAN DEVELOPMENT
- WATER

ARTERIAL STREET AND HIGHWAY SYSTEM

- STATE TRUNK FREEWAY
- STATE TRUNK NONFREEWAY
- COUNTY TRUNK
- LOCAL TRUNK *
- FREEWAY-NONFREEWAY INTERCHANGE

*NOTE: PROPOSED LOCAL TRUNK HIGHWAY RIGHTS-OF-WAY ARE SHOWN IN APPROXIMATE LOCATIONS

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 FEET

Source: SEWRPC.

Table 30

SUMMARY OF EXISTING AND PLANNED LAND USE IN THE CITY OF ELKHORN STUDY AREA: 1980-2000

Land Use Category	Existing 1980 Land Use			Plan Increment 2000		Planned Land Use 2000		
	Acres	Percent of Subtotal	Percent of Total	Acres	Percent Increase	Acres	Percent of Subtotal	Percent of Total
Urban								
Residential	777.0	26.5	3.4	939.7[a]	120.9	1,716.7	37.6	7.4
Commercial	93.9	3.2	0.4	75.3	80.2	169.2	3.7	0.7
Industrial	122.3	4.2	0.5	334.6	273.6	456.9	10.0	2.0
Transportation and Utilities	1,573.7	53.6	6.8	96.7	6.1	1,670.4	36.5	7.2
Governmental and Institutional	203.7	6.9	0.9	86.4	42.4	290.1	6.3	1.3
Recreational	164.1	5.6	0.7	104.9	63.9	269.0	5.9	1.1
Subtotal	2,934.7	100.0	12.7	1,637.6	55.8	4,572.3	100.0	19.8
Rural								
Primary Environmental Corridor	1,256.0	6.2	5.4	--	--	1,256.0	6.8	5.4
Secondary Environmental Corridor and Other Environmentally Significant Lands	1,430.0	7.1	6.2	--	--	1,430.0[b]	7.7	6.2
Prime Agricultural Lands	14,046.8	69.7	60.9	--	--	14,046.8	75.9	60.8
Other Rural and Open Lands	3,423.6[a]	17.0	14.8	-1,637.6	-47.8	1,786.0	9.6	7.7
Subtotal	20,156.4	100.0	87.3	-1,637.6	-8.1	18,518.8	100.0	80.2
Total	23,091.1	100.0	100.0	--	--	23,091.1	--	100.0

[a]Including 192.2 acres of existing 1980 platted but undeveloped residential lands within the entire study area.

[b]Including lands in the City of Elkhorn which are areas of wet or poorly drained soils which will require careful study and proper engineering to accommodate urban development.

Source: SEWRPC.

Park, Recreational, and Open Space Land Uses

The park and related open space uses shown on the study area plan map are based upon the findings of the natural resource base inventory described in Chapter II; the objectives, principles, and standards outlined in Chapter III; and the recommendations contained in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin. These factors, along with the forecast year 2000 resident population for the study area of about 10,700 persons, indicate that some additional local park and open space sites and facilities will be needed in the Elkhorn study area. Therefore, the following park and open space recommendations are made:

1. It is recommended that all remaining primary environmental corridor lands in the study area be preserved. These corridors are indicated on plan Map 33 and would total 1,256 acres, or about 5 percent of the Elkhorn study area. Primary environmental corridors should be considered inviolate and should be preserved in essentially natural, open uses. Secondary environmental corridors and other environmentally significant lands are also shown on Map 33, and occupy about 1,430 acres, or an additional about 6 percent of the Elkhorn study area. The natural resources contained in secondary environmental corridors and other environmentally significant areas are not of as high a value as those in primary environmental corridors. Estate-type residential development with an overall density of five acres or more per dwelling unit may be permitted in the upland portions of these corridors without adversely affecting the ecological functions of the secondary corridors or other environmentally significant lands.

2. It is recommended that all sites of historic and cultural significance in the Elkhorn study area be preserved.

3. It is recommended that all significant wetlands and wildlife habitat areas which lie outside the delineated environmental corridors be preserved in essentially natural, open uses.

4. It is recommended that three additional neighborhood-type parks be developed in the City to accommodate the anticipated year 2000 population increase and that these parks be located as shown on Map 33. It is further recommended that the existing community-type Sunset Park be expanded in order to accommodate anticipated community-wide recreational needs in the year 2000. Also, the recreational facilities located in the City of Elkhorn industrial park are proposed for expansion. Recreational facilities in the Elkhorn study area are anticipated to occupy a total of 264 acres, or about 1 percent of the Elkhorn study area, by the year 2000.

Governmental and Institutional Land Uses

Governmental and institutional land uses in the Elkhorn study area are anticipated to expand to 290 acres, or to occupy about 1 percent of the total study area, by the year 2000. The major expansion of these uses is anticipated to occur near the Gateway Technical Institute facilities on the east side of the City of Elkhorn, as well as near the existing Walworth County government complex located to the southeast of the City.

Transportation System Development

An efficient arterial street and highway network provides the necessary means of access from both rural and urban areas to supporting service, employment, recreational, and cultural centers. It is essential, therefore, that land use development be designed to protect the efficiency of the arterial street and highway system and to utilize that system as fully as practicable. Transportation system plans should also work to minimize street and highway improvement costs, as well as the level of disruption new transportation improvements may cause to existing development.

The arterial highway network required to serve probable future traffic demands in the Elkhorn study area to the year 2000 is shown on Map 33. The arterial network set forth on Map 33 is identical to that proposed in the adopted regional transportation system plan as shown on Map 3 in Chapter I and Map 29 in Chapter IV. The recommended cross-sections for these arterial streets and highways are shown in Figure 25 of Chapter III.

As stated earlier, the adopted regional airport system plan as set forth in SEWRPC Planning Report No. 21, A Regional Airport System Plan for Southeastern Wisconsin, adopted in 1976, contains recommendations pertaining to Gruenwald Airport located south of and contiguous to the City of Elkhorn. The plan recommendations include the improvement of this privately owned airport to general utility airport standards. This would require land acquisition for site development and runway clear zone protection; the construction of a 4,000 foot northeast-southwest primary runway and a 3,200-foot northwest-southeast secondary runway and associated taxiways; the installation of an air traffic control tower; the provision of a nonprecision instrument landing system approach to the southwest end of the primary runway; and the installation of runway lighting and other visual aids. These recommendations are currently under reconsideration by the Regional Planning Commission as a part of a program to prepare a refined, second generation regional airport system plan.

During the early stages of the land use planning process for the City of Elkhorn, the City Plan Commission requested that the recommendations for the improvement of Gruenwald Airport to general utility airport standards be dropped, in light of the new urban development in the proposed flight paths of the expanded runways as well as a general concern about the desirability of placing such a facility so close to the City. The City Plan Commission further requested that consideration be given in the revised airport system plan to improving the Lake Lawn Lodge Airport to meet the general utility aviation needs of the area. Thus, Lake Lawn Lodge Airport would continue to provide air transportation service to the Elkhorn area to the year 2000. If Gruenwald Airport is formally dropped from the second generation regional airport plan, the airport may remain privately owned or could be shut down.

Prime Agricultural Lands and Other Rural Lands

Prime agricultural lands, as defined in Chapter II, comprise a total of about 14,047 acres of land in the study area, or about 61 percent of the total study area. These lands are identified on Map 33. These lands generally consist of parcels of land 35 acres or larger in size which are covered by soils that are

potentially well suited for the production of food and fiber. These lands should be retained in agricultural use.

The area shown in white on Map 33 represents other rural lands which are generally in agricultural use, but may be covered by less productive agricultural soils or may be held in parcels of less than 35 acres in area. Portions of the areas shown in white can be used for estate-type residential development at an overall density of five acres or more per dwelling unit. However, such development must take into account soil limitations for the use of onsite sewage disposal systems.

THE INITIAL RECOMMENDED LAND USE PLAN FOR THE CITY OF ELKHORN

An initial recommended land use plan for the City of Elkhorn year 2000 urban service area was presented to the City Plan Commission by the Regional Planning Commission staff in 1981 and is graphically summarized on Map 34. The initial recommended land use plan was prepared to accommodate a forecast resident population for the city proper of about 8,100 persons by the year 2000, an increase of about 3,500 persons, or about 75 percent, over the 1980 level. The land use pattern proposed in the plan was based upon the land use objectives, principles, and standards set forth in Chapter III, as well as upon the land use requirements for the year 2000 set forth in Chapter IV of this report. Table 31 summarizes the existing 1980 land uses in the City of Elkhorn, the required incremental land use acreages needed for the city urban service area to the year 2000, and the planned land uses for the year 2000 as recommended in the initial plan.

Residential Land Uses

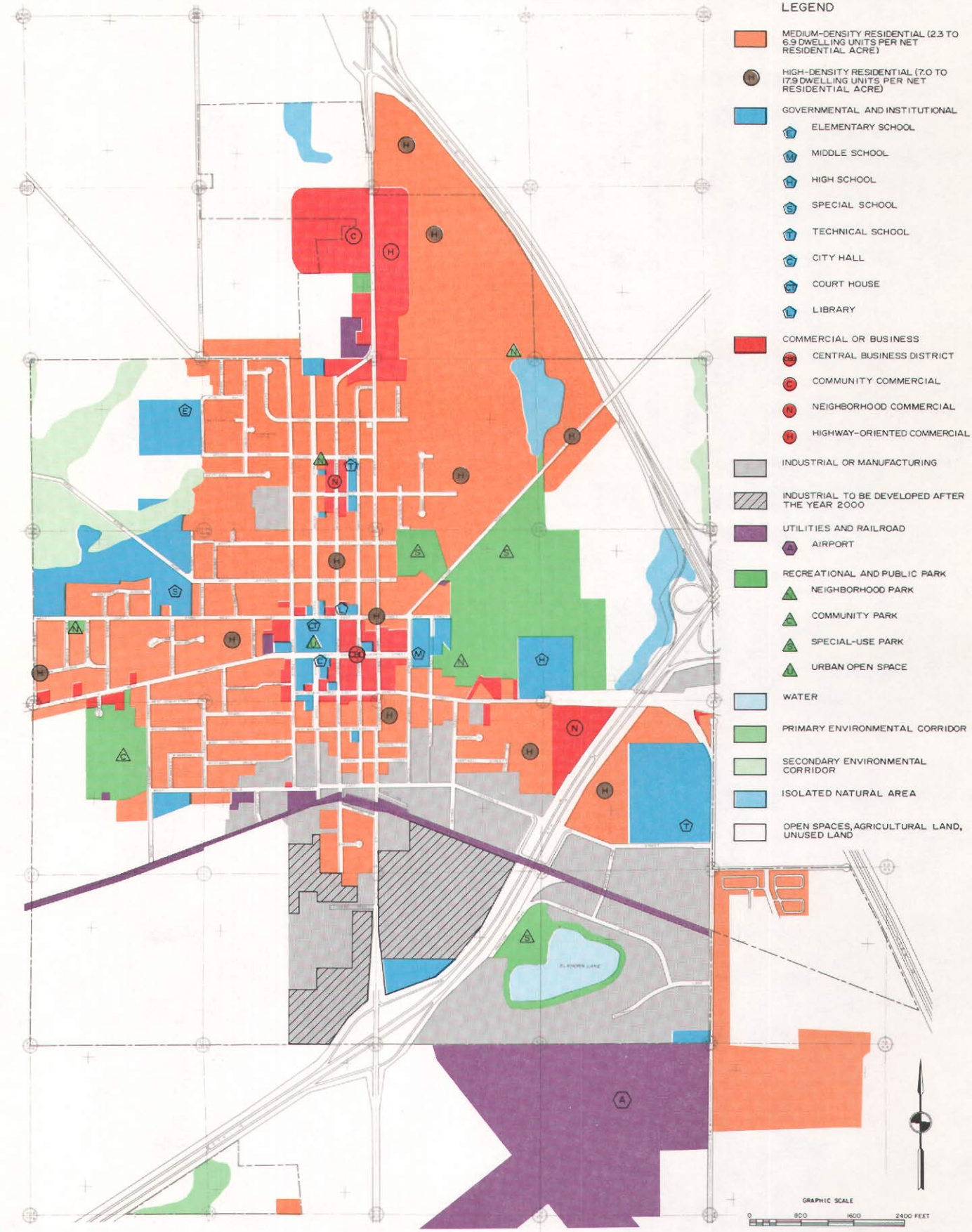
New residential development was proposed to occur both through the infilling of existing vacant platted residential lots and through the creation of new residential development. Map 34 shows the location of medium-density urban residential development, which, by definition, ranges in density from 2.3 to 6.9 dwelling units per net residential acre; and the general location of high-density urban residential development, which ranges in density from 7.0 to 17.9 dwelling units per net residential acre. Residential land uses were envisioned to occupy about 851 acres of land by the year 2000, an increase of about 363 acres, or 74 percent, over the 1980 level.

Commercial Land Uses

In 1980, about 67 net acres in the City were in commercial use, representing about 2.4 percent of all land use in the City. The initial plan, as shown on Map 34, proposed a total of about 146 acres of commercial land use in the City by the year 2000, an increase of about 78 acres, or 117 percent, over the 1980 level. Three of the specific commercial retail and service areas shown are existing areas and include the Elkhorn central business district, the Value Village shopping center located at the intersection of CTH NN and STH 15, and the shopping area located along Wisconsin Street between Page Street and Second Avenue. One of the four commercial retail and service areas shown on Map 34 was a proposed area located on the far north side of the City along STH 67. These four commercial areas, as well as other existing small commercial sites that already exist in the City, would have served commercial land use needs to the year 2000.

Map 34

INITIAL RECOMMENDED LAND USE PLAN FOR THE CITY OF ELKHORN: 2000



Source: SEWRPC.

Table 31

EXISTING 1980 CITY LAND USE AND INITIAL RECOMMENDED ELKHORN URBAN SERVICE AREA LAND USE: 2000

Land Use Category [a]	Existing 1980 City Land Use		SEWRPC-Recommended Elkhorn Urban Area Land Use Plan Increment: 1980 to 2000		SEWRPC-Recommended Elkhorn Urban Service Area Land Use Plan: 2000	
	Acres	Percent of Total	Acres	Percent Increase	Acres	Percent of Total
Residential	488.0	17.4	363.0	74.4	851.0	35.8
Retail Sales and Service	67.0	2.4	78.5	117.2	145.5[c]	6.1
Industrial	102.3	3.7	189.0	184.8	291.3[d]	12.2
Transportation and Utilities	384.5	13.8	300.3	78.1	684.8	28.8
Governmental and Institutional	154.3	5.5	19.5	12.6	173.8	7.3
Recreational[b]	82.4	2.9	151.9	184.3	234.3	9.8
Total	1,278.5	45.7	1,102.2	86.2	2,380.7	100.0

[a] Includes off-street parking.

[b] Includes environmentally significant areas and lakes.

[c] Excludes 120.5 acres of industrial lands shown to be developed after the year 2000.

[d] Includes a proposed community areawide shopping center on the north side of the City along STH 67 and the expansion of the Elkhorn central business district.

Source: SEWRPC.

Industrial Land Uses

In 1980, about 102 net acres in the City were in industrial land uses, representing about 3.7 percent of the total city area. The initial plan, as shown on Map 34, proposed a total of about 291 acres of land in industrial use by the year 2000, representing an increase of about 189 acres over the 1980 level. Industrial land uses, as shown on Map 34, were envisioned to continue to expand on the south side of the City in the area now occupied by the City Industrial Park, as well as into vacant lands contiguous to the industrial park. This particular area of the City provides good access to the state trunk highway system, particularly the Rock Freeway (STH 15), as well as to the railway system. Approximately 121 additional acres of industrial land were proposed to be developed after the year 2000, as indicated on Map 34.

Governmental, Institutional, Park, Recreational, and Open Space Land Uses

The only new governmental/institutional land use proposed to occur within the City of Elkhorn urban area under the initial plan was an expansion of the Gateway Technical Institute facility on lands already under Gateway's ownership and located contiguous to the existing Gateway facility at the intersection of Centralia Street and CTH H on the southeast side of the City. This area is shown on Map 34.

The park and related open space uses proposed in the initial plan, as shown on Map 34, were based upon the objectives, principles, and standards outlined in Chapter III and upon the recommendations contained in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin. These standards and recommendations, as well as the forecast year 2000 population of 8,100 persons for the city proper, indicate that some additional local park sites and facilities may be needed in the City of Elkhorn urban service area by the year 2000. The initial plan proposed that one additional neighborhood-type park be developed in the northern part of the City to serve the proposed expansion of residential areas. In addition, it was recommended that the existing community park, Sunset Park, be expanded to the west in order to accommodate the anticipated year 2000 community park recreational needs. Also, existing recreational facilities located at the City of Elkhorn Industrial Park were proposed for expansion.

Gruenwald Airport

The initial plan, as shown on Map 34, proposes the expansion of the existing Gruenwald Airport. As already mentioned, the adopted regional airport system plan as set forth in SEWRPC Planning No. 21, A Regional Airport System Plan for Southeastern Wisconsin, contains recommendations pertaining to Gruenwald Airport, located south of and contiguous to the City of Elkhorn. The plan recommends the improvement of this privately owned airport to general utility airport standards. Also as mentioned previously, this would require land acquisition for site development and runway clear zone protection; the construction of a 4,000-foot northeast-southwest primary runway and a 3,200-foot northwest-southeast secondary runway and associated taxiways; the installation of an air traffic control tower; the provision of a nonprecision instrument landing system approach to the southwest end of the primary runway; and the installation of runway lighting and other visual aids.

THE CITY-ADOPTED LAND USE PLAN FOR THE CITY OF ELKHORN

The land use plan for the City of Elkhorn was prepared, as stated earlier, to accommodate a forecast resident population for the city proper of about 8,100 persons by the year 2000, an increase of about 3,500 persons, or about 75 percent, over the 1980 level. The city-adopted land use plan for the city proper is shown on Map 35. The map indicates both those areas of the City in which urban development now exists and those areas in which such development may be permitted and encouraged. Table 32 summarizes existing 1980 and adopted land use plan design year 2000 land uses in the city proper.

The limits of the City of Elkhorn urban service area, as shown on Map 35 as well as on Map 32, may extend the plan design period well into the early part of the 21st century. The City Plan Commission was of the opinion, after careful consideration of the initial SEWRPC-recommended land use plan shown on Map 34 and after review of testimony given at public hearings on that plan, that the land use plan for the City should encompass a somewhat greater area for urban development than indicated by either the forecast presented in Chapter IV of this report or the initial land use plan map shown on Map 34.

Residential Land Uses

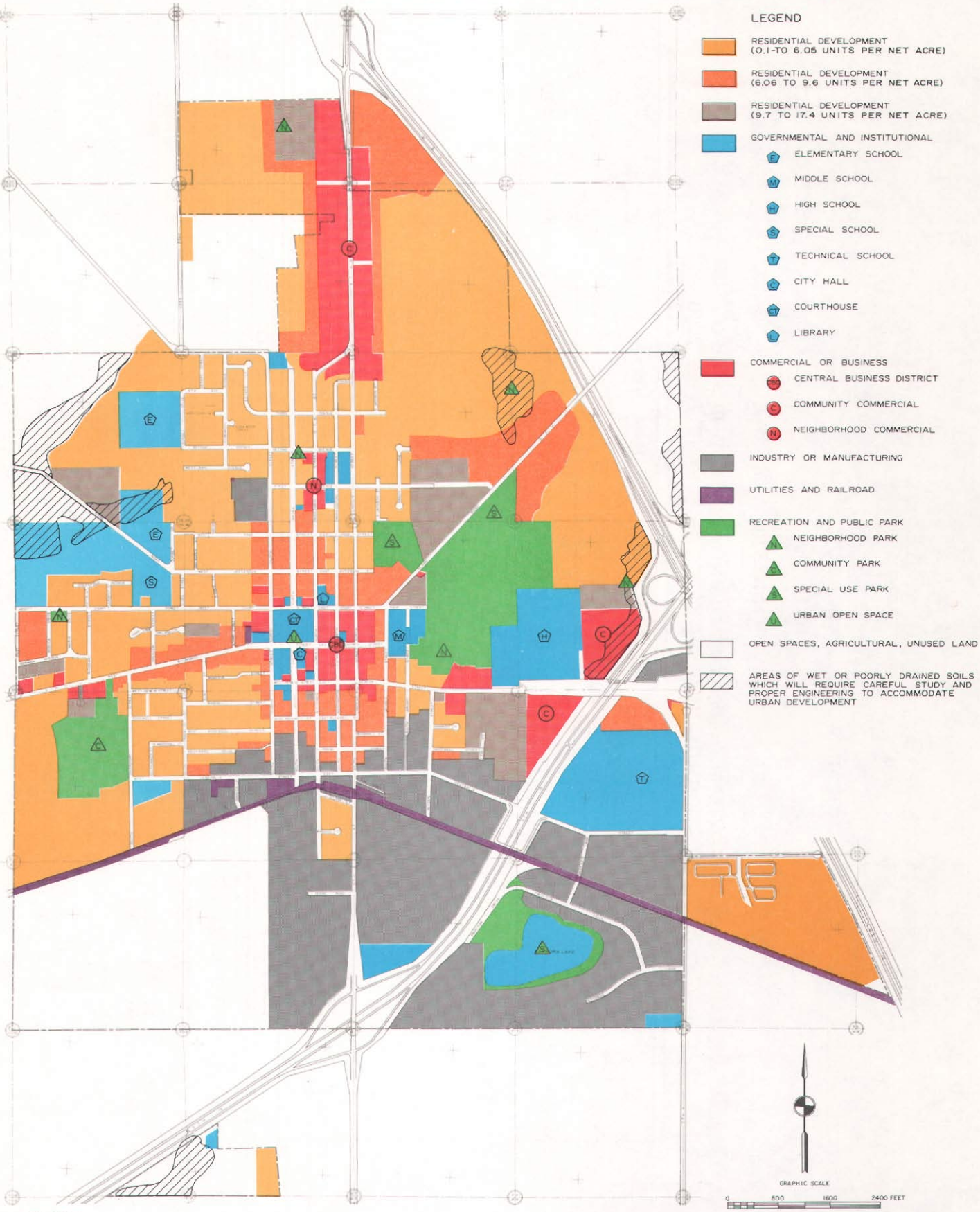
New residential development is proposed to occur both through the infilling of vacant platted residential lots and through the creation of new residential areas contiguous to and extending outward from existing residential development. Map 35 shows the location of low-density urban residential development at densities ranging from 0.1 to 6.0 dwelling units per net residential acre; of medium-density urban residential development at densities ranging from 6.1 to 9.6 dwelling units per net residential acre; and of high-density urban residential development at densities ranging from 9.7 to 17.4 dwelling units per net residential acre. The areas recommended for high-density residential development include existing developments of this type, as well as proposed developments in areas located on the north side of the City near STH 67, on the east side of the City along STH 11 and STH 15, and on the west side of the City along Jefferson Street. Medium-density residential areas are generally located around the Elkhorn central business district, on the west side of the City along Walworth Street, and on the east side of the City along STH 11 and on the south side of and contiguous to CTH NN. Altogether, approximately 1,235.5 net acres of residential development, representing an increase of about 810 net acres over the 1980 level of 488 acres, are shown on Map 35.

Commercial Land Uses

In 1980, about 67 net acres in the City were in commercial use, representing about 2.4 percent of all land use in the City. Map 35 shows a total of 142 acres of commercial land use in the City by the year 2000, representing an increase of about 75 acres over the 1980 level. Five specific commercial areas are designated within the City on Map 35. Three of the five areas are existing facilities and include the Elkhorn central business district, the Value Village shopping center located at the intersection of CTH NN and STH 15, and the shopping area located along Wisconsin Street between Page Street and Second Avenue. Two of the areas are proposed, and include an area on the far north

Map 35

CITY-ADOPTED LAND USE PLAN FOR THE CITY OF ELKHORN: 2000



Source: SEWRPC.

Table 32

EXISTING 1980 CITY LAND USE AND PLANNED ELKHORN URBAN SERVICE AREA LAND USE: 2000

Land Use Category[a]	Existing 1980 City Land Use		Elkhorn Urban Area Land Use Plan Increment: 1980-2000		Elkhorn Urban Service Area Land Use Plan: 2000	
	Acres	Percent of Total	Acres	Percent Increase	Acres	Percent of Total
Urban						
Residential						
Low Density	378.2	13.5	527.4	139.5	905.6	33.3
Medium Density	12.8	0.4	198.2	1,548.4	211.0	7.7
High Density	34.4	1.2	84.5	245.6	118.9	4.4
Under Development	62.6	2.2	--	--	--	--
Subtotal	488.0	17.4	810.1	166.0	1,235.5	45.4
Retail Sales and Service	67.0	2.4	75.3	112.3	142.3	5.2
Industrial	102.3	3.7	334.6	327.1	436.9	16.0
Transportation and Utilities	384.5	13.8	96.7	25.1	481.2	17.7
Governmental and Institutional	154.3	5.5	86.4	56.0	240.7	8.8
Recreational	82.4	2.9	104.9	127.3	187.3	6.9
Total	1,278.5	45.7	1,508.0	118.0	2,723.9	100.0

[a]Includes off-street parking.

Source: SEWRPC.

side of the City along STH 67 and an area located directly north of the existing Value Village shopping center along CTH NN. These five commercial areas, as well as other small scattered commercial sites already existing in the City, would serve commercial land use needs to the year 2000 and perhaps well beyond that year.

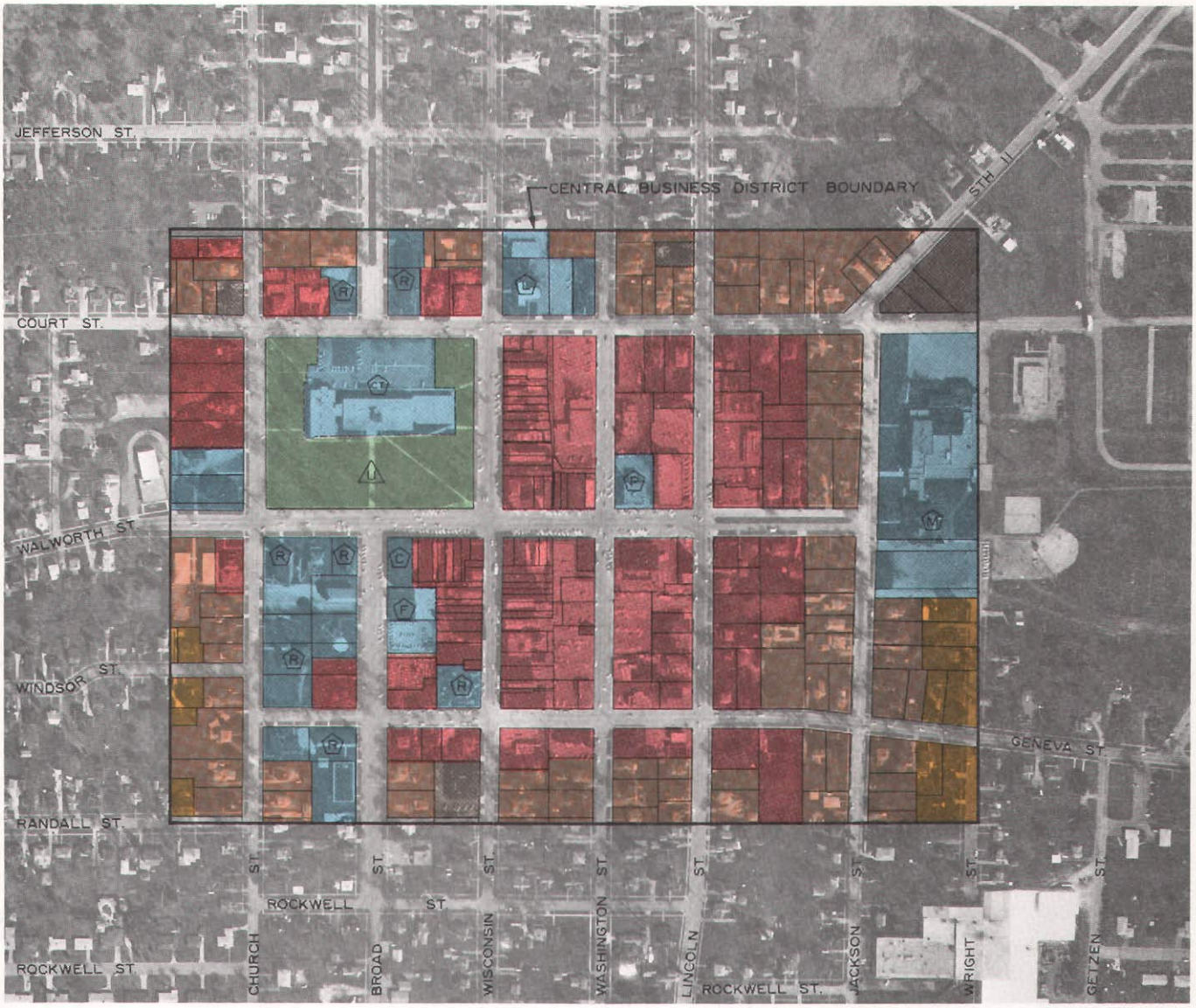
The Central Business District: As noted in Chapter II of this report, during the initial stages of the conduct of the land use planning effort, the City Plan Commission requested that the land use plan provide general urban design guidelines for the improvement of the City's central business district over the planning period. While it is not the purpose of this land use plan to provide detailed subarea studies and development and redevelopment recommendations, which would require intensive structural conditions surveys, commercial market analyses, and site or building improvement designs, as well as other detailed studies, it was determined that the land use plan could set forth an overall urban design development framework to guide future efforts to improve the City's central business district. The plan does provide such a framework based upon the analyses and guidelines set forth in Chapters II and III of this report.

The land use plan as it pertains to the Elkhorn central business district is further detailed on Map 36. As shown on the map, commercial and governmental/institutional land uses in the central business district are proposed to be increased from 38 acres in 1980 (see Map 18 in Chapter II) to 45 acres by the year 2000. The strength and the vitality of the Elkhorn central business district should be maintained, improved, and extended as the City continues to grow. The central business district represents a substantial portion of the city tax base, and the City has a substantial investment in streets, utilities, and other services in that area. Furthermore, the transition and re-use of the entire central business district, or portions thereof, for dissimilar land uses would be both difficult to achieve and monetarily costly.

In addition to the land use considerations associated with the Elkhorn central business district, the City must be aware of and foster the implementation of good overall urban design within the area. This can be effectively accomplished through the use of the analyses and guidelines set forth in Chapters II and III of this report. Good design for new development and redevelopment should be encouraged through an architectural review process carried out by the City's Architectural Review Board. Figure 29 shows the suggested streetscape elevation looking east at Walworth Street from Wisconsin Street, and Figure 30 shows the suggested streetscape elevation of Wisconsin Street looking west from south of Walworth Street. Both figures suggest the potential application of the analyses and urban design criteria set forth in Chapters II and III. Figure 31 illustrates a plan view of a suggested urban design treatment of a portion of the 100-foot-wide Walworth Street right-of-way between Wisconsin Street and Jackson Street. Landscape plant materials in the central business district should be selected based upon the data contained in Appendices D, E, and F. Walworth Street is a 100-foot-wide right-of-way with angle parking as it extends between Broad Street and Jackson Street, and is of a sufficient width to accommodate the addition of not only landscape plant materials but also planting islands perpendicular to the curb. Islands of adequate size could also be created as pedestrian areas with benches and related street furniture. Obsolete and visually unappealing signs should be

Map 36

DETAILED LAND USE PLAN FOR THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT AND ENVIRONS: 2000



LEGEND

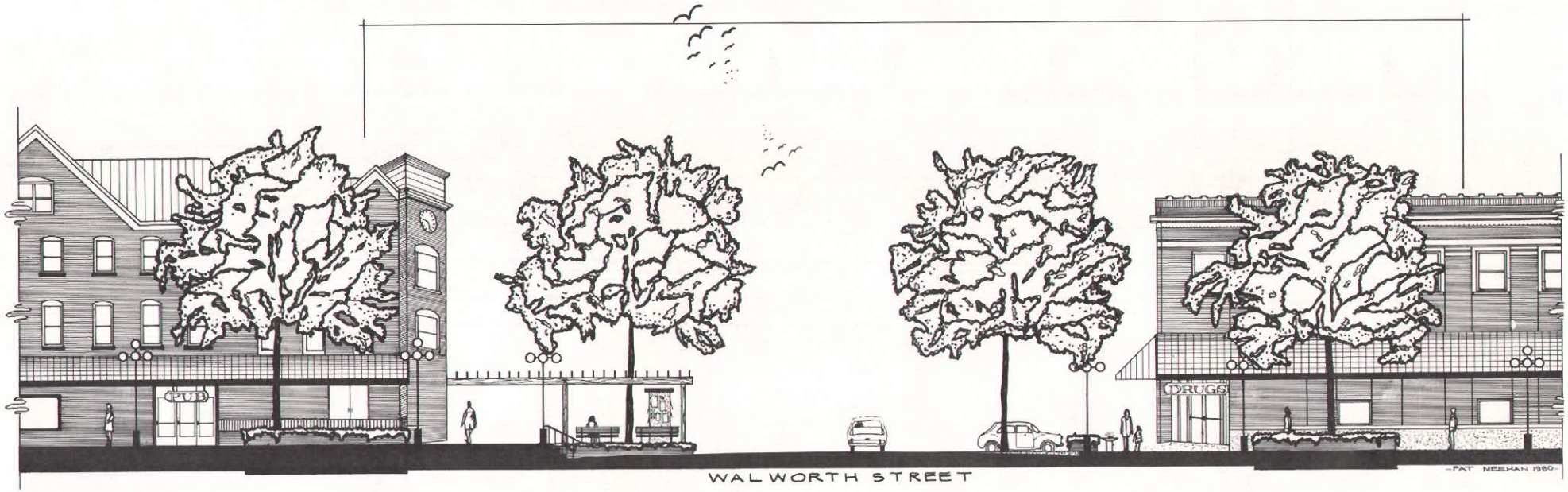
- 1980 PROPERTY BOUNDARY LINES
- SINGLE-FAMILY RESIDENTIAL
- TWO-FAMILY RESIDENTIAL
- MULTIPLE FAMILY RESIDENTIAL
- GOVERNMENTAL AND INSTITUTIONAL
  - M MIDDLE SCHOOL
  - C CITY HALL
  - F FIRE STATION
  - L LIBRARY
  - CT COURTHOUSE
  - R RELIGIOUS
- COMMERCIAL INCLUDING ASSOCIATED OFF-STREET PARKING
- RECREATIONAL AND PUBLIC PARK
  - U URBAN OPEN SPACE

GRAPHIC SCALE
0 100 200 400 FEET

Source: SEWRPC.

Figure 29

SUGGESTED STREETSCAPE ELEVATION LOOKING EAST AT WALWORTH STREET FROM WISCONSIN STREET IN THE ELKHORN CENTRAL BUSINESS DISTRICT



Source: SEWRPC.

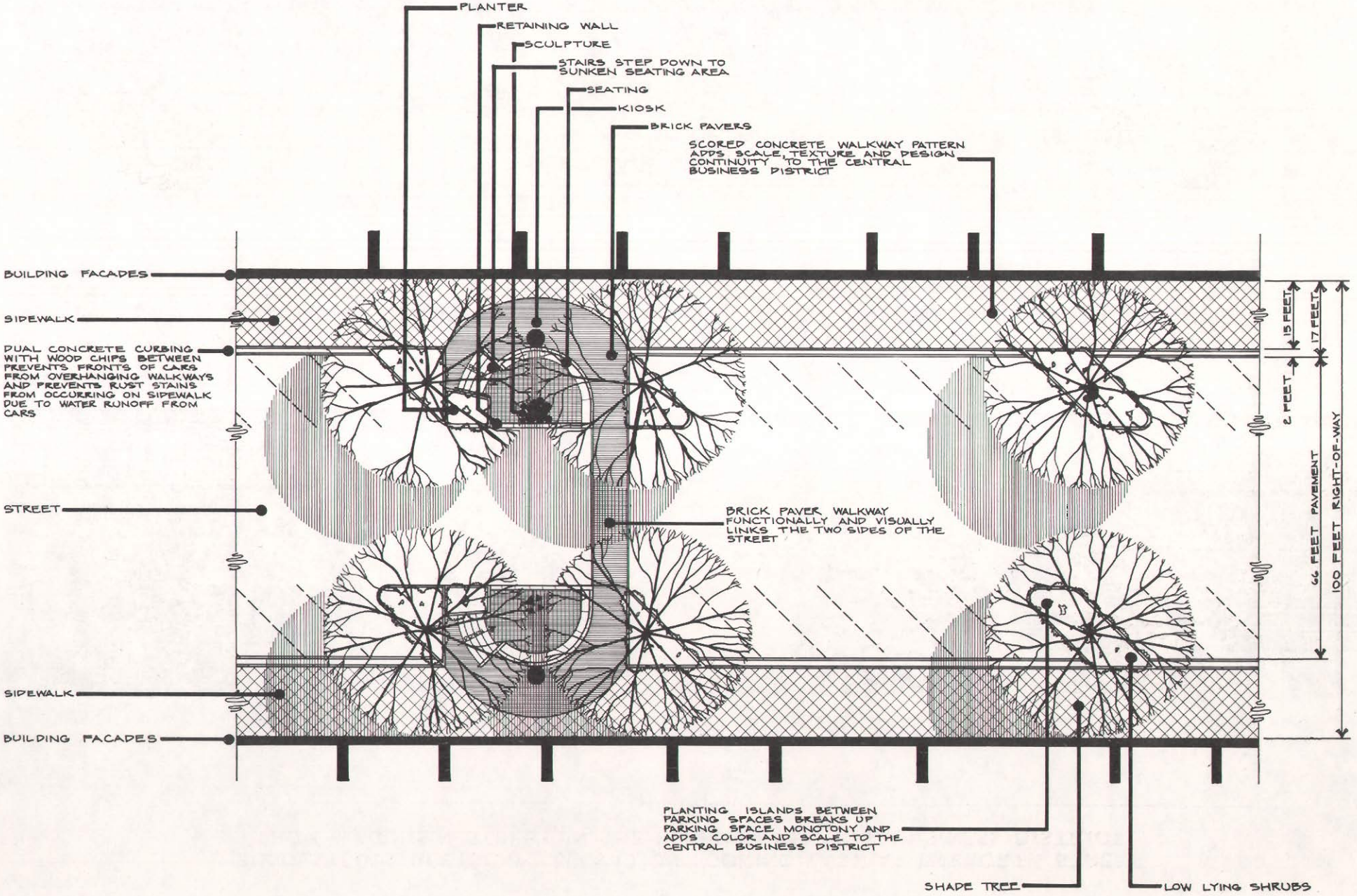
Figure 30

SUGGESTED STREETSCAPE ELEVATION OF WISCONSIN STREET LOOKING WEST FROM SOUTH OF WALWORTH STREET IN THE ELKHORN CENTRAL BUSINESS DISTRICT

Source: SEWRPC.

Figure 31

PLAN VIEW OF A SUGGESTED URBAN DESIGN TREATMENT OF A PORTION OF THE 100-FOOT-WIDE WALWORTH STREET RIGHT-OF-WAY BETWEEN WISCONSIN STREET AND JACKSON STREET IN THE ELKHORN CENTRAL BUSINESS DISTRICT



Source: SEWRPC.

removed and any interesting old signs should be restored. The building setbacks along the streets of the central business district are such that flush-mounted wall signs could be easily viewed. A uniform and harmonizing sign system should be established for buildings in the central business district. Also, rear entrance areas of buildings should be cleaned and otherwise improved to visually enhance those areas.

Industrial Land Uses

In 1980, about 102 net acres in the City were in industrial land uses, representing about 3.7 percent of the total city area. Map 35 shows a total of about 437 acres of land in industrial use by the year 2000, representing an increase of about 335 acres over the 1980 level. The City's industrial land use needs will probably be served by this large area well into the 21st century. The proposed industrial land uses, as shown on Map 35, would continue to expand on the south side of the City in the area now occupied by the City Industrial Park, as well as into vacant lands contiguous to the industrial park. This particular area of the City provides good access to the state trunk highway system through STH 15, as well as to the railway system right-of-way which passes through these existing and proposed industrial lands.

Governmental, Institutional, Park, Recreational, and Open Space Land Uses

The only new governmental/institutional land use proposed to occur within the City of Elkhorn urban area is the expansion of the Gateway Technical Institute facility on lands already under Gateway's ownership and contiguous to the existing Gateway facility located at the northwest corner of the intersection of Centralia Street and CTH H on the southeast side of the City. This area is shown in dark blue on Map 35.

The park and related open space uses shown on Map 35 are based in part upon the objectives, principles, and standards outlined in Chapter III and upon the recommendations contained in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin. These standards and recommendations, as well as the forecast year 2000 population of 8,100 persons for the city proper, indicate that some additional local park sites and facilities will be needed in the City of Elkhorn urban service area by the year 2000. Map 35 shows three additional neighborhood-type parks to be developed in the north, the northeast, and eastern areas of the City to serve the proposed expansion of residential areas. In addition, it is recommended that the existing community park, Sunset Park, be expanded to the west in order to accommodate the anticipated year 2000 community park recreational needs. Also, existing recreational facilities located at the City of Elkhorn Industrial Park are planned for expansion by local officials. In addition, a detailed park and open space plan for the City of Elkhorn was under preparation by the Southeastern Wisconsin Regional Planning Commission in 1984.

Street System Development in the City of Elkhorn Urban Service Area

The street system for the City of Elkhorn urban area should be organized on a functional basis consisting of arterial, collector, and land access streets. Arterial streets are arranged so as to facilitate ready access from the community to centers of employment, governmental activity, shopping and services,

and recreation both within and beyond the boundaries of the community. Such streets should be properly integrated into the existing and proposed regional system of major streets and highways. Arterial streets or highways which serve the city proper are shown on Map 35 and consist of STH's 11, 12, and 67, and CTH's H and NN.

Collector streets should be arranged so as to provide for the ready collection and distribution of traffic from and to residential or other land use areas, and for the conveyance of this traffic to and from the arterial street and highway system. Collector streets should be related to special traffic generators such as schools, churches, shopping centers, and other proposed concentrations of population or activities, and to the major streets to which they connect.

The land access street network should be designed to achieve an efficient use of land; to discourage use by through traffic; to minimize street area; to provide an attractive setting for residential development; to facilitate the provision of efficient stormwater drainage, sanitary sewerage, and public water supply facilities; and to fit the natural terrain, thereby minimizing the need for earthwork during the development process. The street locations should be based upon careful consideration of a number of factors, including soil characteristics, topography, property boundaries, a hierarchy of functions within the total street system, existing and proposed land uses, the principles of good planning, and the urban design criteria presented herein. Also, the orientation of the streets should, to the extent practicable, facilitate solar access, as suggested by the urban design criteria outlined in Chapter III.

During the early stages of creating a land use plan for the City of Elkhorn, the Regional Planning Commission staff prepared a proposed street system map showing the location of new collector and local minor land access streets. However, the Commission staff was asked not to show these streets on the plan maps by the City Plan Commission since the City Plan Commission feels that the location of streets should be determined by individual property owners and developers. It is recommended, however, that any such street layouts meet the criteria set forth in Chapter III.

Chapter VI

PLAN IMPLEMENTATION

INTRODUCTION

The recommended land use plan described in Chapter V of this report provides a design for the attainment of the development objectives set forth in Chapter III. In a practical sense, however, the plan is not complete until the steps necessary to implement that plan have been specified. After formal adoption of the land use plan, realization of the plan will require faithful, long-term dedication to the underlying objectives by the city officials concerned with its implementation. Thus, the adoption of the plan is only the beginning of a series of actions necessary to achieve the objectives expressed in this report. The plan should be used as a guide for making decisions concerning land development in the City, the City's formal extraterritorial plat review jurisdiction, and the study area. Adjustments to the plan should be made as required by changing conditions. Consequently, one of the important tasks of plan implementation is a periodic reevaluation and reexamination of the plan to ensure that it continues to properly reflect current conditions. It is recommended that this reevaluation and reexamination take place on an annual basis, or more frequently if warranted by changing conditions.

Attainment of the recommended land use plan for the city study area will require some changes in the development policies of the City. Since the maintenance of the present character of the study area is dependent to a considerable extent upon preserving and protecting the natural resource base, the density of new development should be carefully regulated to ensure that new development at urban densities--greater than 0.7 dwelling unit per net residential acre or 1.4 acres per dwelling unit--is confined to those areas where urban services can be provided. These areas are shown on Map 33 in Chapter V.

Development should be avoided that would require the conversion of the best remaining agricultural lands to urban use or the encroachment into primary environmental corridors, secondary environmental corridors, or other environmentally significant lands; the draining and filling of wetlands; or the grading of hilly wooded sections. These policies are central to a sound development strategy for the study area. In fact, the effectiveness of many of the more specific recommendations of this report will be lost if these policies are ignored or greatly compromised. Development policies and practices that consider the limitations of the natural environment will, in the long term, not only preserve the overall quality of the environment in the City and study area, but will avoid the creation of serious and costly environmental and developmental problems, and will avoid the need to provide costly urban facilities and services over an ever-widening area. Any residential development in the remainder of the study area should be permitted only on rural estate-size lots, or equivalent overall densities, in order to preserve the

rural character and setting of the area. Such rural estate lots should have a minimum area of five acres per development, or equivalent overall density. The soils maps presented in Chapter II of this report should be carefully reviewed by the City prior to the approval of any additional land subdivisions within the extraterritorial plat review jurisdiction of the City.

Attainment of the recommended land use plan for the city proper will require not only changes in certain development policies of the City, but also the introduction of some, and modification of other, plan implementing instruments. A new subdivision control ordinance should be adopted that can contribute effectively to plan implementation. All proposed subdivision plats and certified survey maps should be carefully reviewed for conformance with the plan and plan objectives. The city zoning ordinance should be revised to better reflect current land uses and to make zoning a more effective tool for implementing the plan. All rezoning applications should be carefully reviewed as to their relationship to the adopted land use plan. An official map should be prepared and adopted to implement the plan as it relates to streets, highways, parkways, parks, and playgrounds. All sanitary sewer extensions should be carefully reviewed for their impact on plan implementation.

PUBLIC INFORMATIONAL MEETINGS AND HEARINGS

Although the Wisconsin city planning enabling legislation does not require local plan commissions to hold public hearings on proposed plans prior to adoption, it is nevertheless recommended that in order to provide for and promote active citizen participation in the planning process, the City Plan Commission hold one or more public informational meetings and a formal public hearing to acquaint residents and landowners with all details of the proposed plan and to solicit public reaction to the plan proposals. The plan should be modified to incorporate any sound and desirable new ideas which may be advanced at the informational meetings and hearing.

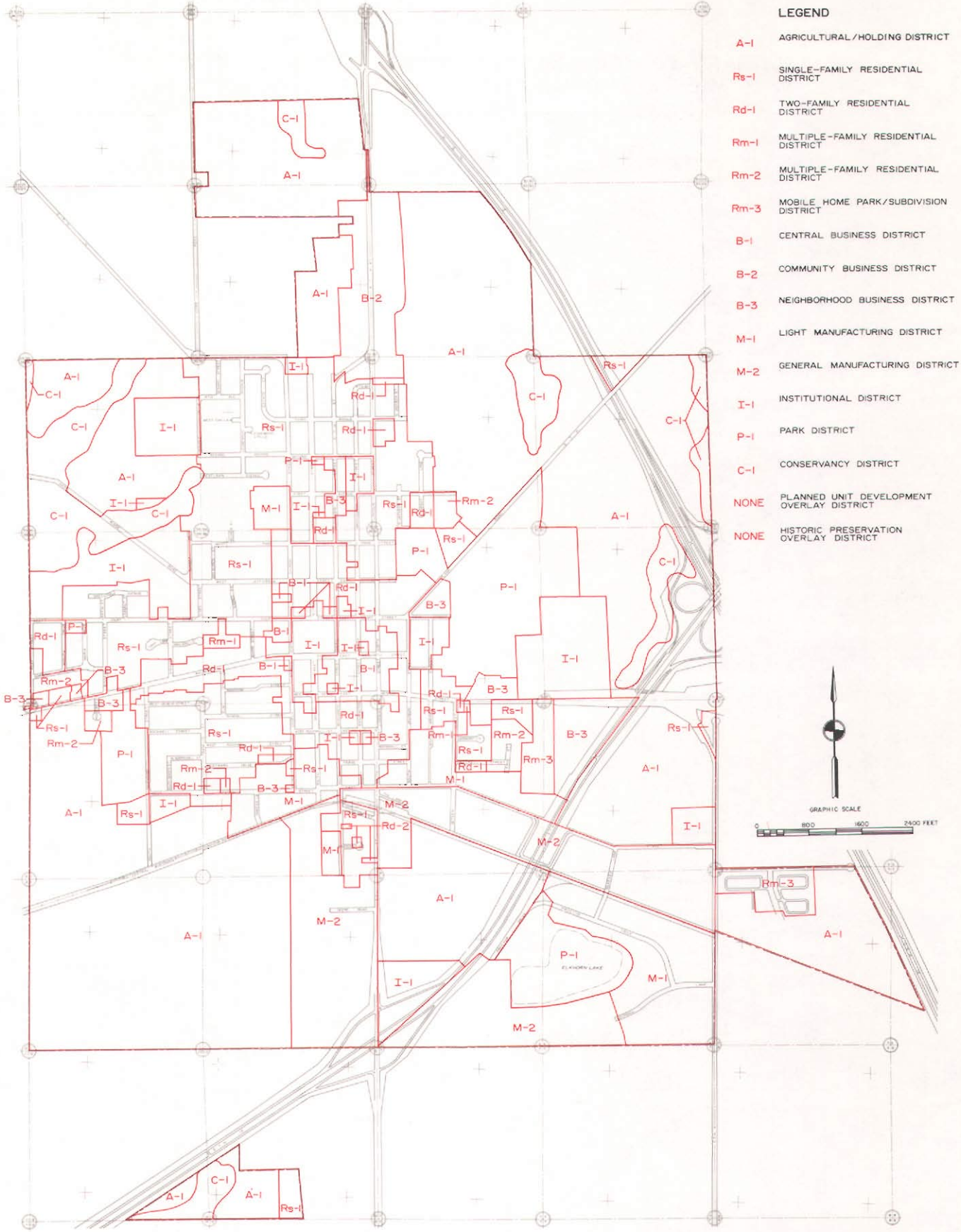
LAND USE PLAN ADOPTION

In an effort to involve the citizens of the City of Elkhorn to the maximum extent possible, the City Plan Commission held five formal public informational meetings and public hearings on the land use plan, as well as numerous other open public meetings on the plan. Formal public informational meetings and public hearings were held before the City Plan Commission on July 15, 1982; February 10, 1983; May 12, 1983; September 15, 1983; and March 8, 1984. Land use plan Maps 33 and 35 in Chapter V were adopted by the City Plan Commission on March 8, 1984 and February 9, 1984, respectively. The entire land use plan, including all text and supporting maps and figures, was adopted by the City Plan Commission on July 12, 1984. The respective City Plan Commission adopting resolutions are set forth in Appendices G, H, and I.

Following adoption of the land use plan by the City Plan Commission and certification to the Common Council as provided by Section 62.23 of the Wisconsin Statutes, the City Plan Commission should initiate appropriate amendments to the city zoning ordinance and zoning district map to bring the ordinance and map into conformance with the proposals advanced in the adopted land use plan. Of all the land use implementation devices presently available, perhaps the most important and most versatile is the zoning ordinance. Map 37 shows zoning district boundaries recommended to implement the plan, and Table 33 provides

Map 37

SEWRPC-RECOMMENDED ZONING MAP FOR THE CITY OF ELKHORN



Source: SEWRPC.

Table 33

SUMMARY OF RECOMMENDED ZONING DISTRICTS FOR THE CITY OF ELKHORN, WALWORTH COUNTY, WISCONSIN

District	Permitted Uses		Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Total Area (square feet)	Minimum Lot Size Area per Family (square feet)	Width at Setback (feet)	Minimum Yard Requirements			Maximum Building Height (feet)
	Principal	Accessory						Front Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
A-1 Agricultural/ Holding	Agriculture, general farming, pasturing, truck farming, hobby farming	Farm dwellings, garages	Drive-in establishments, transmitting towers, etc.	0.2	5 acres	5 acres	300	50	25	50	60
Rs-1 Single-Family Residence	Single-family dwellings	Garages, carports, storage sheds, home occupations	--	5.4	8,000	8,000	80	25	10 and 25 total	25	35
Rd-1 Two-Family Residence	Two-family dwellings	Garages, carports, storage sheds, home occupations	--	9.6	9,000	4,500	80	25	25 total	25	35
Rm-1 Multiple-family Residence	Multi-family dwellings	Garages carports	--	21.7	--	Efficiency and 1-bedroom--2,000 2-bedroom--2,500 3-bedroom or larger--3,500	60	25	10	25	35
Rm-2 Multiple-family Residence	Multi-family dwellings	Garages, carports	--	17.4	--	Efficiency-- 2,500 1-bedroom--3,000 2-bedroom--3,500 3-bedroom or larger--4,000	120	35	20	25	35
Rm-3 Mobile Home Park/ Subdivision	Mobile homes, essential services	Garages, carports, storage sheds, home occupations	--	6.0	5,000	5,000	50	50	--	--	15
B-1 Central Business	Stores	Garages, off-street parking and loading, residential quarters	Automotive sales, food lockers	--	3,600	--	40	--	--	25	35
B-2 Community Business	Bakeries, stores, supermarkets, offices	Garages, off-street parking	Drive-in establishments, gasoline stations	--	20,000	--	100	25	10	25	35
B-3 Neighborhood Business	Neighborhood shopping centers, stores	Parking and loading	None	--	10,000	--	80	25	10	25	35
M-1 Light Manufacturing	Small manufacturing and processors, and warehousing	Parking and loading	Outside storage	--	4,800	--	40	--	--	25	45
M-2 General Manufacturing	Heavy manufacturing	Parking and loading	Nuisance industries	--	20,000	--	90	25	25	25	60
I-1 Institutional	Public office buildings, schools, churches	Parking, loading, and related residential quarters	Utilities, hospitals, etc.	--	11,000	--	70	25	25 total	25	35
P-1 Park	Parks, playgrounds, and playfields	Parking and storage	Golf courses, campgrounds	--	--	--	--	40	40	40	35
C-1 Conservancy	Open space uses, not including structures	Parking	Golf courses, clubs	--	--	--	--	--	--	--	--
PUD Planned Unit Development Overlay	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]
HPD Historic Preservation Overlay	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]	--[a]

[a] As per underlying basic use district requirements.

Source: SEWRPC.

an outline of recommended zoning districts and the respective district regulations. Pursuant to state enabling legislation, the zoning changes recommended by the Plan Commission can be enacted by the Common Council only after formal public hearing. The proposed zoning districts and attendant regulations are discussed below.

Agricultural/Holding District

This agricultural holding district is proposed to be provided to promote the continuation of general farming and related uses in those areas of the City that are not yet committed to urban development. This district should protect lands contained therein from urban development until their orderly transition into urban-oriented districts is required. The district should provide for a minimum lot size of five acres per dwelling unit, or equivalent overall density.

Single-Family Residence District

One single-family residence district is proposed to be provided in the zoning ordinance. The proposed Rs-1 District would provide for a minimum lot size of 8,000 square feet. The single-family residential district is intended to be served by public sanitary sewer and water supply facilities.

Two-Family Residence District

One two-family residence district should be provided in the zoning ordinance. The Rd-1 District would provide for a minimum lot size of 9,000 square feet. The district is intended to be served by public sanitary sewer and water supply facilities.

Multiple-Family Residence Districts

Three multiple-family residence districts are proposed to be provided in the zoning ordinance. The Rm-1 District is intended to provide for multiple-family dwellings at a density not to exceed 21.7 dwelling units per net acre, or a minimum of 2,000 square feet per dwelling unit. The Rm-1 District is intended to be applied to existing lots in and around the City's central business district. The Rm-2 District is intended to provide for multiple-family dwellings at a density not to exceed 17.4 dwelling units per net acre, or a minimum of 2,500 square feet per dwelling unit. The Rm-3 District is intended to accommodate both mobile home parks and mobile home subdivisions on lots of 5,000 square feet or larger not to exceed an overall density of six dwelling units per net acre. The three districts are intended to be served by public sanitary sewer and water supply facilities.

Business Districts

The B-1 Central Business District is intended to accommodate the diverse uses typical of the city "downtown" area without inhibiting the potential for maximum development of commercial, cultural, entertainment, and other urban activities which contribute to the role of the central business district as the "heart" of Elkhorn. This district is also intended to allow for the development of one-bedroom elderly housing units at a density not to exceed 32 units per net acre as a conditional use.

The B-2 Community Business District is intended to provide for small groups of retail and customer service establishments to serve groups of neighborhoods or the entire community. This type of district is generally located away from the traditional central business district and provides such amenities as increased open space and off-street parking and loading facilities.

The B-3 Neighborhood Business District is intended to provide for individual or small groups of retail and customer service establishments serving individual neighborhoods. This type of district is generally located away from the traditional central business district and provides such amenities as increased open space and off-street parking and loading facilities. Such retail centers are more compatible with the character of adjacent residential districts.

Manufacturing Districts

The M-1 Light Manufacturing District is intended to provide for manufacturing, industrial, and related uses of a limited nature and size in situations where such uses are not located in basic industrial groupings and where the relative proximity to other uses requires more restrictive regulation.

The M-2 General Manufacturing District is intended to provide for manufacturing and industrial development of a more general and less restrictive nature than allowed in the M-1 Light Manufacturing District in those areas where the relationship to surrounding land use would create fewer problems of compatibility and where the district would not normally abut residential districts.

Institutional District

The I-1 Institutional District is intended to eliminate the ambiguity of maintaining in unrelated use districts areas which are under public or public-related ownership and where the use for public purpose is anticipated to be permanent.

Park District

The P-1 Park District is used to provide for areas where the open space and recreational needs, both public and private, of the citizens can be met without undue disturbance of natural resources and adjacent uses. When applied to privately owned recreational lands, it is intended to avoid the conversion of such lands to other urban uses without public review and approval.

Conservancy District

This district is used to preserve, protect, and enhance the lakes, watercourses, and wetland areas of the city area. No new urban development would be permitted in this district.

Planned Unit Development (PUD) Overlay District

The Planned Unit Development (PUD) Overlay District is intended to permit developments that will, over time, be enhanced by coordinated site planning, diversified location of structures, and/or mixing of compatible uses. Such developments are intended to provide a safe and efficient system for pedestrian and vehicle traffic; to provide attractive recreation and open spaces as integral parts of the developments; to enable economic design in the location of public and private utilities and community facilities; and to ensure adequate standards of construction and planning. The PUD Overlay District would allow for flexibility of overall development design, with the benefits of such flexibility intended to be derived by both the developer and the community, while at the same time maintaining, insofar as possible, the land use density and other standards of use requirements set forth in the underlying zoning districts.

Historic Preservation Overlay District

The Historic Preservation Overlay District (HPD) is intended to provide for the protection and preservation of those areas of the City and those structures having historic and/or architectural interest that add to the character and charm of Elkhorn, and which represent, in effect, a community asset justifying their public regulation to ensure their continued preservation.

An integral part of the zoning ordinance are the provisions regulating the use of signs within the City, and especially within the Elkhorn central business district. The adoption of the sign control section of the zoning ordinance is an expression of civic concern and commitment on the part of the City to improve the overall visual environment of the City, especially within the central business district. Also, this plan implementation device may encourage central business district merchants to take private initiative to improve the visual appearance of the central business district. In addition, the proposed zoning regulations should not bar or discourage the use of passive or active solar energy systems in the community.

The recommended zoning ordinance and attendant district map should be carefully administered by the responsible city officials. It is important, in this respect, that the intent of the various zoning districts and regulations not be subverted by poor administration or by capricious actions. If the City approves too many petitions for zoning changes which are counter to the policies of the land use plan as adopted, the zoning could ultimately damage the public welfare it is intended to serve. If the quasi-judicial Zoning Board of Appeals of the City grants excessive variances, this could also endanger rather than promote sound community development. Sound community development is reliant upon consistency of City Plan Commission and Common Council actions on zoning matters and enforcement of the penalty provisions of the zoning ordinance when a violation occurs.

OFFICIAL MAPPING

Following adoption of the land use plan for the City of Elkhorn, the existing and proposed streets, highways, parks, parkways, and playgrounds shown on the plan should be incorporated into an official map for the City and surrounding area. Section 62.23(6) of the Wisconsin Statutes provides that the Common Council of any village may establish an official map for the precise designation of right-of-way lines and site boundaries of streets, highways, parkways, parks, and playgrounds. Such a map has all the force of law and is deemed to be final and conclusive with respect to the location and width of both existing and proposed streets, highways, and parkways, and the location and extent of existing and proposed parks and playgrounds. The Statutes further provide that the official map may be extended to include areas beyond the corporate limit lines but within the extraterritorial plat approval jurisdiction of the municipality.

The official map is intended to be used as a precise planning tool to implement the plans for streets, highways, parkways, parks, and playgrounds. One of the basic purposes of the official map is to prohibit the construction of buildings or structures and their associated improvements on land that has been designated for current or future public use. Furthermore, the official map is the only arterial street and highway system plan implementation device

that operates on a communitywide basis in advance of land development and can thereby effectively assure the integrated development of the street and highway system. Unlike subdivision control which operates on a plat-by-plat basis, the official map can operate over the entire City and environs in advance of development proposals. The official map is a useful device to achieve public acceptance of long-range plans in that it serves legal notice of the government's intention to all parties concerned well in advance of any actual improvements. It thereby avoids the altogether too common situation of development being undertaken without knowledge or regard for the long-range plan, and thereby does much to avoid local resistance when plan implementation becomes imminent.

The City Plan Commission and Common Council should act to create and, after public hearing, adopt an official map for the City and its extraterritorial jurisdictional area. It should be noted that Wisconsin Statutes specifically provide that the approval of a subdivision plat by the Common Council constitutes an amendment to the official map, thus providing flexibility in its administration.

SUBDIVISION PLAT REVIEW AND REGULATION

The plan should serve as a basis for the review of land subdivision plats and certified survey maps. Urban subdivisions should not be approved in areas recommended to remain in nonurban uses unless the developer can justify changing the land use plan. Any such proposed departures from the land use plan should be carefully considered by the City Plan Commission and should be made by that Commission only when it finds that such departures are warranted in the public interest. All urban subdivisions should be required to provide a full complement of urban services.

Subdivision regulations, in the form of a City Land Division Control Ordinance, are a vital tool in land use plan implementation. Through the use of these regulations, the City can coordinate aspects of the layout and design of private lands within both the City and the extraterritorial plat jurisdiction area to conform to the adopted land use plan. Street layout, lot orientation, and block orientation are all aspects of subdivision review which significantly affect solar access for developing portions of the community. New subdivisions which do not meet the solar access design criteria outlined in Chapter III and on the official map should be discouraged by city officials. Solar access easements can also be required for subdivision plats, as shown in Figure 32.

THE NEED FOR HISTORIC SURVEY AND HISTORIC PRESERVATION PLANNING

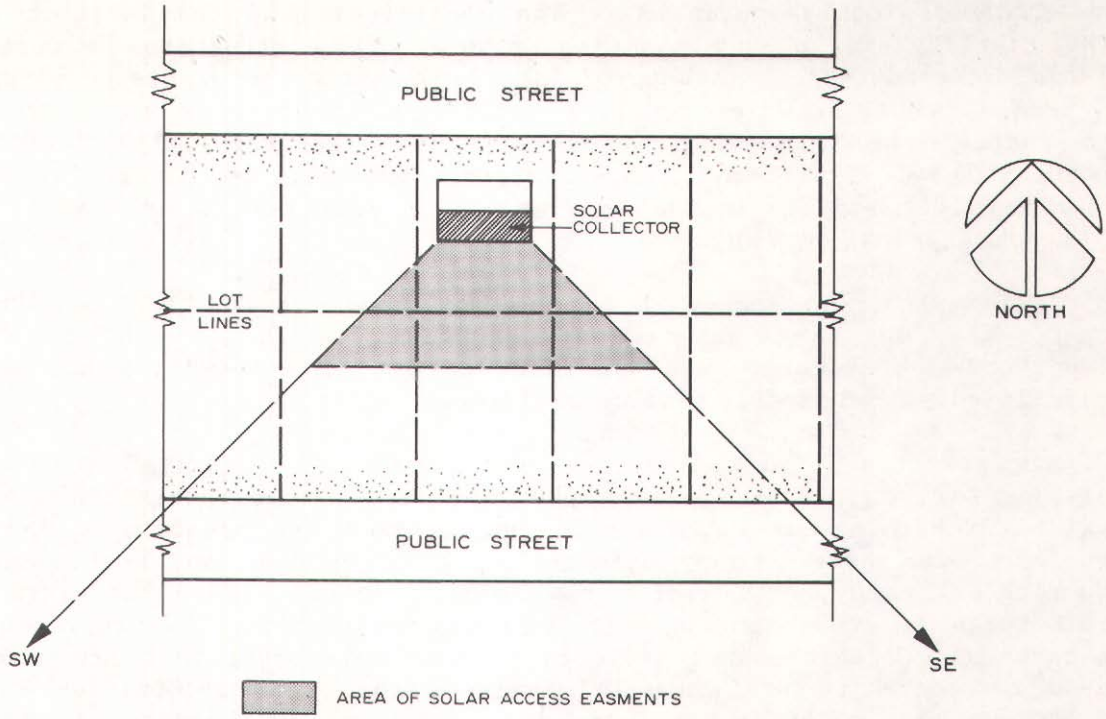
During the course of the 1980 land use inventory of the Elkhorn study area, it was determined that many buildings and structures within the study area may be of local, state, or national historic importance. Several of these buildings and structures are identified in Chapter II of this report and shown on Map 10 and in Figures 4, 5 and 10 in that chapter. Moreover, as noted in Chapter II, no known formal historical survey has been undertaken in the Elkhorn study area.

Individual sites, structures, buildings, or entire districts may be proper objects of historic preservation in the Elkhorn study area if they form a

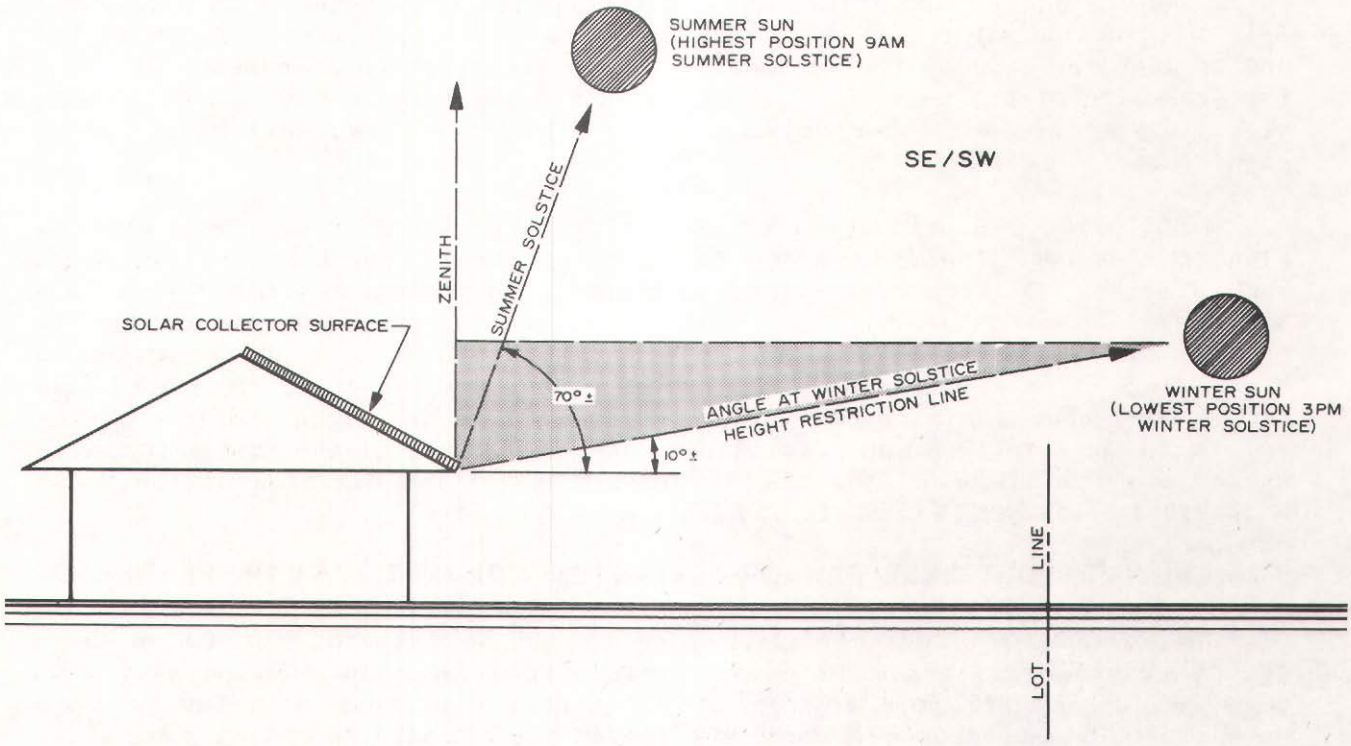
Figure 32

SOLAR ACCESS EASEMENTS

PLAN



ELEVATION



Source: SEWRPC.

significant link with the past. A historic site may be defined as a property that was the location of a significant event, activity, building, structure, or archaeological resource where the significance of the location outweighs the significance of any existing structures. A structure is defined as a large, man-made object made up of interdependent or interrelated parts such as a bridge, silo, or water tower. A building is defined as a structure created to shelter human activity. A district is a geographically definable area possessing a significant concentration, linkage, or continuity of sites, buildings, or structures that are united by past events or aesthetically by plan and physical development.

Historic sites, structures, buildings, or districts may be of national importance, they may be of only state importance, or they may be of only local importance. Whatever is an important part of a community's history may be classified as an historic site or building.

Sites, structures, and districts are generally considered archaeological, architectural, or historical in their primary focus, though combinations may exist. Archaeological sites should include both the prehistoric and the historic--where there is any evidence of human occupation, work, agriculture, hunting, ceremony, or burial. Architectural sites include buildings or other structures or areas that possess artistic merit; structures representative of a particular architectural style or period; structures that are unique to an area or community and make it distinct from other communities; structures representing significant achievements in design, engineering, technology, or use of materials; and structures that are representative works of significant architects and builders. Historical sites include structures or buildings associated with important historical persons or events; sites associated with important historical persons or events even though no visible physical evidence remains; and sites or districts that represent important developments in economic, social, political, or cultural history. These definitions all fall within the guidelines established by the National Historic Preservation Act of 1966, as well as the National Historic Preservation Amendments of 1980, for expansion of the National Register of Historic Places to include buildings, sites, districts, and other objects of local and state, as well as national, significance.

A communitywide historical survey is the means by which a community such as Elkhorn examines itself in order to identify its unique historic heritage. Such a survey collects, organizes, documents, and photographs historical data and serves to make the community more aware of the value of preserving its past. A survey of this type is needed for the Elkhorn study area, as evidenced by findings of the preliminary historical inventory presented herein. It is recommended that a historical survey, of the nature described and in conformance with accepted national standards, be conducted by the community with assistance and guidance from the Historic Preservation Division of the State Historical Society of Wisconsin at Madison.

THE NEED FOR DETAILED ELKHORN DOWNTOWN REVITALIZATION PLANNING

A detailed downtown revitalization plan should be prepared for the Elkhorn central business district in order to further refine the adopted city land use plan as it pertains to the City's central business district. Such a detailed plan, if properly done and implemented, could halt and revise the

deteriorating condition of the City's downtown. The formulation of detailed downtown revitalization plans would consist of five phases: 1) study organization and design; 2) the formulation of downtown revitalization objectives, principles, standards, and urban design criteria; 3) the preparation of detailed downtown inventories and analyses; 4) the preparation of forecasts of future conditions; and 5) the actual preparation of downtown development plans. Based upon this process, three interrelated downtown plans should be prepared:

1. Business Development Plan: Local merchant and businessmen surveys and trade area and shopper surveys provide the analytic basis for creating the business development plan. The business development plan should be based on an objective examination of the downtown area's problems as well as potentials which emerge from these studies. The business development plan should address the expansion potential of certain existing buildings, the possible attraction of new business to the downtown area, and the adoption of alternative uses for existing locations within the downtown area.

2. Detailed Schematic Urban Design Plan: The detailed schematic urban design plan should deal with site-specific and building-specific proposals for the downtown area. The urban design plan would be of a very high level of specificity and would include more detailed land use proposals, traffic circulation and parking proposals, pedestrian circulation proposals, and landscape planting proposals than would a general land use plan for the City. The plan should be heavily illustrated.

3. Traffic Circulation Plan: Based upon the inventory of traffic volumes and traffic circulation efficiency, the plan should recommend alternative circulation patterns, physical improvements to streets and intersections, traffic signalization, and the location of on- and off-street parking in Elkhorn's downtown.

Each of these plans should include a series of recommendations on how to implement the various plan proposals.

THE NEED FOR ECONOMIC DEVELOPMENT PLANNING FOR THE CITY OF ELKHORN

Increasingly, communities within Wisconsin have recognized the need to initiate economic development strategies for retaining existing industries and attracting new industries to the community. The need for local economic development activities is evidenced by the continuing decline in local economic conditions in many communities in southeastern Wisconsin. This decline is, for the most part, the result of: 1) recent dramatic increases in labor force unemployment rates that have resulted from the national economic recession that began in 1979; 2) decisions by local businesses to relocate or expand to areas outside their present location; and 3) employment contraction by existing employers, particularly those firms in the traditional durable-goods manufacturing industries.

In addition, the recent interest in local economic development activities is attendant to the increasing cost of utilizing natural and man-made resources for economic development purposes. In some cases, in order to provide a suitable environment for economic activity, communities must purchase land for

industrial and business parks, as well as provide the necessary infrastructure--sanitary sewer and water supply facilities, storm sewers, and roads--for development purposes. As the cost of land and land improvements has escalated, some communities have begun to reevaluate previous decisions to promote economic development opportunities. While some of these communities have decided not to provide for the growth of existing industry and the location of new industry within their communities, others are identifying economic development goals and objectives that indicate the type of business and industry growth that is compatible with the overall community. In order to identify appropriate local economic development strategies, communities prepare an overall economic development plan. Such a plan inventories and analyzes the physical, social, and economic characteristics of a community; identifies the community's economic development potentials and constraints; describes alternative strategies for strengthening the local economy; and identifies the initial elements of a local economic development program designed to improve local economic conditions through industry retention and industry attraction strategies and related economic development activities.

An economic development plan should be prepared for the City of Elkhorn in order to better promote economic growth in the City. Such a plan for the City should include the following elements:

1. An assessment of the historical economic development efforts of the City. The City's previous and proposed economic development activities should be described and assessed, as should the economic development activities of public and private development organizations such as local development corporations and the chamber of commerce.

2. An assessment of the physical and socioeconomic characteristics of the City and of the community facilities and services of the City.

3. The conduct of an industry retention survey. The results of the survey should be utilized to identify ways in which the City of Elkhorn can be of assistance to local employers in solving any problems with doing business in the City, and to identify business expansion plans.

4. The identification of specific industry sectors which have shown, and are anticipated to continue to show, increases in employment. Also, the determination of which industries show a good potential for locating in the City as a result of an industry attraction program.

5. The identification of city economic development potentials and constraints.

6. The design of an economic development strategy for the City. Such a design would address recent economic trends in the County, and would set forth short- and long-term goals for a city economic development program and specific criteria to guide the development program. The design would also present a plan for the implementation of the recommended economic development program.

As a part of the economic development planning program, the City should adopt a set of economic objectives that can serve to guide the activities of public agencies and private organizations interested in improving the City's economy. The following economic objectives should be adopted:

1. To retain existing employment opportunities and to provide for the expansion of existing employment opportunities in the City of Elkhorn by helping to meet the needs of existing employers.

2. To create new employment opportunities through the attraction of new employers to the City of Elkhorn.

3. To create new employment opportunities by facilitating entrepreneurial efforts in the City of Elkhorn.

4. To assist business in the City of Elkhorn through the provision of those community facilities and services that will facilitate the expansion of employment opportunities.

THE CAPITAL IMPROVEMENTS PROGRAM

A capital improvements program is simply a list of fundable major public improvements needed in a community over the next five years, arranged in order of preference to assure that the improvements are carried out in priority of need and in accord with the community's ability to pay. Major public improvements include such items as streets, sanitary sewers, storm sewers, water mains, and public buildings and parks, which together form the "urban infrastructure" required to support urban land use development and redevelopment. A capital improvements program is intended to promote well-balanced community development without overemphasis on any particular phase of such development, and to promote coordinated development both in time and between functional areas. With such a program, required bond issues and tax revenues can be foreseen and provisions made. Needed land for the projects can be acquired in a timely fashion and staged construction facilitated.

The general procedure for the preparation of a capital improvements program is as follows. An initial list of the improvements believed to be needed over the next five years is compiled. This list is then evaluated to determine the relative importance and desirability of each improvement. This evaluation should initially be divorced completely from the issue of funding availability. Criteria which may be helpful in assigning an order of priority to the list of projects include: protection of life, maintenance of public health, protection of property, conservation of resources, maintenance of property, provision of essential public services, and reduction in operating costs.

When the relative need or desirability of the various proposed projects has been determined--that is, when the list of projects has been arranged in priority order--the available financial resources of the community are analyzed, and the funds which may be expected to become available for the proposed improvements over the five-year period are determined. The projects are then selected and scheduled for construction in accordance with their priority order and the funds available. The first year of the five-year schedule is then recommended as the capital budget for the ensuing year and the recommended program given legislative consideration. At the end of the first year, the program is again reviewed, and any new projects which appear to be needed are shifted in position in the schedule as new information may dictate. An additional year is added to replace the year completed, and the revised list of projects is again scheduled over the full period of the

program. Thus, a carefully conceived public improvement program is always available and in readiness for use but with only one year of the program being actually committed at any time. Since, as the process becomes established, proposed projects are evaluated year after year before ultimately reaching authorization, a safeguard is provided against hasty or ill-conceived actions.

The plan for the physical development of the community should be the primary source of projects to be included in the initial list. However, this list may also include projects suggested by department heads, as well as by community and neighborhood groups. The Plan Commission is a logical agency to prepare the capital improvements program with the assistance of the City Administrator.

The capital improvements program should be presented in a well-arranged tabular form, listing projects in the proposed order of construction and in the order of year scheduled. The estimated cost of the proposed projects, together with resulting changes in operation and maintenance costs and financial charges, should be shown. Where a project extends over more than one-year, costs should be distributed accordingly. Proposed methods of financing should be indicated, and explanations regarding urgency of need provided. A financial summary sheet should be prepared showing the effect of the proposed program upon the finances of the community, and particularly upon taxes.

SUMMARY

The land use plan implementation devices available to the City include public informational meetings and hearings, land use plan adoption by the City, zoning, official mapping, subdivision plat review, and capital improvements programming. All require a strong commitment by the city government to implementation of the city land use plan. The planning and development review procedure in the City should be strengthened to assure that all development proposals are properly evaluated against the land use plan recommendations contained herein. It is recommended that in these matters, the City either continue to seek and utilize the assistance of the Southeastern Wisconsin Regional Planning Commission or employ a private planning consultant for this purpose.

APPENDICES

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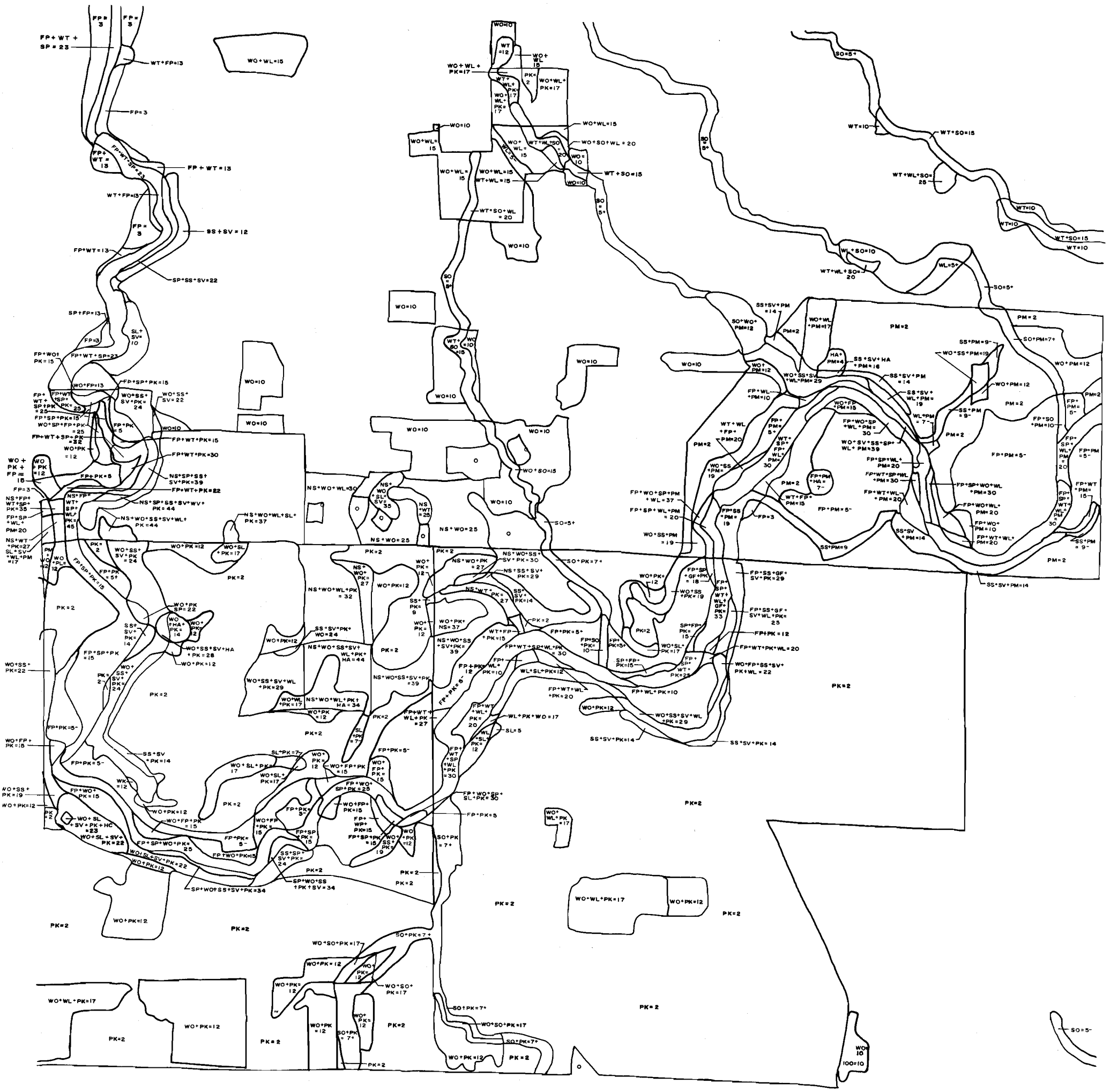
SAMPLE DELINEATION OF PRIMARY ENVIRONMENTAL CORRIDOR, SECONDARY ENVIRONMENTAL CORRIDOR, AND OTHER ENVIRONMENTALLY SIGNIFICANT LANDS



NOTE: This sample corridor delineation map is of Sections 1, 2, 11, and 12, Township 2 North, Range 22 East, Town of Somers, Kenosha County, Wisconsin. This sample is not located within the City of Elkhorn study area and is shown for illustrative purposes.

Source: SEWRPC.

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Appendix B

SUN PATH DIAGRAM FOR 44° NORTH LATITUDE[1]

A Sun Path Diagram is a useful aid in achieving the more efficient use of solar energy through the design of land subdivisions and building orientations. Such a diagram depicts the path of the sun within the sky vault, as projected onto a horizontal plane. The horizon is represented as a circle with the observation point in the center. The position of the sun at any date and hour can be determined from the diagram in terms of its altitude (a) and bearing angle (b). The altitude angles are represented on the diagram at 10° intervals by equally spaced concentric circles ranging from 0° at the outer circle (horizon) to 90° at the center point. These intervals are graduated along the meridian. Bearing angles are represented on the diagram at 10° intervals by equally spaced radii ranging from 0° at the south meridian to 180° at the north meridian. These intervals are graduated along the periphery of the diagram. The sun's bearing will be to the east during morning hours and to the west during afternoon hours. The earth's axis is inclined approximately 23°27' to the plane of its orbit around the sun, and the earth rotates on its axis approximately 15 degrees every hour. Thus, from all points on the earth, the sun appears to move across the sky vault on various parallel circular paths, with the paths spanning a maximum declination of about 23°27', the declination changing cyclically between the extremes of the summer solstice and winter solstice. Thus, the sun follows essentially the same path on corresponding dates of each year. Data defining these paths are tabulated below.

Date	Declination at Local High Noon	Corresponding Date	Declination at Local High Noon	Unified Approximation
June 21	+23°27'	--	--	+23°27'
May 21	+20°09'	July 21	+20°31'	+20°20'
April 21	+11°48'	August 21	+12°12'	+12°00'
March 21	+ 0°10'	September 21	+ 0°47'	+ 0°28'
February 21	-10°37'	October 21	-10°38'	-10°38'
January 21	-19°57'	November 21	-19°53'	-19°55'
December 21	-23°27'	--	--	-23°27'

The elliptical curves in the diagram represent the horizontal projections of the sun's path. They are given for the twenty-first day of each month. Roman numerals on the diagram designate the months, beginning with January as Roman numeral I. A cross grid of curves graduates the hours indicated in Arabic numerals.

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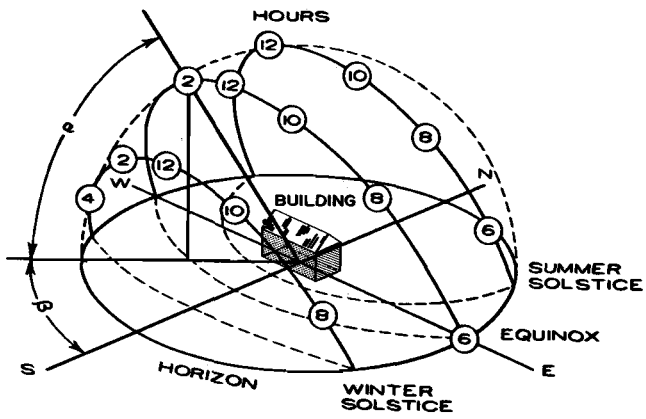
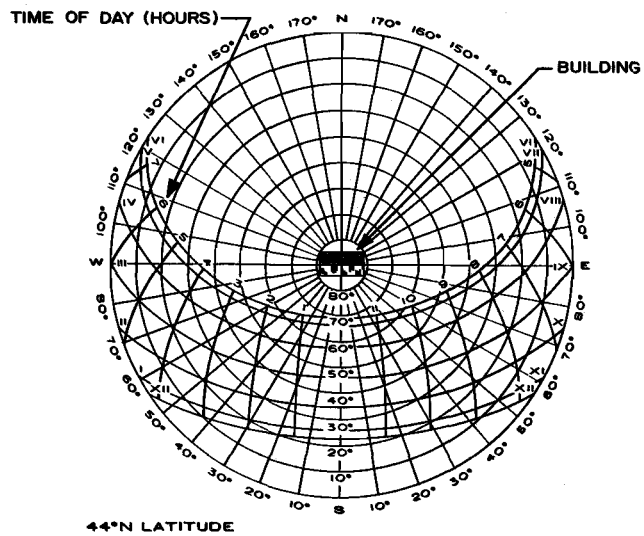
[1]Charles G. Ramsey and Harold R. Sleepler, Architectural Graphic Standards--Sixth Edition, New York: John Wiley and Sons, Inc., 1970, pp. 70-71.



α = ALTITUDE ANGLE

β = BEARING ANGLE



RADIAL LINES ARE BEARING ANGLES
CONCENTRIC CIRCLES ARE ALTITUDE ANGLES
ROMAN NUMERALS ARE MONTHS

Example:

Find the sun's position on February 21 at 2:00 p.m. (local time)

Step I - Select the February path marked with II and locate the two-hour line. Where these two lines cross is the position of the sun.

Step 2 - Read the altitude angle from the concentric circles as about 28°.

Step 3 - Read the bearing angle along the outer circle as about 34° west.

NOTE: Although the City of Elkhorn is located at 42°40' north latitude, for the purposes of this study and for the use of either passive or active solar design concepts and systems within the neighborhood, a sun path diagram for 44° north latitude may be used.

Appendix C

EQUATION FOR DETERMINING AVERAGE ANNUAL HEAT LOSS FOR A BUILDING IN THE CITY OF ELKHORN, WALWORTH COUNTY, WISCONSIN

The following equation may be used for calculating the total heat loss (in British thermal units--BTU's) in one year for a building in the City of Elkhorn with a total yearly average of 6,793 heating degree days.

$$H = \frac{24hd\ (T_i - T_a)}{T_i - T_o}$$

where:

H = Total annual heat loss in BTU's.

h = Hourly heat loss from the building for the design conditions in BTU's; these calculations are required by the Wisconsin building code.

T_i = Inside design temperature in degrees Fahrenheit.

T_o = Outside design temperature in degrees Fahrenheit.

24 = Total number of hours in one day.

d = Average total annual number of heating degree days. For the City of Elkhorn, this number is 6,793.

T_a = Average outside temperature for the heating season.

Appendix D

SELECTED TREES BY USE CATEGORY FOR LANDSCAPE PLANTING IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

Type of Tree Use			
Shade Trees	Street Trees	Lawn Trees	Hedges, Screens, and Windbreaks
For Sunny Sites			
American Beech Basswood Bur Oak Common Hackberry Norway Maple Red Maple Red Oak Silver Maple Sugar Maple Sycamore Thornless Honey Locust White Ash White Oak	Basswood Common Hackberry Norway Maple Red Maple Southern Pin Oak Sugar Maple Thornless Honey Locust White Ash	Black Cherry Blue Beech Blue Spruce Flowering Crab Aple Hawthorn Horse Chestnut Mountain Ash Norway Spruce Paper Birch Red Pine River Birch Russian Olive Serviceberry Southern Pin Oak White Pine White Spruce	Lombardy Poplar Red Cedar Russian Olive White Cedar White Pine White Spruce
For Partial Shade			
American Beech Basswood Common Hackberry Red Maple Red Oak Sugar Maple White Ash	Basswood Norway Maple Sugar Maple White Ash	Blue Beech Blue Spruce Norway Spruce Serviceberry White Pine White Spruce	White Cedar White Pine White Spruce

Source: SEWRPC.

Appendix E

SPECIES CHARACTERISTICS OF SELECTED TREES FOR LANDSCAPE PLANTING IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

Common Name	Scientific Name	Height at Maturity (feet)	Spread at Maturity (feet)	General Shape/ Form of Tree Foliage at Maturity	Fall Color	Remarks
American Beech	Fagus grandfolia	80-100	50-70	Oval	Bronze	Long lived; striking gray bark; cannot withstand compaction of soil
Basswood (or American Linden)	Tilia americana	100	50	Oval	--	Large size; a stately tree
Black Cherry	Prunus cerasus	20-30	15-20	Oval	--	Tolerant of shade; blossoms pink or white in spring
Blue Spruce	Picea	60+	--	Pyramidal	--	--
Bur Oak	Quercus macrocarpa	60+	--	Round	--	--
Flowering Crab Apple	Malus	15-25	12-20	Round	Yellow, orange	Medium rate of growth; no special maintenance requirements
Common Hackberry	Celtis occidentalis	30-60	--	Round	--	Interesting pebbled bark; hard black fruits; sensitive to salt spray
Hawthorn	Crataegus	25	20	Round	Bronze, red	Densely twigged with thorny branches
Horse Chestnut	Aasculus hippocastanum baumanni	60+	30-40	Oval	--	Reacts unfavorably to insufficient moisture
Mountain Ash	Sorbus decora	20-30	--	Oval	--	--
Norway Maple	Acer platanoides	50	40	Pyramidal (columnar form also available)	Yellow	Dense shade tree; feeding roots close to surface makes turf planting within spread difficult
Norway Spruce	Picea abies	60+	--	Pyramidal	--	--
Paper Birch (or Canoe Birch or White Birch)	Betula papyrifera	75	35	Oval	Yellow	Light, open foliage
Red Cedar	Juniperus virginiana	Less than 30	--	Pyramidal	--	--
Red Maple (or Swamp Maple or Water Maple)	Acer rubrum	50-70	40	Oval	Scarlet, orange, yellow	No special maintenance requirements; brilliant fall colors
Red Oak	Querens rubra and Quercus borealis	60+	Oval		Brilliant red	Grows faster than any other oak; intolerant of poorly drained soils
Red Pine	Pinus resinosa	60+	--	Pyramidal	--	--
River Birch	Betula nigra	75+	--	Oval	--	--
Russian Olive	Elaeagnus angustifolia	Less than 30	--	Round	--	--
Serviceberry	Amelanchier canadensis	20-30	12-15	Round	Subdued orange	No special maintenance requirements
Silver Maple	Acer saccharinum	60+	--	Oval	Yellow	Soft wood subject to storm damage and boring insects; sometimes used as design substitute for American Elm
Southern Pin Oak	Quercus palustris	30-60	--	Pyramidal	--	--
Sugar Maple	Acer saccharum	75	40-50	Oval	Brilliant yellow, orange, scarlet	Requires full sun
Sycamore	Platanus occidentalis	80-100	50-70	Oval	--	Tolerant to city environment
Thornless Honey Locust	Gleditsia triacanthos inermis	70-80	30-40	Oval	Weak yellow	Drought resistant; tolerant to city conditions
White Ash	Fraxinus americana	75+	--	Oval	--	Diamond shaped fissures in bark; yellow to purple autumn foliage color
White Cedar	Thuja occidentalis	30-60	--	Columnar	--	--
White Oak	Quercus alba	80-100	50-80	Round	--	Slow growth; no special maintenance requirements
White Pine	Pinus strobus	60-100	40	Pyramidal	--	--
White Spruce	Picea glauca	30-60	--	Pyramidal	--	--

Source: Robert L. Zion, Trees for Architecture and the Landscape, New York: Van Nostrand Reinhold Company, 1968, and SEWRPC.

Appendix F

SELECTED SHRUBS AND VINES FOR LANDSCAPE PLANTING IN THE CITY OF ELKHORN CENTRAL BUSINESS DISTRICT

Plant Species	Shade Tolerance	Uses			Growth Form				Aesthetic Value			Remarks
		Landscape	Hedges, Screens, Windbreaks	Ground Cover	Height (feet)	Type	Thorny	Thicket Former	Flower	Fruit or Berry	Fall Color	
Arborvitae (shrub types) (Thuja species)	Some	X	X		3-7	Shrub					X	Conifer
Barberry, Japanese (Berberis thunbergi)	X	X	X		6	Shrub	X			X	X	Colorful
Bittersweet[a] (Celastrus scandens)	X	Some		X	Climbs	Vine				X	X	Male and female plants--can injure trees
Blackberry, Dewberry,[a] Blackcap, Raspberry (Rubus species)				X	1-5	Bramble	X	X	X	X	X	Many species edible
Chokeberry, Black[a] (Aronia melanocarpa)	X	X		X	1-3	Shrub		X		X	X	--
Cotoneaster (Cotoneaster species)		X	X		4-8	Shrub				X	X	Usually glossy foliage--sun lovers
Crabapple (Malus species)		X	X		Up to 25	Shrub			X	X	X	Much-used large shrub
Current, Alpine (Ribes alpinus)	X	X	X		6-7	Foliage Shrub			X			Leafs out early
Dogwood, Gray[a] (Cornus racemosa)	X				6-10	Shrub			X	X	X	--
Dogwood, Pagoda[a] (Cornus alternifolia)	X				10-15	Shrub			X	X	X	--
Dogwood, Redosier[a] (Cornus stolonifera)	X	Some			3-9	Shrub		X	X	X	X	Attractive red twigs
Dogwood, Roundleaf[a] (Cornus rugosa)	X			X	3-9	Shrub			X	X	X	--
Dogwood, Silky[a] (Cornus amomum)	X		X		6-10	Shrub			X	X	X	--
Elder, American (Sambucus canadensis)					3-10	Shrub		X	X	X		--
Filbert (hazelnut)[a] (Corylus americana)	X				5-8	Shrub		X		X	X	Bears edible nuts
Forsythia (Forsythia species)	X	X			4-8	Shrub			X			Early yellow blooms
Grape, Wild[a] (Vitis species)	X			X	Climbs	Vine				X	X	--
Hawthorn or Thornapple[a] (Crataegus species)	X	X			5-15	Shrub	X			X	X	Many types
Honeysuckle (shrub types) (Lonicera species)	X	X	X		6-12	Shrub			X	X	X	Many shrub types--spreads by seed
Juniper, Creeping[a]		X		X	1-2	Shrub	To touch			X	X	Conifer
Juniper, Pfitzer[a] (J. chinensis pfitz eriana)		X			8-10	Shrub					X	Ornamental-type conifer
Lilac (Syringa species)		X	X		8-10	Shrub		Some	X			Many varieties
Maple, Amur (Acer ginnala)		X	X		15+	Tall shrub					X	Low-growing trees--can be pruned to hedge
Mockorange (Philadelphus species)		X	X		6-9	Shrub			X			Sweet-scented flowers--several varieties
Myrtle or Periwinkle (Vinca minor)	X	X		X	1	Short vine		Forms mat	X			Excellent ground cover--sun or shade
Ninebark, Common (Physocarpus opulifolius)	X	X	X		6-9	Shrub		X	X		X	--
Olive, Autumn (Elaeagnus umbellata)	X	X	X		10-15	Shrub				X	X	Attractive to birds
Peashrub, Siberian (Caragana arborescens)			X		10-15	Shrub				X	X	--
Pine, Mugho (Pinus mugo mughus)		X			6-9	Shrub					X	Conifer
Plum, American[a] (Prunus americana and species)	X				10-15	Shrub	Some	X	X	X	X	Hardy--spreads
Privet, Amur (Ligustrum amurense)	X	Some	X		10	Shrub			X	X	X	Good hedge
Privet, Regels Border (Lobtusifolium regellanum)	X	Some	X		6-9	Shrub				X	X	--
Redcedar, Easter[a] (Juniperous virginiana)			X		10-20	Shrub	To touch			X	X	Conifer-shrub to tree

Appendix F (continued)

Plant Species	Shade Tolerance	Uses			Growth Form				Aesthetic Value			Remarks
		Landscape	Hedges, Screens, Windbreaks	Ground Cover	Height (feet)	Type	Thorny	Thicket Former	Flower	Fruit or Berry	Fall Color	
Rose, Rugosa and Hort Varities (Rosa species)		X			2-6	Shrub			X	X		Many types--use adapted species
Russian Olive (Elaeagnus angustifolia)		X	X		15+	Shrub	X			X	X	Outstanding gray foliage
Snowberry [a] (Symphoricarpos species)	X	X		X	3-4	Shrub		X		X	X	--
Spirea, Anthony Waterer (Spirea bumalda)		X			2-3	Shrub			X		X	Good border plant
Spirea, Van Houtte (Spirea vanhouttei)	X	X	X		5-6	Shrub			X			--
Sumac, Fragrant [a] (Rhus aromatica)	X	X		X	3	Shrub		X		X	X	Brilliant foliage
Sumac, Smooth [a] (Rhus grabra)					6-10	Shrub				X	X	--
Sumac, Staghorn [a] (Rhus typhina)	X	Some			10-15	Shrub		X	X	X	X	--
Vibrunum, American Cranberrybush [a] (Viburnum trilobum)	X	X	X		7-9	Shrub			X	X	X	Versatile but slow growing
Viburnum, Arrowwood (Viburnum dentatum)	X	X	X		10-12	Shrub			X	X	X	Slow growing--rich red in fall
Viburnum, Blackhaw [a] (Viburnum prunifolium)	X		X		8-10	Shrub			X	X	X	--
Viburnum, Mapleleaf [a] (Viburnum acerifolium)	X				3-5	Shrub			X	X	X	--
Viburnum, Nannyberry [a] (Viburnum lentago)	X		X		9-12	Shrub			X	X	X	Slow growing
Viburnum, Rafinesque [a] (Viburnum rafinesquianum)	X				2-4	Shrub			X		X	--
Viburnum, Wayfaringtree [a] (Viburnum lantana)	X	X			4-9	Shrub			X	X	X	Winter food for birds
Virginia Creeper [a] (Parthenocissus quinquefolia)	X	Some		X	Climbs	Vine				X	X	Also creeps
Wahoo, Eastern [a] (Euonymus atropurpureus)	X	X			4-9	Shrub				X	X	Brilliant red in fall
Weigela (Weigela species)		X	X		4-8	Shrub			X			Showy blossoms
Willows, Shrubby Types [a] including pussy willow (Salix species)		X	X		2-8	Shrub						Pussy willow especially attractive in early spring
Winterberry, Common [a] (Ilex verticulata)	X				6-9	Shrub				X	X	Colorful fruit
Yew (shrub types) (Taxus species)	X	X			3-10	Shrub				X	X	Best conifer for shade

[a]Natives--have good display of fall color.

Source: SEWRPC.

APPENDIX G

CITY PLAN COMMISSION RESOLUTION FOR ADOPTING THE CITY OF ELKHORN AND ENVIRONS LAND USE PLAN MAP

WHEREAS, the City of Elkhorn pursuant to the provisions of Section 62.23 of the Wisconsin Statutes, has created a City Plan Commission; and

WHEREAS, it is the duty and function of the City Plan Commission, pursuant to Section 62.23(2) of the Wisconsin Statutes, to make and adopt a master plan for the physical development of the City of Elkhorn and environs; and

WHEREAS, the City of Elkhorn requested the Southeastern Wisconsin Regional Planning Commission to prepare a land use plan for the City; which plan includes:

1. Collection, compilation, processing and analyses of various types of demographic, economic, natural resource, land use and transportation and other materials pertaining to the City and environs.

2. A forecast of growth and change.

3. A land use and arterial street system plan map.

4. Suggested revisions to City ordinances for the implementation of the selected plan; and

WHEREAS, the City Plan Commission considers the plan to be a valuable guide to the future development of the City and environs;

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Section 62.23(3)(b) of the Wisconsin Statutes, the City of Elkhorn Plan Commission, on the 8th day of March, 1984, hereby adopts a land use map for the City of Elkhorn and environs as a guide for the future development of the City of Elkhorn.

BE IT FURTHER RESOLVED that the Secretary of the City of Elkhorn Plan Commission transmit a certified copy of this resolution to the Common Council of the City of Elkhorn.

Gerhardt Immega
Chairman
City of Elkhorn Plan Commission

ATTEST:

Shari Mclahn
Secretary
City of Elkhorn Plan Commission

Appendix H

CITY PLAN COMMISSION RESOLUTION FOR ADOPTING THE CITY OF ELKHORN LAND USE PLAN MAP

WHEREAS, the City of Elkhorn pursuant to the provisions of Section 62.23 of the Wisconsin Statutes, has created a City Plan Commission; and

WHEREAS, it is the duty and function of the City Plan Commission, pursuant to Section 62.23(2) of the Wisconsin Statutes, to make and adopt a master plan for the physical development of the City of Elkhorn; and

WHEREAS, the City of Elkhorn requested the Southeastern Wisconsin Regional Planning Commission to prepare a land use plan for the City; which plan includes:

1. Collection, compilation, processing, and analyses of various types of demographic, economic, natural resource, land use, and transportation and other materials pertaining to the City.

2. A forecast of growth and change.

3. A land use and arterial street system plan map.

4. Suggested revisions to City ordinances for the implementation of the selected plan; and

WHEREAS, the City Plan Commission considers the plan to be a valuable guide to the future development of the City.

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Section 62.23(3)(b) of the Wisconsin Statutes, the City of Elkhorn Plan Commission, on the 9th day of February 1984, hereby adopts a land use plan map for the City of Elkhorn proper as a guide for the future development of the City of Elkhorn.

BE IT FURTHER RESOLVED that the Secretary of the City of Elkhorn Plan Commission transmit a certified copy of this resolution to the Common Council of the City of Elkhorn.

Gerhardt Immega
Chairman
City of Elkhorn Plan Commission

ATTEST:

Secretary
City of Elkhorn Plan Commission

Appendix I

CITY PLAN COMMISSION RESOLUTION FOR ADOPTING THE CITY OF ELKHORN AND ENVIRONS LAND USE PLAN

WHEREAS, the City of Elkhorn pursuant to the provisions of Section 62.23 of the Wisconsin Statutes, has created a City Plan Commission; and

WHEREAS, it is the duty and function of the City Plan Commission, pursuant to Section 62.23(2) of the Wisconsin Statutes, to make and adopt a master plan for the physicial development of the City of Elkhorn and environs; and

WHEREAS, the City of Elkhorn requested the Southeastern Wisconsin Regional Planning Commission to prepare a land use plan for the City; which plan includes:

1. Collection, compilation, processing and analyses of various types of demographic, economic, natural resource, land use and transportation and other materials pertaining to the City environs.

2. A forecast of growth and change.

3. A land use and arterial street system plan map.

4. Suggested revisions to City ordinances for the implementation of the selected plan; and

WHEREAS, the aforementioned inventories, analyses, objectives, forecasts, land use plans and implementing ordinance revisions are set forth in a publicized report titled SEWRPC Community Assistance Planning Report, titled A Land Use and Urban Design Plan for the City of Elkhorn--2,000, Walworth County, Wisconsin, and

WHEREAS, the City Plan Commission considers the plan to be a valuable guide to the future development of the City and environs;

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Section 62.23 (3)(b) of the Wisconsin Statutes, the City of Elkhorn Plan Commission, on the 12th day of July, 1984, hereby adopts a SEWRPC Community Assistance Planning Report, titled A Land Use and Urban Design Plan for the City of Elkhorn--2,000, Walworth County, Wisconsin as a guide for the future development of the City of Elkhorn and surrounding environs.

BE IT FURTHER RESOLVED that the Secretary of the City of Elkhorn Plan Commission transmit a certified copy of this resolution to the Common Council of the City of Elkhorn.

Gerhard Immega
Chairman
City of Elkhorn Plan Commission

ATTEST:

Secretary
City of Elkhorn Plan Commission