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Golf courses in Omaha: A recreational geography and land use study

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GOLF COURSES OF OMAHA:
A RECREATIONAL GEOGRAPHY
AND
LAND USE STUDY

A Thesis
Presented to the
Department of Geography and Geology
and the
Faculty of the Graduate College
UNIVERSITY OF NEBRASKA

In partial fulfillment
of the Requirements for the Degree
MASTER OF ARTS
University of Nebraska at Omaha

by
Michael H. McIntyre
December, 1990

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THESIS ACCEPTANCE

Accepted for the faculty of the Graduate College,
University of Nebraska, in partial fulfillment of the
requirements for the degree Master of Arts, University of
Nebraska at Omaha.

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ABSTRACT

The study inspected the provision of golf courses in Omaha along with surrounding patterns of land use development adjacent to each of the courses. National Recreation and Parks Association (NRPA) provided guidelines to assess the provision of golf to the city, which determined that Omaha was extensively overserved and overdeveloped. The NRPA does not indicate course type to assess the quantity of courses to adequately serve a community and therefore it was proposed that perhaps Omaha has not been overbuilt in the provision of golf to the community. It was also proposed that the golf course does not stand alone in urban space, but more appropriately has been infused as part of a total environment.

It was concluded, that by golf course typology, Omaha has not been extensively overserved in the development of golfing recreation to the city. More importantly, certain course types provided to the community a sense of place, as well as contributing to the development of the city.

The private regulation courses (eighteen holes), acting as a centrifugal force to the development of Omaha, promoted and guided the growth of the city to the north and the west. To a slightly lesser degree, the public regulation (18-hole) courses provided the same service in contributing to the morphogenesis of the city.

The shorter courses of nine-hole length neatly infilled within the city. They not only enhanced the area by the provision of open space, but also quite often they were connected with other forms of outdoor recreation to serve the surrounding residential neighborhoods. Some of the pitch and putt course types were found to be extremely short in length, very compact in their design, and therefore detrimental to the safety of players. Among future considerations, it was suggested that these courses be converted to a different course type of the Cayman version to better provide for the safety of the community.

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CHAPTER I

INTRODUCTION

The golfing population is growing dramatically; about five to seven percent annually. In 1985, there were 17.5 million golfers; by 1987, that figure had grown to 22 million (Urban Land Institute, 1989:35).

The National Golf Foundation reports that the United States needs to open an additional golf course per day between now and the year 2000 to satisfy current demand. At present, 125 new courses are built each year even as demand calls for nearly 400 new courses per year. Of these 125, almost 80 percent are private and therefore serve only 200 to 500 families each (Urban Land Institute, 1989:35).

In spite of the extraordinary demand for golf courses, the prospects of overbuilding is remote for the near future. Not surprisingly perhaps, demand for golf courses has spilled over to residential development, creating a growing and popular type of project: the golf course community.

The ensuing study will inspect the provision of golf courses in Omaha. Important to this study is not only the provision of golf as a recreational activity, but also the interaction of the golf course with the adjacent land use. A brief history of the inception of golf in America will aid the understanding of the golf course as an urban land use

form.

The Emergence of Golf in America

Golf was introduced to North America from Great Britain, but when and by whom it was introduced to this continent is not clear. There were "golf" clubs in South Carolina and Georgia soon after the American Revolution, but there is no definitive evidence that golf was actually played at them despite their titles.

The title of Father of American Golf has generally been given to John Reid, a Scot who settled in Yonkers, New York. In the early Spring of 1888, Reid and several friends staked out a three-hole course near Reid's home. Later that year they built another, a six-hole course in a nearby pasture, and formed a golfing organization that they named the St. Andrews Golf Club. Over the years, St. Andrews has persisted in calling itself the oldest golf establishment in the United States (Martin, 1966:1-3).

Once introduced to America, the spread of golf was swift. By 1896, there were over eighty courses in the United States; and, by 1900, there were 982, with at least one in each of the forty-five states. By the turn of the century, golf courses in the United States outnumbered those in Britain (Cornish and Whitten, 1981:44).

The method of design quite prevalent at the latter part of the nineteenth century was dubbed "eighteen stakes on a

Sunday afternoon." Even the most conscientious golf architects would stake out a first tee; pace off a hundred yards or so, stake out a sand bunker; pace on farther, stake out another bunker or some mounds; march on farther and stake out his green site. After doing this nine times, he would leave instructions with the club on how to properly build and maintain the course and then be on his way. In the late 1890s and very early 1900s, nearly all the golf courses in America were laid out in such a fashion. The going rate for the course architect was \$25.00 per job, regardless of how long it took to stake the layout.

The courses of this era of American golf were built quickly and inexpensively. Construction normally consisted of removing fences, clearing away surface stones and mowing the grass. The stones were often piled into mounds and when covered with dirt, were thought to make perfectly good hazards. The coexistence of golfers and horsemen in the early days of American golf determined the outcome of the course construction because most often time and money investments were kept to a minimum (MacKenzie, 1920).

Traditionally golf courses have been designed, constructed and located to serve residential, and in some cases, resort populations. The preexistence of these populations has usually rendered land both scarce and costly, and golf course construction in such circumstances has generally been guided by the need to minimize acreage re-

quirements.

The earliest course designs, pioneered in Scotland, stressed compactness with construction of both parallel fairways and greens which served more than one hole. It was common for the "front nine" holes to be strung out in a line moving directly away from the clubhouse, and the "back nine" holes frequently to follow an adjacent path back to the home hole in front of the clubhouse. The courses were space-efficient designs often characterized by closely situated parallel fairways (Figure 1).

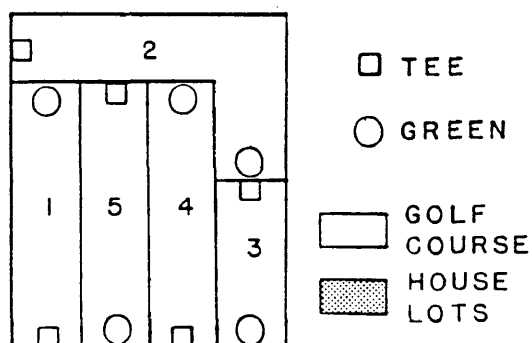


Figure 1. The traditional golf layout

Source: Eriksson, 1983

Many of the architects who carved out courses in the United States between 1890 and 1930 were Scots or Americans of other heritages who were strongly influenced by Scots (Wind, 1966:25). That forty year span saw the construction of nearly 6,000 courses in the United States. As a result of

such rapid development, cities and towns in all sections of the country are blessed with the existence of the space-efficient designs earlier developed in Scotland. Such early courses are usually single purpose units with little room for fairway-housing or commercial development of any kind.

The survival and development of the "traditional facilities" have been increasingly plagued by the rising costs of land, construction, maintenance and taxes (Eriksson, 1983:90). As a consequence, construction of new facilities of traditional structure has slowed substantially, particularly in large metropolitan areas where the need is greatest.

In some cases the course served as a magnet, later attracting high quality housing to its borders and acting much like a park and wildlife refuge during the off season. These attributes were subordinate, however, to its golf function. Golf course development is now being used as a tool to enhance the attractiveness and value of real estate. According to the National Golf Foundation, as of January 1, 1983, over fifty percent of new courses under construction in the United States were connected to real estate ventures (Eriksson, 1983:90). Thus, though golf may assume a secondary role in these developments, the trend toward what might be termed the "real estate course" is resulting in some radical changes in golf course design and layout (Figure 2).

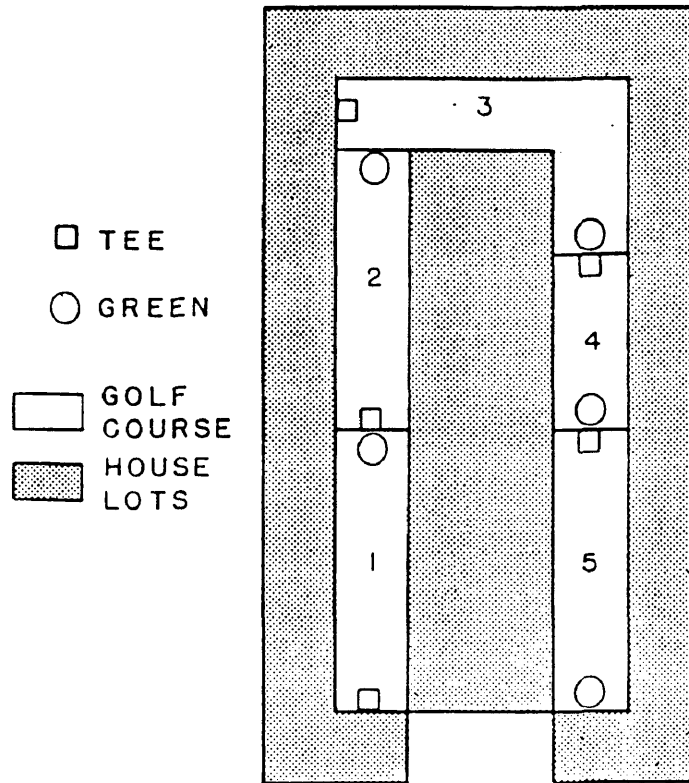


Figure 2. The real-estate layout

Source: Eriksson, 1983

When golf is the sole function for course development, there is generally a desire to minimize acreage requirements and costs by constructing a compact layout which incorporates a minimum of interior, unused space. When real estate development takes priority, the design strategy is geared to maximizing residential lot space between fairways (Crabtree, 1958:5). This strategy results in sprawling layouts with the sides of each hole being lined with housing units. By laying out an 18-hole course in this fashion, a developer can con-

ceivably create eight to nine miles of residential property fronting the course. For example, a 7,000 yard golf layout would provide 14,000 yards of fairway housing, equivalent to nearly eight miles of golf course real estate. In addition, there is the availability of land surrounding the teeing areas, greens, and perhaps any lateral hazards (such as lakes) to incorporate within the course design.

Problem and Justification for the Omaha Case Study

Guidelines have been established to direct the provision of golfing facilities in Omaha based on National Recreation and Parks Association (NRPA) standards (City of Omaha Planning Division, 1981). The prescribed standard follows the concept of time and distance as it relates to golf course use. Service radius delineations were developed for each commonly used facility maintained by the city. It was assumed that people living within any defined service area were able to use that facility. (The guideline of course acknowledges that the golfing population does not always play on the same golf course simply because he/she resides within a particular service area.) The NRPA guideline as developed by the City of Omaha concluded that each golf course within the city should service a target population of 40,000 persons.

The City of Omaha currently has a resident population of 353,000 persons. With each golf course assumed to serve a target population of 40,000 persons, either eight or nine golf courses should adequately service the city. Currently, there are sixteen golf courses operating within Omaha's city limits. Figure 3 pinpoints these courses on the map of the city. (The course types are not important right now. Course types are not included or noted as part of the NRPA guidelines and are therefore ignored as argument.)

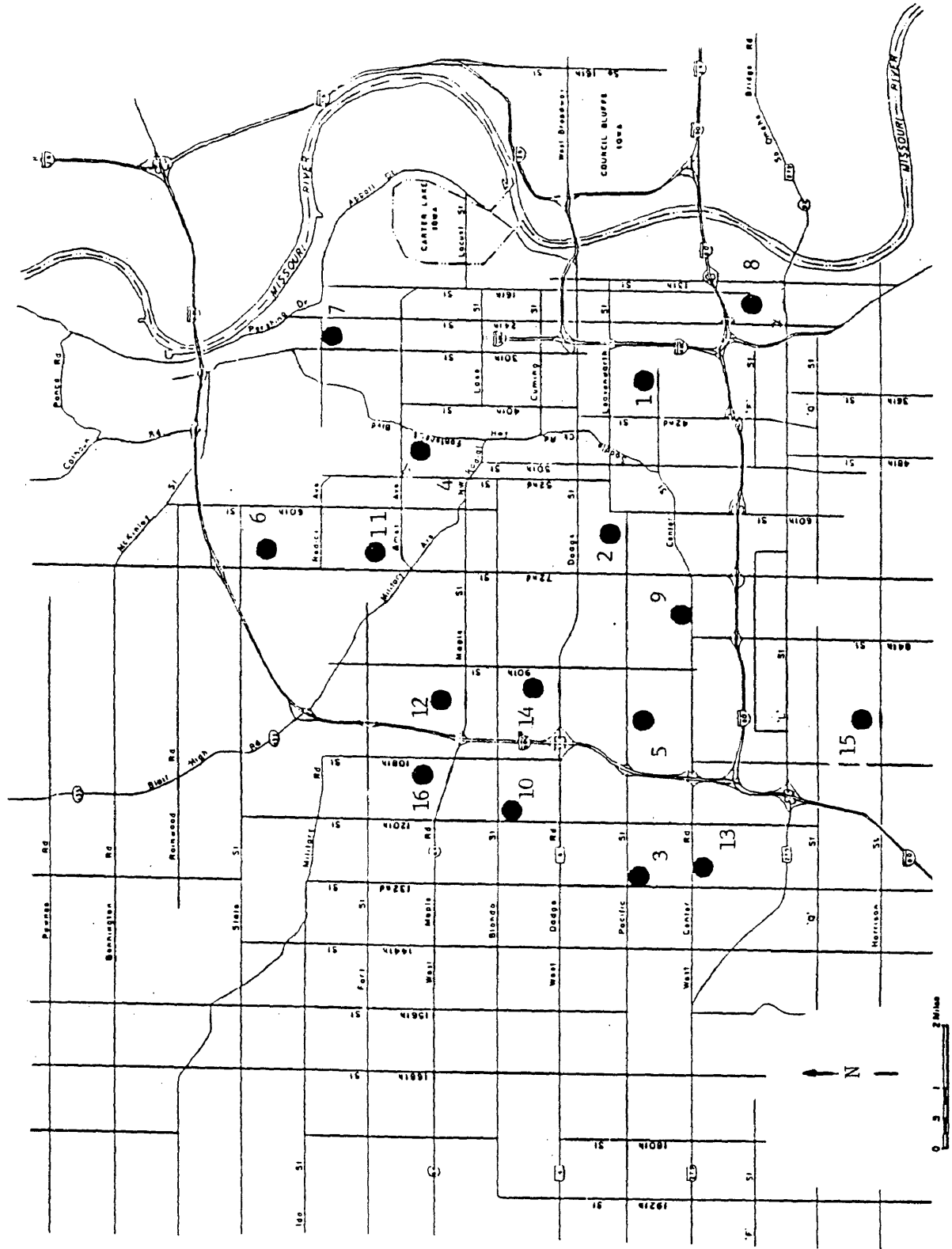


Figure 3. Location of Golf Course Study Areas in Omaha, Nebraska.

TABLE I

THE DEVELOPMENT OF GOLF COURSES IN OMAHA

<u>Figure 3 Reference #</u>	<u>Date</u>	<u>Golf Course</u>
1	1898	Omaha Field Club
2	1916	Elmwood Park
3	1922	Highland Country Club
4	1923	Fontenelle Park
5	1925	Happy Hollow
6	1927	Omaha Country Club*
7	1927	Miller Park
8	1928	Spring Lake
9	1956	Cedar Hills**
10	1957	Miracle Hills
11	1962	Benson Park
12	1962	Maple Village
13	1963	Westwood Heights
14	1965	Meadowbrook
15	1969	Applewood
16	1974	The Knolls

Source: Cornish and Whitten, 1981

* relocated from just southeast of Benson to the present location

** closing in 1990 to accomodate expansion of the Evergreen Cemetary located to the north

In using the National Recreation and Parks recommended computation for golf course construction, we may conclude that Omaha has extensively overbuilt its landscape toward the provision of golf for the city. That is, excessive acreage has been taken from other potential land uses and committed to this particular recreational activity.

The assumption that Omaha has too many golf courses to serve the golfing population necessitates the closer geographical scrutiny of golf facilities in Omaha. To accomplish an important urban geography relationship, this study will also analyze the positioning of the golfing facilities and urban land uses adjacent to the golf courses. Analysis of "total living" will be attempted in which commercial, residential, and recreational developments are all grouped together in place. The study will ideally provide a premise that golf courses provide a complete community whereby this particular outdoor recreational activity has been infused as part of a total environment rather than as a thing apart. That is, land use committed to golfing does not stand alone in space. There is a dependency and an interrelationship between the golf course and the surrounding community.

Time does play an integral role in the development of golf in Omaha. Table I shows the chronological construction of golf courses on the landscape of the city and also acts as a Figure Three Index. Course type will be introduced in

Chapter II, as the City of Omaha grows in space through time, and as golf grows in prominence on the landscape of Omaha. Thereby, an understanding of the golf course and its changing role on the urban landscape will be accomplished. Concomitantly, a few tentative working definitions and data sources are offered for use in this and in future studies of golf.

The procedures and perspectives used in surveying the golf courses of Omaha and their respective interrelationships with the adjacent patterns of development will be introduced in Chapter II. Definitions of terms necessary for the development of comparisons will also be discussed along with a pertinent survey of the literature. The results of the study will be addressed in Chapter III while Chapter IV discusses recommendations for future consideration.

CHAPTER II

PROCEDURES USED IN THE ASSESSMENT OF
OMAHA'S GOLF COURSES AND
SURROUNDING LAND USESurvey of Published Literature

The data for this study consists of the number and location of golf courses in Omaha, as well as the adjacent patterns of development surrounding the different golf course types, as categorized by the United States Golf Association (USGA). There are five golf course types, "as presented in this paper". In order to obtain the data necessary to develop this thesis, it was necessary to define certain terms that were to be used in the ongoing research and data compilations.

The literature was surveyed for commonly accepted definitions of key terms considered vital to this study. Some of the major terms are: (1) Regulation Course, (2) Executive Course, (3) Nine-Hole Regulation Course, (4) Pitch and Putt and Par 3 Course, and (5) Cayman Golf. The survey of geographic literature was not very successful as little has been written on the subject in Geography. Although geographers such as John Rooney¹ have examined team sports, no studies were found whereby outdoor recreational facilities by themselves were assessed. Other sources of

¹ Rooney, John F. A Geography of American Sport, (Massachusetts: Reading, 1974).

information were then perused, including the various government agencies in Omaha. The search of governmental agencies was to gain additional knowledge from both their published and unpublished reports. This additional search for source materials pointed to the need to develop working definitions for the field survey.

Working Definitions Developed

It has been argued, in the first chapter, that the construction of golf courses in Omaha has used much more land than what is prescribed by the National Recreation and Parks Association. But it was mentioned that course typology was not a factor in the quantity of golf courses determined by the NRPA guidelines. Accordingly, a more thorough investigation of the different course types may reflect that Omaha hasn't used its land to excess for courses. More importantly, the study of different course models may reveal that each has a different role or impact on the surrounding patterns of development or prescribed land use.

All golf courses are based on one or more of five basic models (or types), and need be clarified. Like most prototypes, pure examples of each of the five basic courses seldom exist. Instead, characteristics of each type are combined to suit a particular project on a specific site.

Each basic course prototype is based on the concept of

the regulation course, which in turn stems from the notion of par. Par represents simply the score for a given hole produced by error-free golf, or the score an expert golfer would be expected to make. Par assumes ordinary playing conditions and allows two putting strokes. This assumes, for example, that an expert golfer would reach the green of a par 5 hole in three strokes, and take two putts to finish out the hole.

The following working definitions were developed and used in the field survey portion of the research for this thesis:

1. The Regulation Course. In the past 30 years, the regulation course has emerged as the standard golf facility. This results from both the game's growing popularity and a more general trend in sports toward standardization and uniformity (Phillips, 1986:34). In Omaha, the regulation course will play to a par of between 64 and 72, from approximately 4400 to 7200 yards long, and encompass from approximately 90 to 160 acres. The basic mix of holes for a par 72 course is ten par 4s, four par 3s, and four par 5s. The site characteristics vary from flat terrain with few trees and bunkers, and small tees and greens to undulating terrain, fairways and greens bunkered and contoured, large tees and greens and large trees (City of Omaha, 1981:31).

2. The Executive Course. Executive courses first became popular in the late 1950's as a means to both

conserve land and to allow for a round of golf in about half the time it would take on a regulation course (Martin, 1966:7). With a practice fairway, this type of course will fit on about 45 to 60 acres, depending on the site and the layout. An 18-hole executive course will contain four to six par 4 holes with perhaps one par 5. The rest of the holes will be par 3, for a total par of 58 to 60. Executive courses make up about 6 percent of U.S. golf facilities. They have been widely successful as supplemental courses in real estate ventures (Phillips, 1986:38).

3. The Nine-Hole Regulation Course. In 1984, nine-hole courses of all types accounted for about 46 percent of all golf facilities in the United States (National Golf Foundation, 1984:2). A regulation nine-hole course will run about 2600 to 3500 yards long and will play to a par of 34 to 36. With a practice area, such a course will occupy from 75 to 90 acres.

4. The "Pitch" and "Putt" and "Par 3" Courses. Par 3 courses account for about the same proportion of golf facilities as executive courses. As its name implies, this nonregulation course contains only par 3 holes, which range in length from 70 to 250 yards. An 18-hole par 3 course will consume the least amount of land of all 18-hole course types. A course 2,000 to 2,500 yards long would fit within 35 to 45 acres. Nine-hole courses are usually built on approximately 10 to 30 acres and vary in length from 1,000

to 2,000 yards. Their popularity seems to have stabilized over the last 15 years.

5. Cayman Golf. In 1985, the MacGregor sporting goods company introduced a golf ball that travels only half the distance of a regular ball. Theoretically, then, a par 72 course for the new ball could run only half as long as a regular course. Although the resulting game is also referred to by its supporters as "modified golf," the more popular term derives from the site of its introduction, the Cayman Islands' Britannia Resort (Phillips, 1984:38). According to its proponents, a Cayman golf course can save up to two-thirds of the land required for a regulation golf course. As with executive and par 3 courses, this can mean substantial savings in areas with high land costs.

With these five golfing models clarified, it becomes apparent that the NRPA standards greatly limit the possibility for reasonable accuracy in determining the number of golf courses a population requires. The definitions just explained highlight that golf is different for different people. The range in golf, as alluded to in the five golfing models, is quite varied. Courses range from very long and challenging, to quite short and somewhat limiting to many players. Most important to land use is the fact that the shorter courses require very little land (from 10 to 30 acres in a 9-hole pitch & putt course) for construction.

Objective; Selection of Data and Variables

The objective of this study is to study the use of land in the provision of golf in Omaha. The different course models will be looked at along with the surrounding land use. A closer look at the surrounding land use and the patterns between course types will show that by typology, each course has a unique function to the community. It is proposed that a greater look at the various courses by type, may reveal that Omaha has not overbuilt its landscape.

The NRPA standards substantiated that golf in Omaha has consumed much more land than is usual to provide this recreational activity to its people (City of Omaha Planning Division, 1981:31). As prescribed by the NRPA guidelines, nine golf courses should adequately serve the city. Today, there are sixteen. There is little argument that the impetus for this study of recreational land use was necessitated by the contradiction between local useage and the National Recreation and Parks Association guidelines.

The objective of this study is to inspect that contradiction regarding the golf courses in the City of Omaha. Analysis will involve the surrounding land use of each of the course types as earlier described. While it has been alluded that Omaha has extensively overbuilt its landscape in the provision of golf to the community (as prescribed by the NRPA guidelines), course types were not considered as a

part of the NRPA allocation. It is also proposed that the golf courses are not static elements on the Omaha landscape, and that each course type has a unique function to the surrounding patterns of development. Perhaps with a closer look at the golf courses by typology, the use of land is more conservative than earlier surmised.

To satisfy the objective of this study, zoning maps compiled by the City of Omaha (1987 revision) were consulted. Zoning is a land use control by which the law operates to limit the use to which some particular parcel of land may be put. It specifies the exact set of alternative uses allowed on a parcel. The City Zoning Code will be introduced in Chapter III, along with the survey of the golf courses of Omaha and the surrounding land use.

Areal limitations around each course were established in order to compare the uses of land surrounding each of the golf courses. Although one course type may have a greater impact on regional development than other course types, it still was necessary (for comparison) to limit the area of study surrounding each of the golf courses. A one-quarter mile distance (1320 feet) was selected in each cardinal direction from the farthest point of the golf course playing area. The golf course boundaries were determined through the use of 1979 aerial photographs and by field reconnaissance.

Procedures Used in Compiling Data

The intent of the ongoing study is to inspect the golf courses of Omaha, and the surrounding land uses. It was proposed that too many golf courses have been built on the Omaha landscape, and consequently, too much land has been used for their development.

The thesis proposes that Omaha has not been negligent in the provision of golf, and that perhaps by golf course type, there is not in fact an overabundance of golf courses in the city. It is proposed that there is a union between the golf course types and the surrounding land use, and that each course type has served a unique need to the city.

To study the surrounding land use of each of the golf courses, maps of current land use were completed with the aid of the zoning maps of the city of Omaha. Acreage computations of these zones of development allows quantification, and the unbiased comparison of land uses surrounding each of the golf courses by type. It is proposed that through this study, patterns evolve which show the association between the adjacent land uses according to the type of golf course which that land surrounds.

CHAPTER III

THE OMAHA GOLF COURSE STUDY

There are two separate and distinct periods in which the game of golf matured on the Omaha landscape. The first era begins with the development of the Field Club of Omaha, constructed and open for play in 1898. Seven additional courses were developed during the first era of golf in Omaha, ending prior to 1930. Golf development ceased in Omaha from the beginning of the thirties and until 1956.

The current era of golf development in Omaha began in the middle 1950s with the construction of Miracle Hill and Cedar Hills. The current era ends with the construction of The Knolls Golf Course in 1974. As of this writing, no additional courses have been constructed within the City of Omaha.

The zoning code of the city lays the foundation for the scrutiny of the study areas to follow. The chapter develops the spatial aspects not only of the courses themselves, but also examines adjacent land use to determine the role of golf courses as an urban land use form.

City Zoning Code

The City of Omaha provides adequate description of the intent of zoning (and planning) within the incorporated city limits:

Zoning districts are established in the Zoning Ordinance to promote compatible land use patterns and to establish site development regulations and performance standards appropriate to the purposes and specific nature of each district.









Every property in the City of Omaha has a zoning classification. The zoning classification will allow it to be used in a way that will promote its value, protect it from the adverse effects of adjacent land uses, and assure a safe, healthy and harmonious development of the land (City of Omaha, 1987).

The following table has been developed for this study of the golf courses of Omaha to assess the adjacent land use and surrounding patterns of development (Table II).

The residential zoning classifications range from the lower densities and large lot size of R1 and R2, through the medium densities of R3 and R4 to the higher densities characteristic of R5 single family residence through R9, high-density multi-family residence (apartments) and office buildings. Duplex residential is allowed within R6 zoning; multiple family and group dwellings are permissible within the R7 classification. Group dwellings are added to the list as allowable use within the R8 zone and R9 permits the uses just mentioned plus office buildings, clinics and doctors offices.

TABLE II

ZONING CLASSIFICATIONS

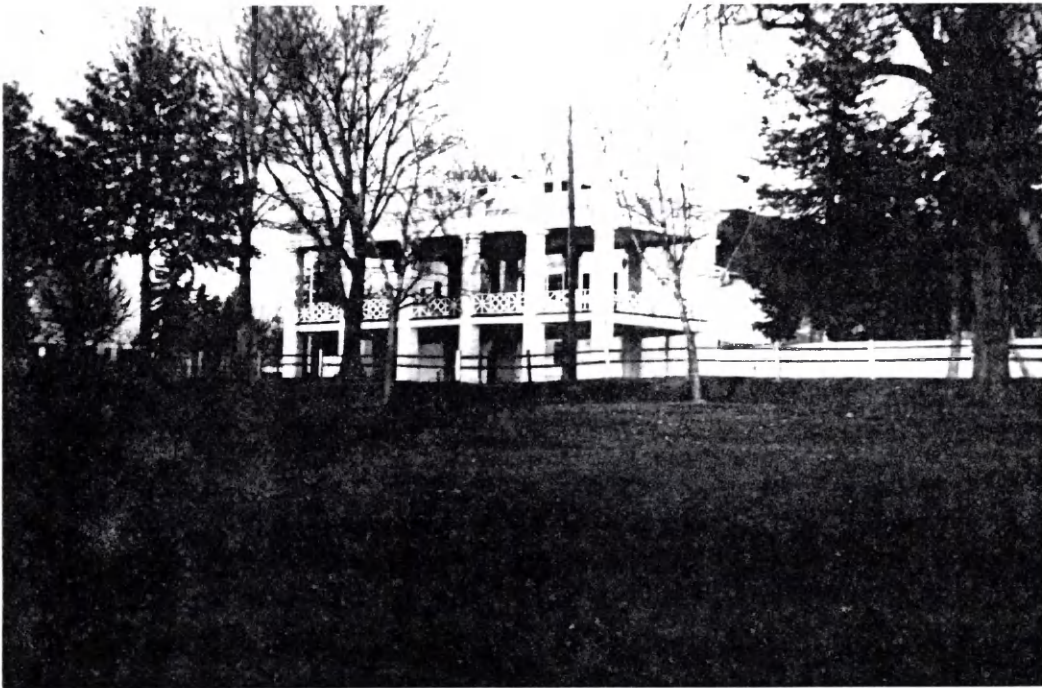
R1	Single family residence (Lot Area: 20,000 S.F.)	
R2	Single family residence (Lot Area: 14,000 S.F.)	
R3	Single family residence (Lot Area: 10,000 S.F.)	
R4	Single family residence (Lot Area: 7,500 S.F.)	
R5	Single family residence (Lot Area: 5,000 S.F.)	
R6	Single family residence and duplexes (Lot Area: 5,000 S.F.)	
R7	Single family residence and duplexes plus low-density multi-family and group dwellings	
R8	Single family residence and duplexes plus medium-density multi-family and group dwellings	
R9	Single family residence and duplexes plus high-density multi-family & office buildings, clinics and doctors offices	
S1	Single family residence and agricultural uses including mobile home parks	
S2	Single family residence and agricultural uses (usually a holding zoning placed on unplatted ground)	
S3	Floodplain (excludes most structures)	
C	Commercial/Retail uses and sales	
I	Manufacturing and warehousing	

The agricultural uses are categorized within the S1, S2 and S3 zones. Green spaces are apart of the agricultural land use classifications. Single family residences are permitted within the S1 and S2 classifications. The S3 zone is floodplain and is the most restrictive of all zoning classifications. Allowable land uses prohibit most structures. The floodway itself allows no structures at all.

Retail sales and commercial business (C) is allowed within the commercial zone. Manufacturing and warehousing (I) are allowable land uses within the Industrial zoning classification.

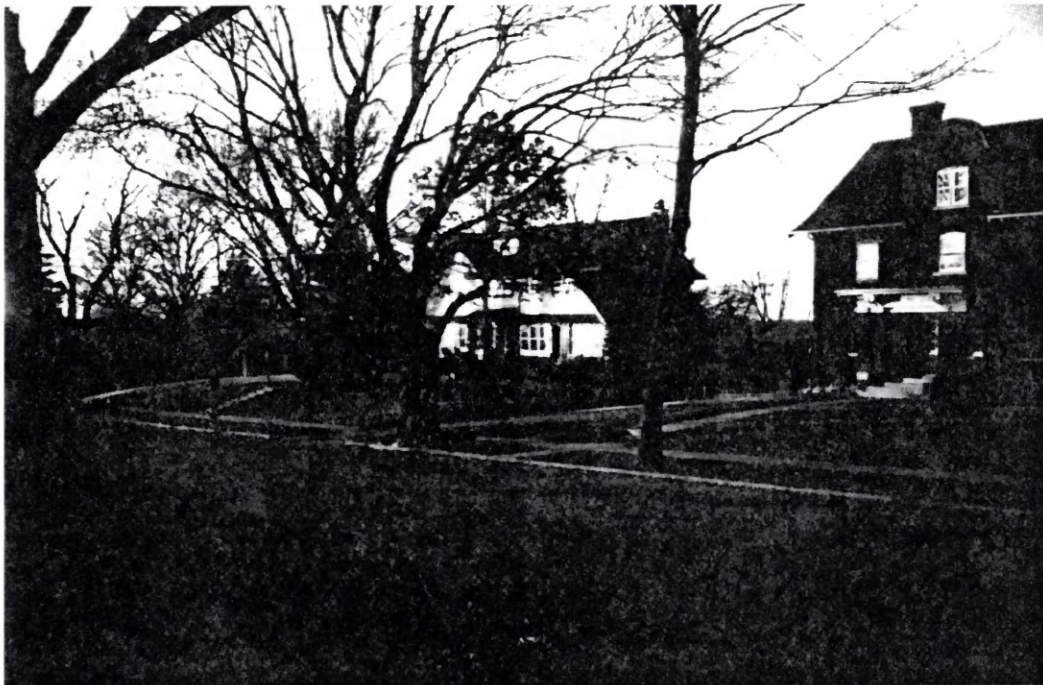
THE EARLY ERAThe Regulation Courses

The "early" courses of Omaha (those constructed before 1930) were private country clubs. Membership was, and is today, levied on an annual basis to maintain the course and other amenities provided by the country club and its board of directors. Guests could play the course with members, but only on an occasional basis. Associated with the private country clubs were larger and more prominent club houses, pro-shops and eating establishments reserved only for members and their guests (see Photograph 1).



Photograph 1. Clubhouse at the Omaha Field Club (private country club); a reflection of the affluence of golf during the introduction of the game to America.

Housing characteristics adjacent to the private country clubs also reflected high prestige. Photograph 2 is along Woolworth Avenue, east of the Omaha Field Club. Although the zoning mandates medium density single family residence (R4), the homesites, as depicted by the photograph, are quite grandiose with large yards along a divided and tree-lined boulevard.



Photograph 2. Housing characteristics adjacent to the Omaha Field Club within the R4 single family residence zone. Ample open space is provided along the tree-lined boulevard east of the earliest golf course built in the city.

The Omaha Field Club is located west of 32nd street and north of Center, less than two miles west of the original city limits of 1854. Located along the rail-line (the west boundary of the course), and consequently built on relatively flat terrain, the areal study of the Field Club and surrounding acreage (within the prescribed parameters) revealed a high proportion of commercial and industrial land uses (Table III). It is the only private course having industrial acreage within its surrounding area. The pressure of rapid urbanization and a limited transportation network contributed to the more densely populated development in comparison to the regulation courses constructed during the following two decades.

As depicted by the zoning characteristics surrounding the Omaha Field Club (figure 4), Industrial property is located to the north and south (adjacent to the rail-line) of the golf course boundaries. The preponderance of the residential property within the study area can be seen as R6, much more densely developed than the other three private country clubs developed in the 1920's. There is also an absence of low-density housing associated with the other private clubs and reflects the apparent pressures on available land as earlier mentioned. Table III provides for a comparative analysis of total acreage committed to the zones of development surrounding the regulation golf courses and their respective study areas. Table IV illustrates the

proportion (percentages) of acres in the land use classes and complements Table III for a more objective comparison of the adjacent patterns of development.



Figure 4. The current zoning map (1987) depicting land use surrounding the Omaha Field Club. Refer to Table III for acreage totals in the respective zones.

TABLE III
The Regulation Courses and Surrounding* Land Use,
Zoning and Respective Acreages - 1987

Zoning Code	<u>Private Clubs</u>				<u>Public/Municipal Courses</u>					Total Acres
	Omaha Field Club	Highland Country Club	Happy Hollow Club	Omaha Country Club	Miracle Hills	Elmwood Park G.C.	Benson Park G.C.	Applexwood G.C.	The Knolls G.C.	
R1		1.6	48.8	30.9		46.7				128.0
R2		30.6	294.7	71.1	6.1	3.8	67.7		30.1	504.1
R3		210.4		26.8	45.5	18.8			135.2	436.7
R4	82.4	68.8		32.7		114.5	78.1	130.1	210.9	717.5
R5	52.9	60.2		1.9		237.3	105.6	122.8		580.7
R6	210.9	2.5			48.1	264.0	85.8	8.5	29.0	648.8
R7	3.9	4.8	11.4	9.0	56.6		20.1	149.8	128.2	383.8
R8	59.5			15.0		0.6	14.4			89.5
R9	18.5		21.1		11.1		27.6	17.7		96.0
S1					3.6					3.6
S2		176.4	262.7	702.8	216.1		104.6	215.1	173.0	1850.7
S3		49.1	216.1		249.1	16.0	78.7		324.8	933.8
I	33.0				0.5	34.5	42.8			110.8
C	24.0		8.4	103.7	107.0	2.2	198.9	53.3	47.6	545.1
Total Acres	485.1	604.4	863.2	993.9	743.7	738.4	824.3	697.3	1078.8	7029.1

Source: Field research and data compilation by author (1988).

* one-quarter mile (1320') surrounding the golf course boundary perimeter

TABLE IV
 The Regulation Courses and Surrounding* Land Use,
 Proportion** of Acres in Land-Use Classes - 1987

Zoning Code	<u>Private Clubs</u>				<u>Public/Municipal Courses</u>					Proportion of Total Acres (%)
	Omaha Field Club	Highland Country Club	Happy Hollow Club	Omaha Country Club	Miracle Hills	Elmwood Park G.C.	Benson Park G.C.	Applewood G.C.	The Knolls G.C.	
R1		0.3	5.6	3.1		6.3				1.82
R2		5.1	34.1	7.1	0.9	0.5	8.2		2.8	7.17
R3		34.8		2.7	6.1	2.5			12.5	6.21
R4	17.0	11.4		3.3		15.5	9.5	18.7	19.5	10.21
R5	10.9	10.0		0.2		32.2	12.8	17.6		8.26
R6	43.5	0.4			6.4	35.9	10.4	1.2	2.7	9.23
R7	0.8	0.8	1.3	0.9	7.6		2.4	21.5	11.9	5.46
R8	12.3			1.5		0.08	1.7			1.27
R9	3.8		2.4		1.5		3.4	2.5		1.36
subtotal R	88.3	62.8	43.4	18.8	22.5	93.0	48.4	61.5	49.4	50.99
S1					0.5					0.05
S2		29.2	30.4	70.6	29.0		12.7	30.8	16.0	26.33
S3		8.1	25.0		33.4	2.1	9.5		30.1	13.29
subtotal S	0.00	37.3	55.4	70.6	62.9	2.1	22.2	30.8	46.1	39.67
I	6.8				0.1	4.7	5.2			1.58
C	5.0		1.0	10.4	14.4	0.3	24.1	7.6	4.4	7.76

Source: Field research and data compilation by author (1988).

* one-quarter mile (1320') surrounding the golf course boundary perimeter

** Percentages do not total to 100% due to rounding error

During the early development of golf in Omaha, there were large expanses of agricultural lands to the west. Much vacant land was available for development, and little land was used for purposes other than agricultural production. During the era of the 1920's, little or no development existed where the Highland Country Club, Happy Hollow Club, or the Omaha Country Club were ultimately designed and built.

During interviews with golf professionals of the era,¹ it was concluded that the private and regulation courses of the 1920's and 1930's did develop much earlier than the city infrastructure of that time. Slightly improved dirt roads meandered north and west toward the early-established Omaha Country Club, Highland Country Club and the Happy Hollow Club. The private clubs did in fact direct the growth of the city toward them, acting as a centrifugal force in drawing the development of the city to the west and to the north (see Figure 5). Today, formerly vacant land in Omaha has infilled. The private clubs continue to have large expanses of agricultural lands surrounding the perimeters of the respective courses (see Photograph 3).

As the private courses of the early era located outside the available infrastructure, the surrounding densities of

¹ Interviews with Mrs. Lyoyd Peterson, Highland Country Club Golf Professional (retired), and Dorothy Dale, Happy Hollow Golf Professional (retired), 12 January 1985.

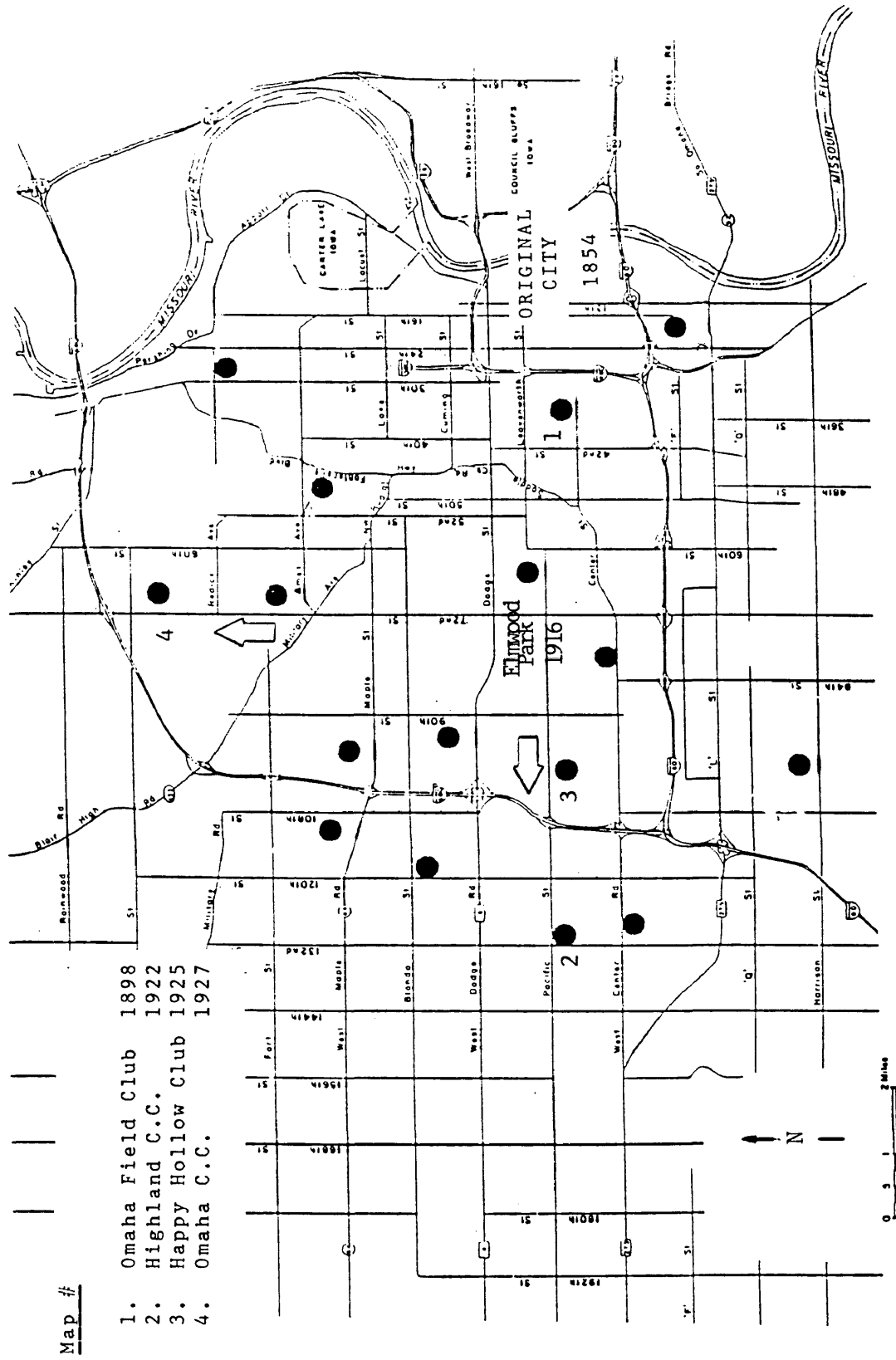


Figure 5. The private regulation courses of the early era contributed extensively toward directing the growth of the city.



Photograph 3. The agricultural acreage adjacent to the west of Omaha Country Club. Infill of the development of the city continues sixty years after the opening of the private country clubs.

housing development decreased dramatically. Table IV indicates that the highest proportions of low-density housing (R1-R3) are found in the study areas adjacent to the earlier private club developments of Omaha. Figure 6 highlights the zoning characteristics associated with the Highland Country Club (situated south of Pacific and east of 132nd street) study area. The proportion of lands allocated to the lower-density housing (40 percent) is the highest of all the golf course study areas.

The Happy Hollow Club, situated south of Pacific and east of 105th street (figure 7), also reflects the highest

proportion of low-density housing with almost fifty acres allocated to R1 single-family residence (20,000 sq.ft. lot area). Table III also indicates the highest amount of land allocated for R2, single-family residence (14,000 sq.ft. lot area) within the Happy Hollow study area. Between these two low-density housing classifications (R1 and R2), almost 40 percent of the study area of the Happy Hollow Club was mandated for the larger homesites.

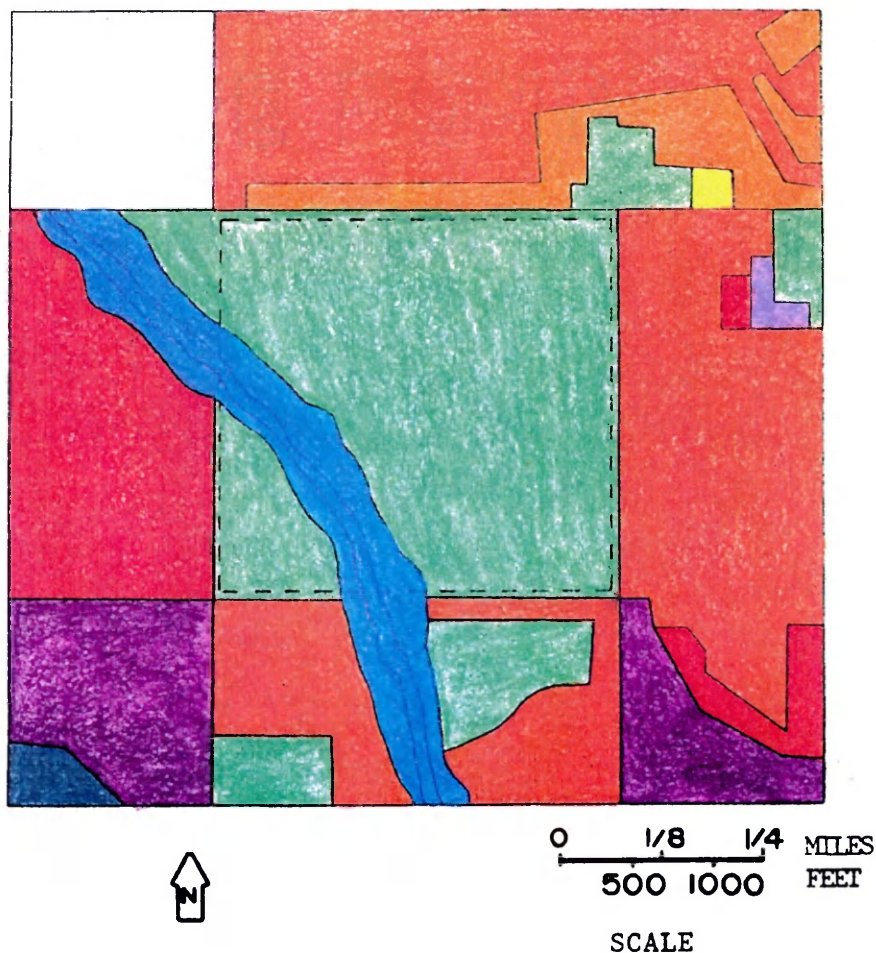


Figure 6. The Highland Country Club study area. Note high proportions of low-density housing surrounding the boundaries (indicated by dashed line) of the country club.

Unique to The Happy Hollow Club and the Highland Country Club was the degree to which unplatted agricultural lands (R2) and floodplain (R3) were used. The undulating terrain of the Happy Hollow Club not only added to the

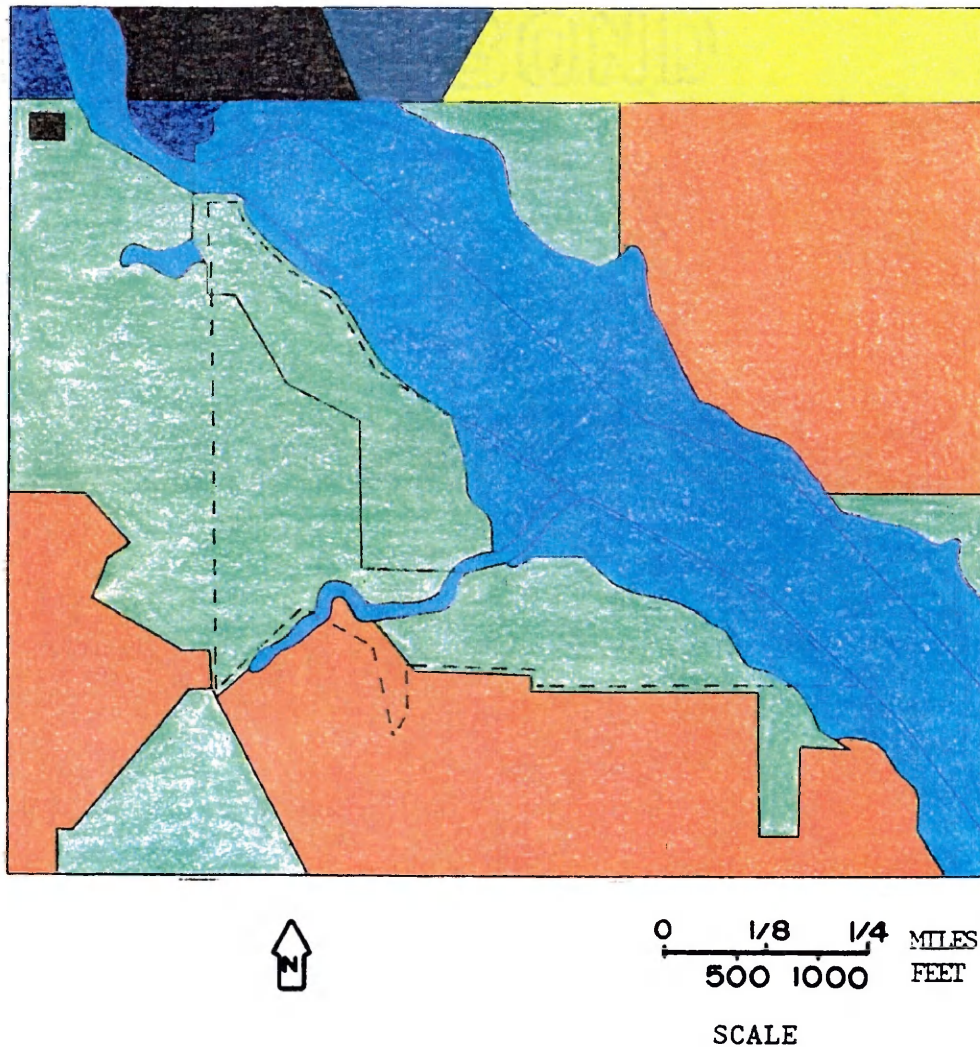


Figure 7. The Happy Hollow Club study area. Note the magnitude of lower-density zoning (R2) surrounding this private club, constructed in 1925. Table III also shows the greater than two-hundred acres of S3 zoning within study area. This is the floodplain associated with the Big Papillion watershed.

diversity of the golf course itself, but also took advantage of a resource (the floodplain) which was of limited use to urban development (photograph 4).

Although the Omaha Country Club (located in the north part of the city on 72nd street) has the lowest proportion of low-density zoning surrounding the course, when compared to the Highland Country Club and the Happy Hollow Club, it does have an ample supply of unplatted agricultural acreage (S2 zoning). It must be stated that all three private clubs did play a crucial role in the development of the city. The Omaha Country Club simply lags behind the other two in the



Photograph 4. The landscape of the Happy Hollow Club. The floodplain added to the diversity of the course while maintaining the ecosystem.

surrounding landscape. Again, the infrastructural development, as well as travel times, play a dominant role in a population's choice to locate to a particular area. While the Highland Country Club and the Happy Hollow Club are located on a major east-west thoroughfare, the Omaha Country Club is to the far north of the city.* Rapid urbanization has not yet arrived in that area.

Consequently, the Omaha Country Club study area (figure 8) has ample unplatted and reserved lands in which to develop as the needs of the area necessitate it. Only the passing of time will reveal whether lower-density housing will be allocated to the adjacent lands, as was the case with the other private clubs belonging to the early era of golf development in Omaha.

* Omaha Country Club was removed to this area after it was sold. The original location of the club was southeast of Benson near Saddle Creek Road and 52nd street

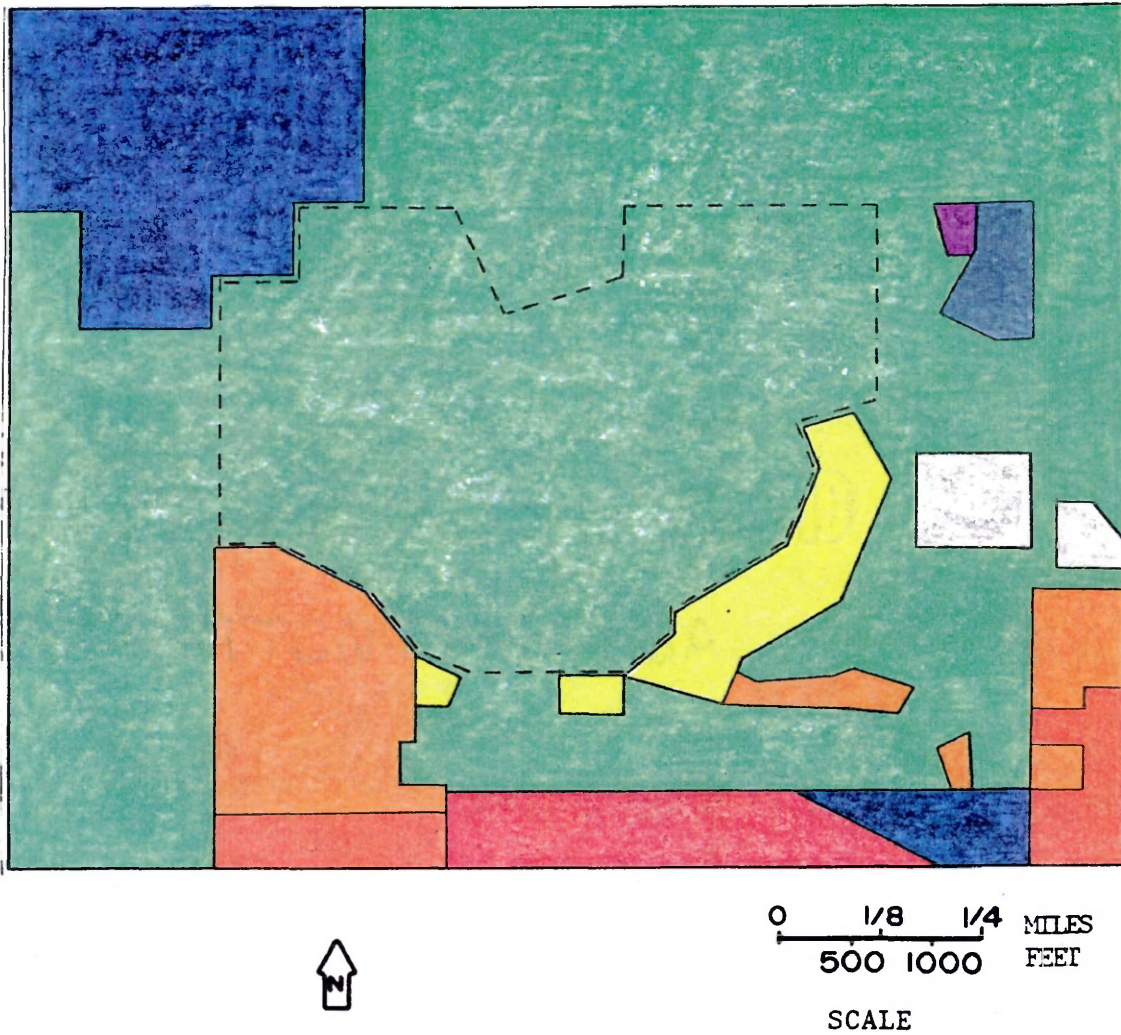


Figure 8. The Omaha Country Club study area. With substantial unplatted lands surrounding the course (S2), much time may pass before a better assessment can be made regarding the (future) development surrounding this private club, constructed in 1927.

The only regulation municipal course developed during the early era of Omaha (before 1930) was Elmwood Park, situated north of Pacific and west of 60th street. Constructed in 1916, this first of the public courses developed in the city did direct the growth of the city, although it did perform a lesser role as a centrifugal force in guiding the development of the city when compared to the three private clubs of the era. Infrastructural development encompassing the areas surrounding the Elmwood Park golf course were much more advanced. As earlier presented, figure 5 (page 32) highlights the proximity of Elmwood Park to the more concentrated urban land use associated with the Central Business District of the city. Elmwood Park is located three miles closer to this concentrated area than the Happy Hollow Club and is more than five miles closer to the core of the city than is the Highland Country Club. These two courses directed the city's growth to the west. The Omaha Country Club guided the city's growth to the North and Northwest at the time. The Omaha Field Club is nearest the core of the city's business district, but it must be recalled that this course was developed two decades earlier, when development to the west and north had not yet begun.

As table III and IV show, there is a considerable amount of low density residential development surrounding the Elmwood Park golf course. Figure 9 shows the concen-

tration of R1 housing to the north of the course, as well as more than eighteen acres of R3 single-family residential and a small amount of R2 housing. Unlike the private country clubs, however, the greater amounts of single-family residential housing were in the higher densities. Table IV shows that greater than 35 percent of the housing adjacent to the Elmwood Park course is of the R6 single-family residential (5,000 sq.ft. lot area) zoning which include duplexes. Greater than 32 percent of the surrounding area was R5 single-family residential. The R5 zoning classification does not allow duplex-housing, but the lot area of 5,000 sq.ft. is identical to the R6 zoning classification.

Another variation between Elmwood Park Golf Course and most of the early private clubs (with the exception of the Omaha Field Club) is the existence of industrial properties. More than forty-two acres are allocated to the industrial zoning classification, comprising nearly five percent of the total study area around the Elmwood course.

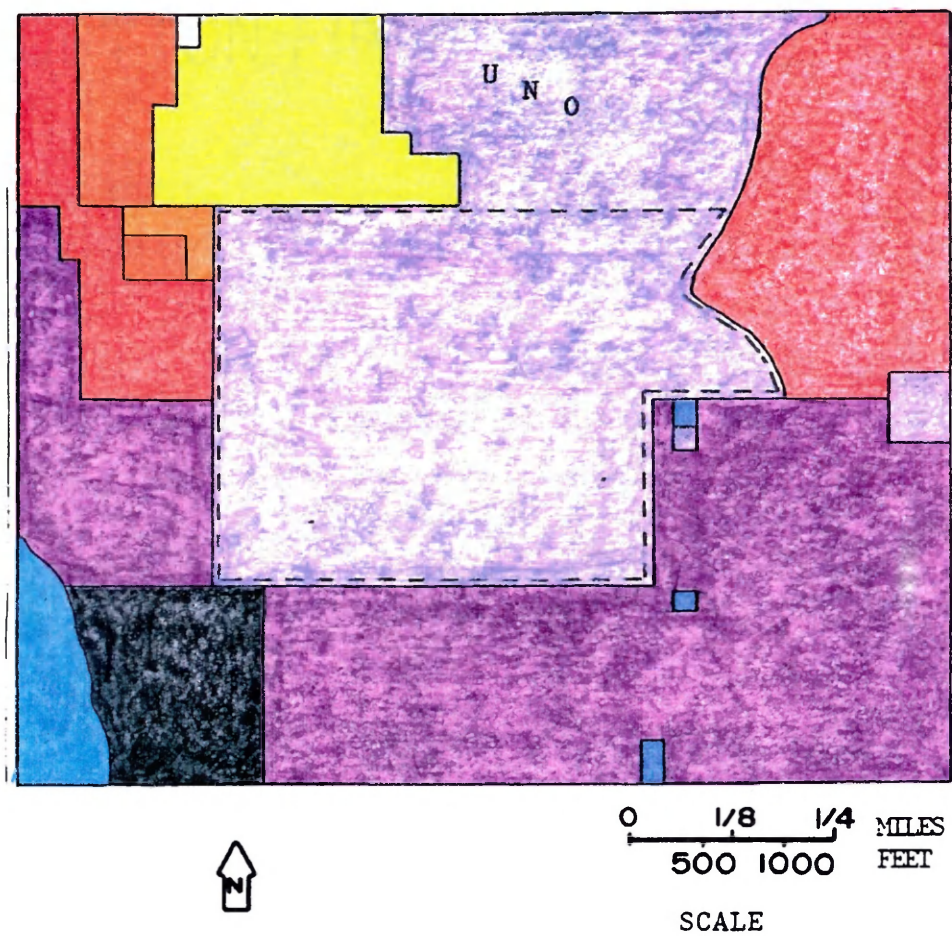


Figure 9. The Elmwood Park public golf course study area. Housing densities are much greater surrounding the earliest public golf facility when comparing to the private regulation courses of the same era of development.

The Nine-Hole Courses

There were three nine-hole courses constructed during the pre-1930 golf development era in Omaha. These courses were Fontenelle Park (1923), Miller Park (1927), and Spring Lake (1928). Fontenelle Park, located southeast of the intersection at Ames avenue and 48th street, was the only course which fit the yardage parameters prescribed for a regulation nine-hole course. It is 2730 yards in length.

As shown by figure 10, the overall housing density allowed by the zoning classifications is quite high. The diversity of residential housing is quite low as compared to the larger (longer in yardage) regulation courses earlier mentioned. There are 24.6 acres of R4 single family residential properties (7,500 sq.ft. lot area), in addition to three hundred acres of R5 zoning and 112 acres of R6, both with minimum 5,000 square foot lot areas. There are no lower density housing classes.

The unique attribute to the Fontenelle Park public golf course is the amount of commercial acreage (refer to Tables V and VI) surrounding the course and within the study area. It is approximately twice that of the Spring Lake and Miller Park courses. Fontenelle Park is also bordered by apartments and other multi-family dwellings (R8), which sets Fontenelle apart from the Miller Park and Spring Lake courses. Whereas the Fontenelle Park is a regulation length nine-hole course,

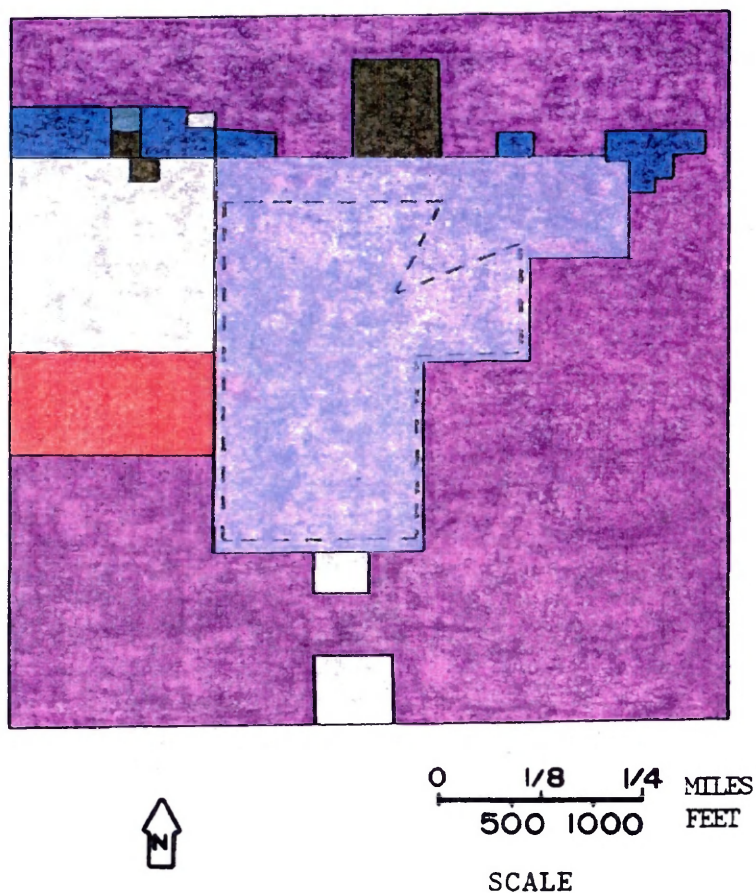


Figure 10. The Fontenelle Park public golf course study area (regulation length nine-hole).

both Spring Lake and Miller Park are pitch and putt type courses due to their shorter length.

On the other hand, Spring Lake (Figure 11) and Miller Park (figure 12) both have very similar commercial acreage allocated within the study areas prescribed. It is noteworthy that these two pitch and putt courses (par-3 type) average less than eight acres of commercial

TABLE V
The Nine-Hole Courses and Surrounding* Land Use,
Zoning and Respective Acreages - 1987

Zoning Code	<u>Par-3 & Pitch and Putt Courses</u>					<u>Regulation 9</u>		Total Acres	
	Miller Park	Spring Lake	Maple Village	Westwood Heights	Meadowbrook	Fontenelle Park	Cedar Hills		
R1					9.6			9.6	
R2					72.4		28.1	100.5	
R3			16.0	21.8	55.6		28.0	121.4	
R4			227.5	14.0	5.0	24.6	36.9	308.0	
R5	342.5	160.1	15.8	142.6	23.9	299.6	18.1	1002.6	
R6	94.6	184.5	10.3		10.1	112.0	41.1	452.6	
R7	0.8		7.4	51.5	38.2	0.7	11.9	110.5	
R8	1.4	7.3		20.3	7.4	46.1		82.5	
R9	0.5			7.8	60.1	9.5	32.2	110.1	
S1								00.0	
S2			47.8	24.1	21.0		107.6	200.5	
S3				18.3				18.3	
I				5.4				5.4	
C	7.8	7.4	1.8	83.9	8.9	15.0	43.2	168.0	
Total	Acres	447.6	359.3	326.6	389.7	312.2	507.5	347.1	2690.0

Source: Field research and data compilation by author (1988).

* one-quarter mile (1320') surrounding the golf course boundary perimeter

TABLE VI
 The Nine-Hole Courses and Surrounding* Land Use,
 Proportion** of Acres in Land-Use Classes - 1987

Zoning Code	<u>Par-3 & Pitch and Putt Courses</u>					<u>Regulation 9</u>		Proportion of Total Acres (%)
	Miller Park	Spring Lake	Maple Village	Westwood Heights	Meadowbrook	Fontenelle Park	Cedar Hills	
R1					3.1			0.36
R2					23.2		8.1	3.74
R3			4.9	5.6	17.8		8.1	4.51
R4			69.7	3.6	1.6	4.8	10.6	11.45
R5	76.5	44.6	4.8	36.6	7.6	59.0	5.2	37.27
R6	21.1	51.3	3.1		3.2	22.1	11.8	16.82
R7	0.2		2.3	13.2	12.2	0.1	3.4	4.11
R8	0.3	2.0		5.2	2.4	9.1		3.07
R9	0.1			2.0	19.2	1.9	9.3	4.09
subtotal R	98.2	97.9	84.8	66.2	90.3	97.0	56.5	85.4
S1								0.00
S2			14.6	6.2	6.7		31.0	7.45
S3				4.7				0.68
subtotal S	0.00	0.00	14.6	10.9	6.7		31.0	8.13
I				1.4				0.20
C	1.7	2.1	0.5	21.5	2.8	3.0	12.4	6.25

Source: Field research and data compilation by author (1988).

* one-quarter mile (1320') surrounding the golf course boundary perimeter

** Percentages do not total to 100% due to rounding error



Figure 11. The Spring Lake public golf course study area (pitch and putt length nine-hole).

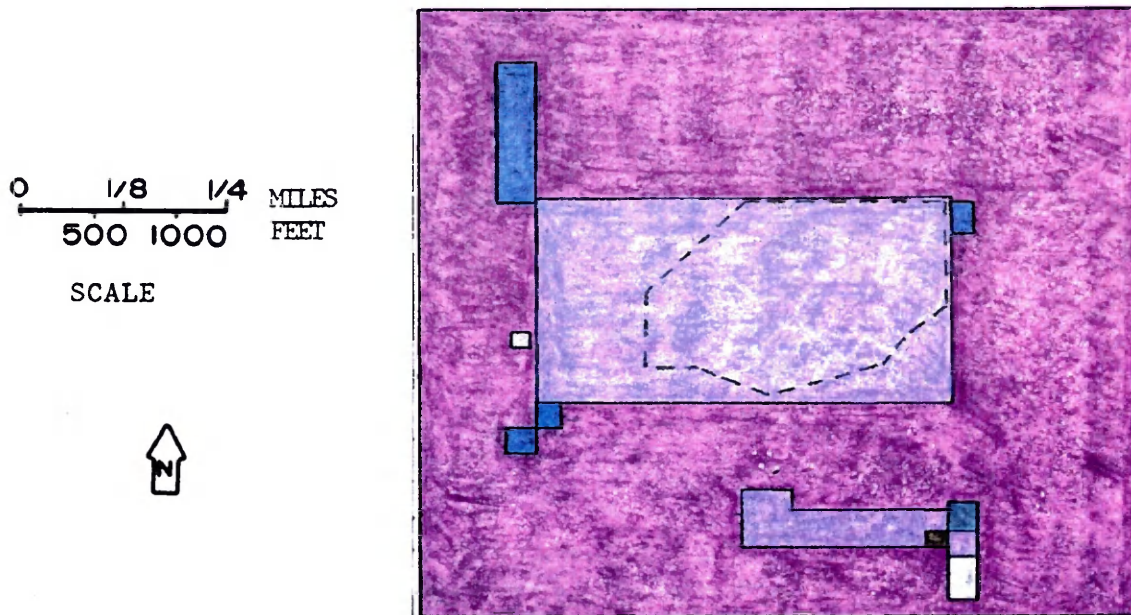


Figure 12. The Miller Park public golf course study area. Measured at 1250 yards, this course is among the shortest courses in Omaha.

development within the surrounding lands while the regulation nine-hole course types include twice the acreage committed to commercial property adjacent to the courses. Recall that the difference between these two course types is the length. The length aspect, thus dictates the amount of acreage necessary for golf course construction. For example, the Spring Lake course (located southeast of the I-80 and I-480 interchange in South Omaha) is only 1870 yards, or 30 percent shorter than the Fontenelle Park course. Likewise, the Miller Park course (located southeast of the intersection at Redick avenue and 30th street) is among the shortest courses in Omaha, with only 1250 yards and short enough to be a Cayman golf course, referred to earlier. This requirement (yardage) may contribute to developing a premise that the different course types lend themselves to different forms (patterns) of adjacent land use development as a consequence of the golf course yardage and associated acreage for the course development.

THE CURRENT ERA (Post-1930 to the present)

The current era of golf development in Omaha ended in the middle seventies with the construction of The Knolls public golf course. Since no additional courses have been built within the city of Omaha since 1975, it is difficult to ascertain if future courses will follow the course types of the "early era", the "current era", or a completely different evolution of forms from the patterns established by the two eras examined here. During the Post-1930 era, four nine-hole courses and four eighteen-hole courses were constructed. The following begins with the former.

The Nine-Hole Courses

Four nine-hole courses were constructed in Omaha during the Post-1930 or current era of golf development on the Omaha landscape. In 1956, more than thirty-five years since the last nine-hole course was constructed in Omaha, the Cedar Hills golf course was built at West Center Road and 78th street. It is the only nine-hole course of the four developed within this era which partially fits the guidelines belonging to the regulation length nine-hole course; ie., par of 34. As by definition, however, the length of Cedar Hills models it as a pitch and putt type of nine-hole course. At 2300 yards, it is 300 yards short of the minimum requirement to be a "true" regulation nine-hole course type (see page 16

for reference). Notice in Table VII, the reduction in the acreage used for the progressive development of the four nine-hole courses in Omaha which were constructed during the current era.

<u>YEAR</u>	<u>Golf Course</u>	<u>Yds.</u>	<u>Ac.</u>
1956	Cedar Hills	2300	32
1962	Maple Village	1240	30
1963	Westwood Heights	1250	26
1965	Meadowbrook	1225	21

Table VII. The acreages, through time, were greatly reduced in the construction of the four nine-hole courses in Omaha during the current era of development in the city.

The map of the zoning for the Cedar Hills golf course and surrounding lands (figure 13) indicates a very diverse landscape. Cedar Hills golf course is a traditional golf layout and is built upon less than 32 acres, including the parking and club house area. There are approximately eighty acres of "open space" (S2 zoning classification) to the east and south of the course, as provided by a cemetery and a community park, respectively.

Also unique to the surrounding landscape of Cedar Hills is the more than forty acres of commercially zoned property on the southwest portion of the south boundary of the course. Commercial designations represent more than twelve percent of the total lands within the Cedar Hill study area. This

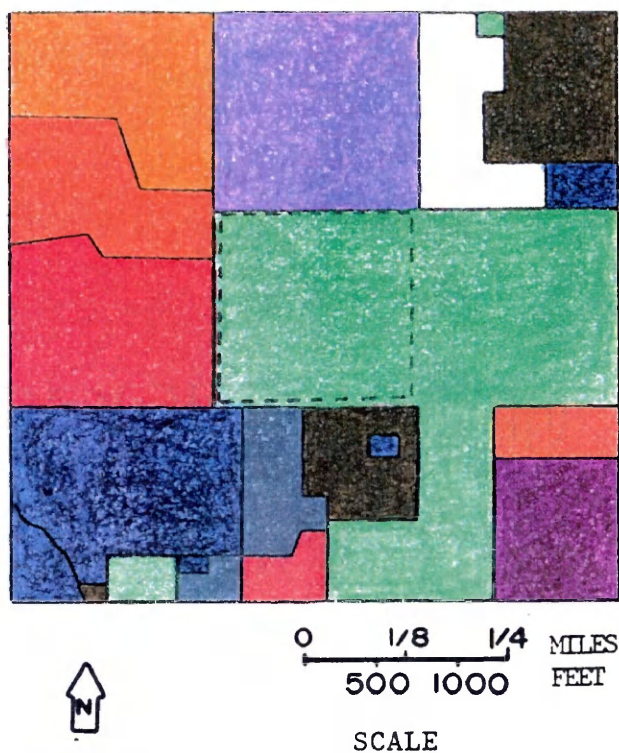


Figure 13. Cedar Hills golf course study area. The diversity of land use has increased dramatically since the early era of development in the city.

figure represents a higher concentration of commercially zoned property than what has surrounded any of the regulation courses developed during the early era ending in 1930.

As stated, Cedar Hills is the only regulation-type, nine-hole course (due to its par 34 rating) constructed in Omaha during the post-1930 era of development. It shows a more diverse landscape than any of the nine-hole courses earlier developed. More specifically, it has land patterns quite different from the three other nine-hole courses developed in the same time-frame, all of which are classed as the pitch and putt variety of nine-hole course.

Pitch and Putt Courses

Three pitch and putt courses were developed in the current era, beginning with Maple Village (located east of Parkview Drive and north of Maple street). The Maple Village golf course was constructed in 1962 as a pitch and putt or par 3, nine-hole course. The course is a municipal course, maintained by the city. It measures only 1240 yards in length and is a very compact, yet traditional course layout. Along the western perimeter of the course are playground facilities as shown (photograph 5). The setting provides additional open space and a safe play environment for the neighborhood children.



Photograph 5. The pattern of development (predominately R4 zoning) surrounding the Maple Village municipal golf course (constr. 1962).

The surrounding neighborhoods of Maple Village golf course are primarily medium-density, single-family residential (R4 zoning). The minimum lot area is 7,500 square feet. Figure 14 illustrates the preponderance of the R4 zoning, which represents almost seventy percent of the lands surrounding the course perimeter.

Also of note are the unplatted lands to the north and south. Closely located to a public school, these additional lands will allow the city to provide neighborhood amenities, or simply to lend to the open space between adjacent neighborhoods.

The Westwood Heights golf course is the last public nine-hole course opened in 1963. At 1246 yards, it is an extremely compact pitch and putt type of course. Located farthest west in the city at West Center road and 132nd street (see fig. 16), the course clearly encroaches upon the surrounding agricultural lands. The course itself takes advantage of six acres of floodplain which allow for a neat, linear layout. There are likewise additional acres of unplatted lands to the north and north-west of the course (figure 15). These unused urban lands comprise more than ten percent of the adjacent use.

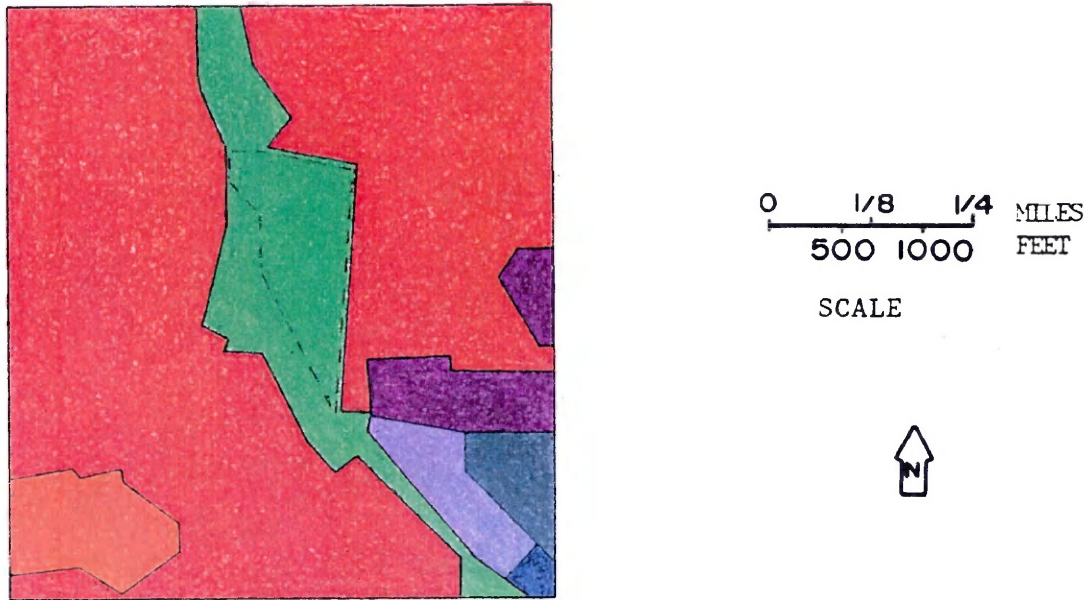


Figure 14. Maple Village golf course study area. Note the unplatted lands to the north and south (45+ acres).



Figure 15. Westwood Heights public golf course study area. The linear layout affords great advantages to the higher density neighborhoods along both the eastern and western boundaries.

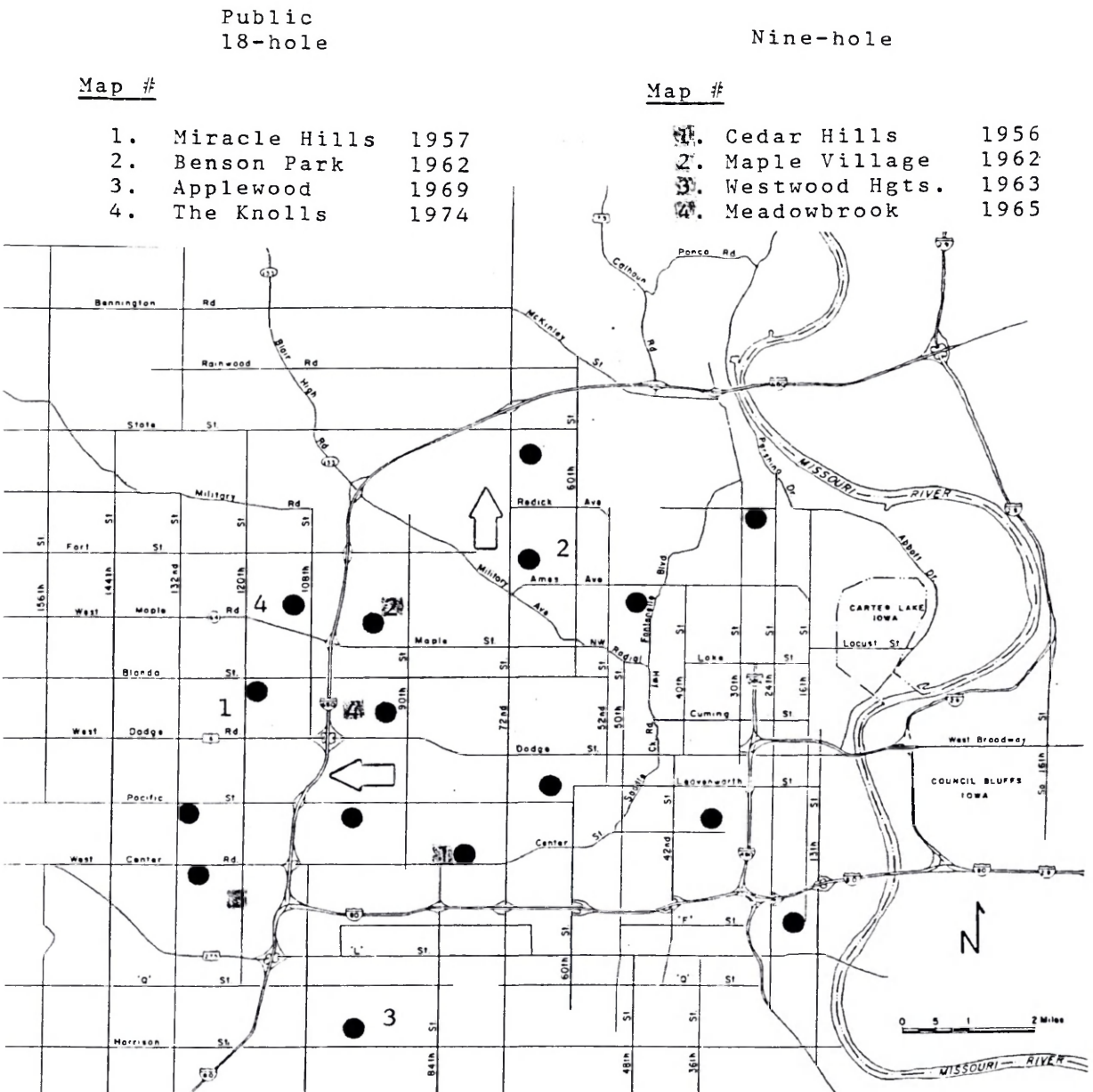


Figure 16. Current era of golf development in Omaha indicates the directions of the growth of the city. The regulation courses (eighteen holes) are built on the perimeters of the current urban development in the city. The nine-hole courses infill current areas of development and are quite efficient in the use of available land.

There is a larger amount of residential density surrounding the Westwood Heights course than for other courses in this zoning classification. The western border of the golf course is abutted by R7 zoning which permits apartment buildings, some offices, and other group dwellings. Even so, there is a greater concentration of R8 zoning along the eastern boundary of the golf course as well as almost eight acres of high-density multiple family apartments within a parcel of land just to the east of the entrance to the golf course (photograph 6). Many of the units in the housing complex have an aesthetic view of the golf course and can actually enjoy the open spaces provided.

Constructed in an era of high land costs, the Westwood Heights golf course uses very little space (26 acres). Almost one-fourth of the course is constructed within a floodplain, and includes a small drainageway. The drainage channel bisects the course and provides a challenge to the pitch and putt version of golf. The straight-line layout of the course provides one-quarter mile of fairway frontage along both the eastern and western boundaries of the course (see figure 15).

Commercial property is also quite prevalent in the land use around the Westwood Heights golf course. There are more than eighty adjacent acres of commercially zoned property in two separate parcels, both a short distance from the golf course entrance. This amount represents more than twenty



Photograph 6. A meandering drainage channel neatly bisects the short Westwood Heights golf course into two sections. High-density zoning (R9) takes advantage of the open space provided by the course.

percent of all the adjacent land use zoning within the study area; a much higher proportion of land devoted to this use than any of the other nine-hole courses, including all but one of the regulation courses. Westwood Heights thus contrasts greatly to the "neighborhood" nine-hole courses. In other words, those courses which developed more for a service to the adjacent and surrounding lower-density housing developments.

Meadowbrook

The last of the nine-hole courses constructed in Omaha was also the shortest course (1223 yards) with the least acreage. The Meadowbrook golf course (situated northeast of the intersection at Western avenue and 96th street), including the parking and facilities, occupies a total of only 21 acres. It is again a traditional golf layout, and is surrounded by a variety of residential housing densities as shown by figure 17.

The adjacent uses next to the course are characterized by the greatest diversity of residential land uses of any of

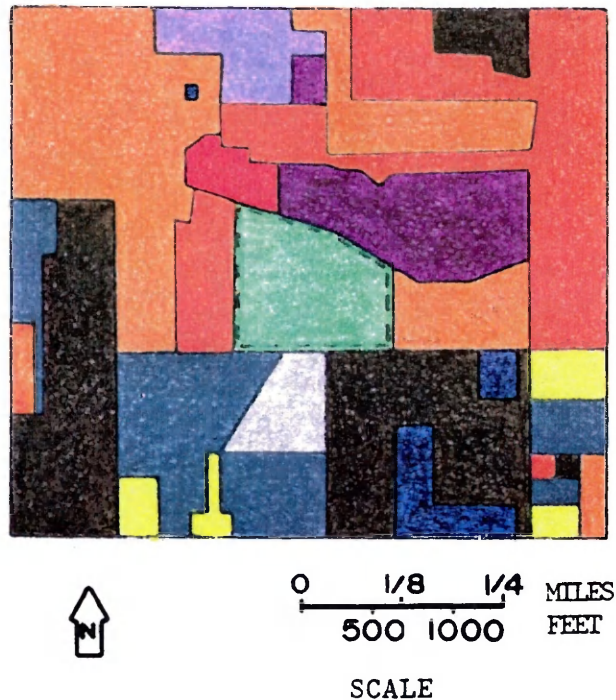


Figure 17. The Meadowbrook golf course study area. The last nine-hole course constructed in the city (1965), is also the smallest.

the courses of this classification. There is low density housing to the east and west, medium density housing dominates on the north, and high-density, multiple family units are located along the south boundary of the golf course. A review of table V and VI (pg. 44,45) will indicate a remarkable balance among the residential zoning classifications within the Meadowbrook golf course study area.

The Regulation 18-hole Courses

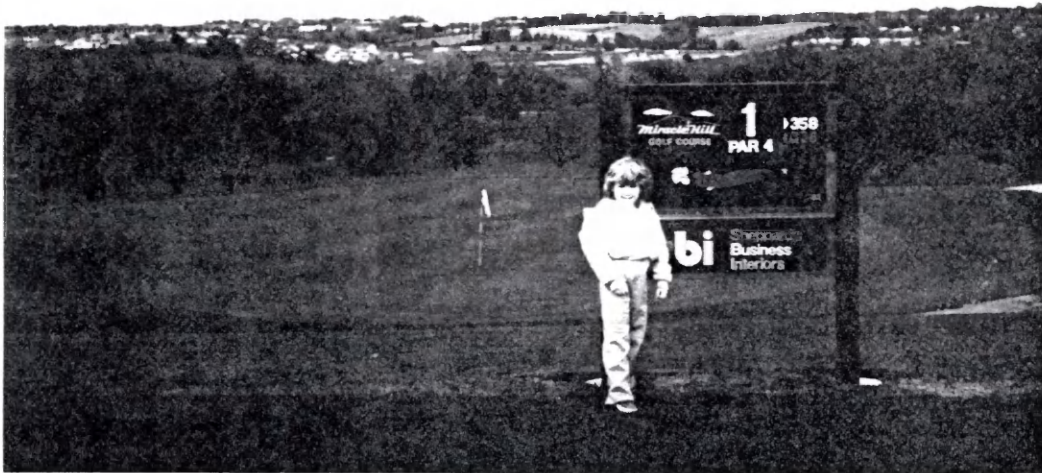
All four of the regulation courses are arranged on the Omaha landscape to the west of the nine-hole courses developed during the same era. With the average regulation course requiring almost 160 acres for the total site development, unplatted agricultural acreages were necessary, since they were the lands available in large enough parcels for the golf course project. The four courses are Miracle Hills, Benson Park, Applewood, and The Knolls (see figure 16, p.54).

Miracle Hills

Built during the same time as the Cedar Hills nine-hole course (1956), the Miracle Hills regulation course was being constructed at the far west of the Omaha city limits (West Blondo and 120th street). The Miracle Hills golf course was ready for play in 1957. The course very efficiently benefits from its communion with the floodplain which lies at its eastern boundary. The course is public, and it is the only non-municipal type regulation course built during the current era of golf development in Omaha.

Miracle Hills golf course is a traditional golf layout, built upon 130 acres, inasmuch as it is a regulation length, eighteen-hole course. It has no potential for housing development along the eastern boundary, where the zoning is

S3 and no housing is allowed. Photograph 7 is sited near the driving range and club house of the Miracle Hills project, looking toward the east and the lower density of the area. The role of the regulation course has not changed with regard to the impact it has on promoting the growth of an area. It attracts other urban development and allows for a large open space, while at the same time accomodating the development of the adjacent properties.



Photograph 7. Centrifugal forces are still at work in the development of the Miracle Hill golf course study area. Many acres of unplatted acreage surround the golf course perimeter.

The zoning classifications within the Miracle Hills golf course study area (figure 18) reflect the large expanses of unplatted agricultural lands adjacent to almost 250 acres of floodplain (table III, p.29), providing the eastern boundary for a large portion of the golf course. As table IV shows (p.30), over one-third of the study area is within floodplain zoning classification (S3). Almost thirty percent of the study area, including the 130 acre Miracle Hills golf course, are platted as S2; a holding type of zoning placed on unplatted ground or for agricultural purposes.

With little land left for development adjacent to the course, forty-five acres to the west of the course are lower density homesites with minimum 10,000 square foot lot areas (R3 single-family residential). This accounts for over six percent of the study area (table IV, p.30). Six acres are located within that zone with lower density R2 zoning, and requiring minimum lot areas of 14,000 square feet (a one-third acre lot).

What stands out in the study of the Miracle Hills area is the amount of commercial acreage included within the one-quarter mile study perimeter. More than one-hundred acres of commercial zoning represents greater than fourteen percent of the total study area. Much like the Omaha Country Club (constr. 1927), with both built at the edge of the developed area, Miracle Hills has a high proportion of



0 1/8 1/4 MILES
500 1000 FEET

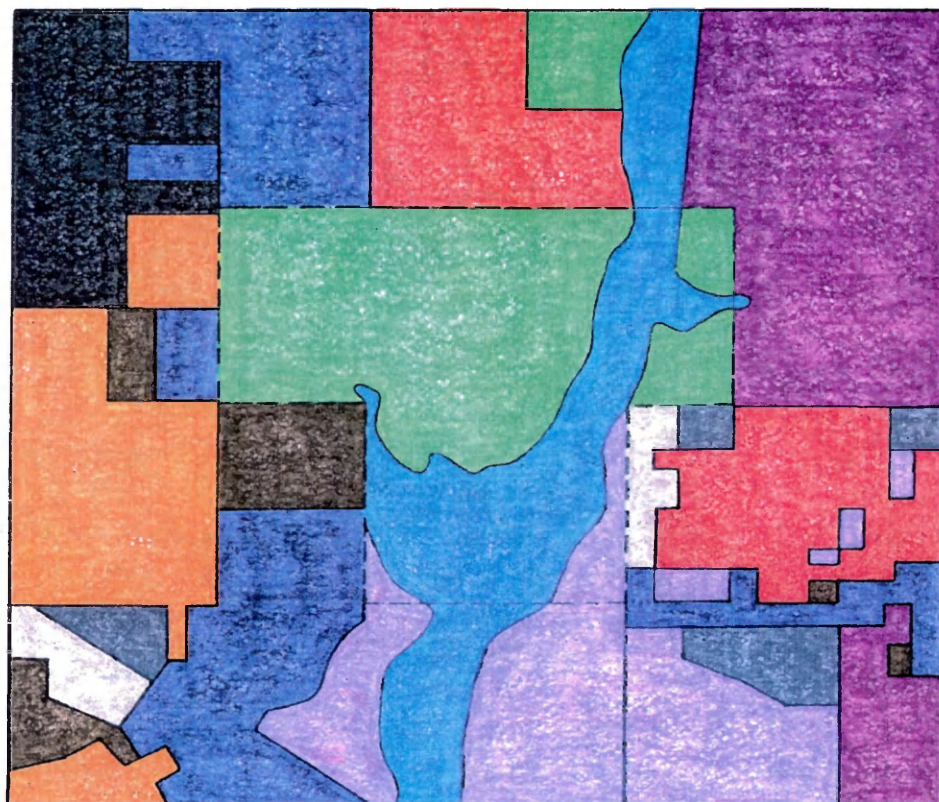
SCALE

Figure 18. The Miracle Hills golf course study area. Note the efficient use of floodplain (Big Papillion watershed) along the eastern boundary of the course.

land committed to commercial development. In contrast, Miracle Hills has much less available land remaining for development in comparison to the Omaha Country Club. But as figure 18 shows, there is substantial area remaining as unplatted or agricultural acreage (S2) along the southwest portion of the Miracle Hills golf course.

Benson Park

The Benson Park municipal golf course (located at Ames avenue and east of 72nd street) also derived benefit within its design with floodplain belonging to the Cole Creek. The traditional course design is 6870 yards in length and occupies the better portion of a quarter-section of land, including the other facilities provided by the City of Omaha. The study area shows much similarity to the surrounding lands of the Miracle Hill golf course. The Benson Park study area contains almost 200 acres of commercially zoned property to the south and north of the course (figure 19). This acreage represents twenty-four percent of all lands within the study area. This figure is the highest proportion of commercially zoned property within any of the golf course study areas and indicates the course's influence on the adjacent property. Commercial zoning, encouraged by the centripetal forces of the Benson Park area of development, are adding scope to the additional attributes of large outdoor recreational projects. Higher densities are buffered by the open space provided by a regulation golf course. The reader should also note the fifteen acres of R9 zoning adjacent to the western boundary of the course along the floodplain. This zoning classification of high density dwellings also allows office complexes and professional clinics. To the south of the R9



0 1/8 1/4 MILES
500 1000 FEET

SCALE

Figure 19. The Benson Park municipal golf course (opened in 1962) and study area. The commercial acreage within this study area represents the highest concentration of any course in the city. A large parcel of industrial property can be seen just north of the golf course entrance.

zone is one of the two large parcels of commercially zoned property. It is currently vacant land, as is shown by photograph 8.



Photograph 8. The commercially zoned property to the south of the Benson Park regulation golf course. Centrifugal and centripetal forces are acting together in the development of the urban landscape.

Single family residences and duplexes are allowed within the property directly south and east of the Benson Park golf course. There are more than fifty acres of this R6 zoning, with required minimum lot areas of 5,000 square feet. Almost ninety acres of single family residence (5,000 sq.ft. lots) are allocated along the northeast boundary-area of the golf course, in the R5 zoning district. The low-density area adjacent to the northwest boundary of the course is nine

acres of R2 zoning with the larger lot requirement of 14,000 square feet. There are an additional fifty acres of R2 low-density zoning across the road from the entrance to the course. The total R2 zoning accounts for eight percent of the total study area. There are neither low-density (R1) homesites nor R3 density home-sites (10,000 sq.ft. lot areas) within the Benson Park study area.

Another attribute to the Benson Park study area is the more than forty acres of industrial property just to the north of the entrance to the course. This accounts for more than five percent of the lands within the golf course study area. Only the Omaha Field club has more land committed to industrial zoning, as shown in table III (p.29).

Applewood course

The Applewood municipal golf course was constructed during the late 1960's, and opened in 1969 west of 84th street near the Douglas County line. It is the first course design which has incorporated the real-estate layout (as explained on p.6) in the provision of the course. Figure 20 highlights two islands of development within the confines of the course design. The northernmost island

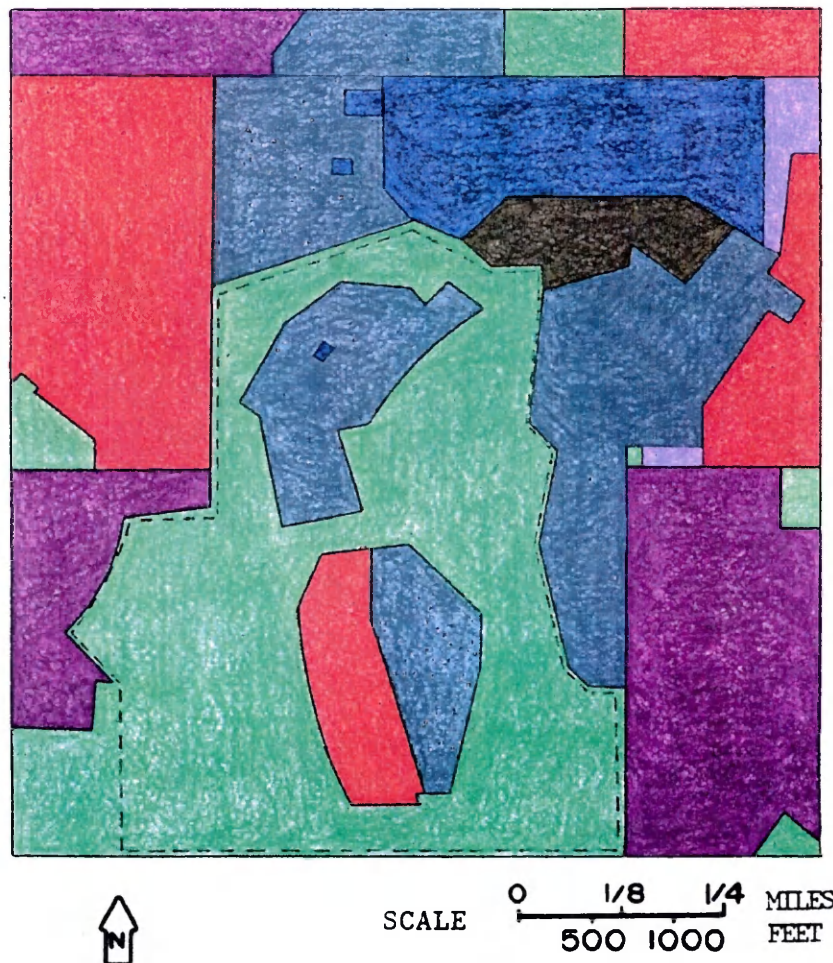


Figure 20. The Applewood golf course study area. A concentrated area with many apartment complexes within the first course incorporating the real-estate design.

provides a concentration of R7 zoning which allows for single-family residences as well as duplexes and apartments. There is a small parcel (0.4 ac.) of commercial property, providing retail services to the surrounding community. The south island provides an additional 18 acres of R7 zoning classification as well as 19 acres of R4 single-family residential (lot area: 7500 sf). As can be seen by figure 20, additional apartments, duplexes, and single-family residential surrounds the golf course to the east and north within the R7 zoning. Table IV (p.30) indicates that more than twenty percent of the landscape within the Applewood course study area is of the R7 zoning classification. This multi-family zoning represents quite an increase in high-density housing as compared to the previous study sites considered. The usefulness of the fairways in reducing the R7 densities by the provision of open space is what most distinguishes the Applewood study area. With the unique design of the course, ten of the fairways offer housing adjacent to the course. The majority of the housing density provided is R7, allowing duplexes and lower-density apartments. In addition, there is an area of R9 zoning along the course perimeter to the north. This allows the high-density apartments plus doctors offices and clinics. To the north of the R9 higher density zone is 50 acres of commercial property.

As shown by a study of the surrounding land use (fig.

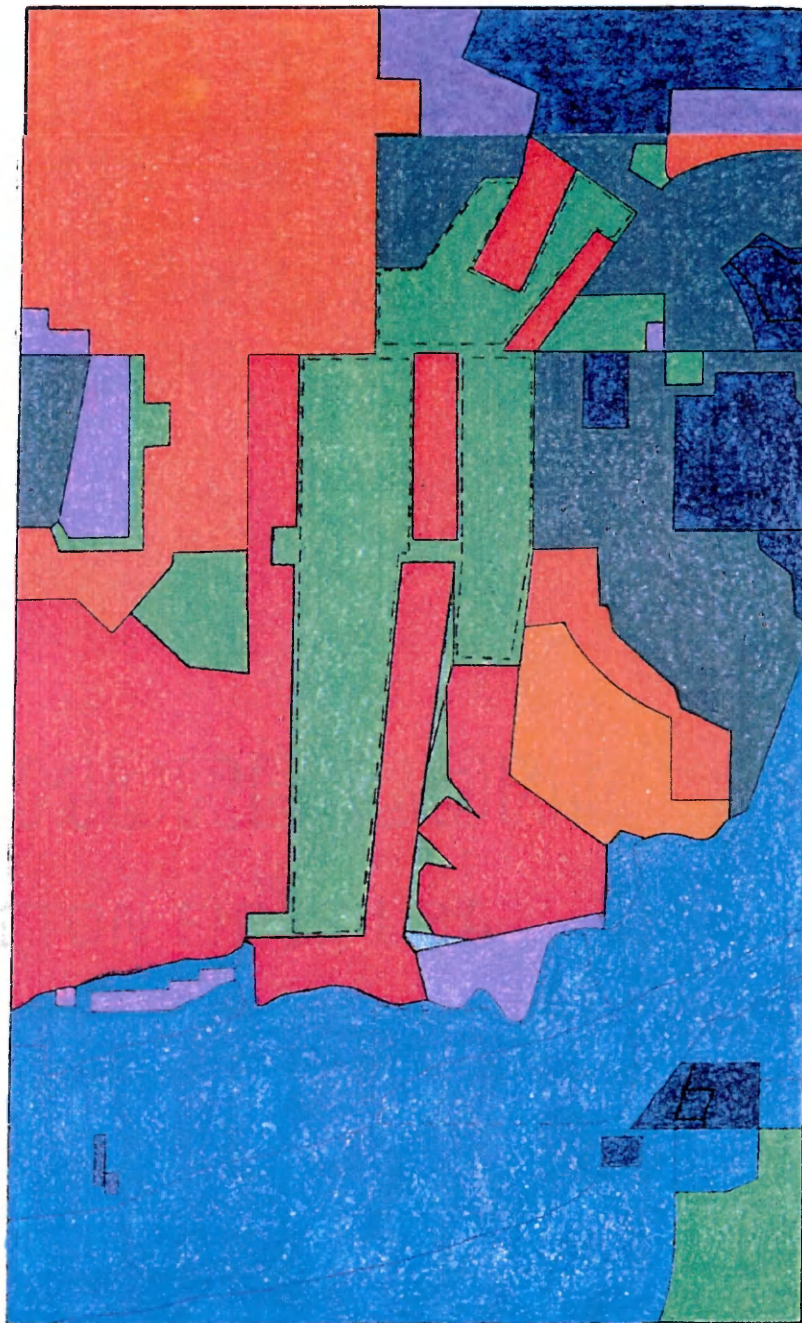
20), there exists no property zoned for lower density developments in the Applewood municipal course study area. There are 130 acres of R4 single-family residences (7500 sq. ft. minimum lot area) which account for more than eighteen percent of the total study area. The zoning surrounding the two sides of the southern part of the regulation course layout allow single-family residences with minimum lot areas of 5,000 square feet (R5 zoning).

With the advent of the first real-estate golfing layout comes the increased attention to the diversity of land use available as a consequence of the golf course. More centripetal forces directed by a golf course, along with land-use planning practices by the City of Omaha, are allowing higher densities and commercial development which may benefit from the proximity to the golf course. At the same time, while density quite often jeopardizes a communities sense of place, the golf course provides a large area of open space to the surrounding residences.

The Knolls Course

The Knolls municipal golf course (west of 108th street and north of West Maple), which began construction in the early seventies, increased the amount of fairway exposure by an increased development idea included within the real-estate design concept. Figure 21 shows the separate boundaries of the subdivisions in the course design.

Along the eastern boundary areas of The Knolls are concentrations of R7 zoning, situated around three fairways of the planned course design. The west boundaries of the course layout are built within floodplain which excludes residential development. One-half on the golf course (nine holes) is built within this floodplain. The remaining nine holes afford various types of development along both sides of the fairways. The preponderance of single-family residential housing is within the R4 zones, allowing for 7,500 square foot lots. This mid-density form differs significantly when compared to earlier regulation courses developed in the twenties. However, while the Knolls golf course has higher densities adjacent of the course, it has much more golf course available, created by the increased awareness for its design and arrangement on the landscape. There is a much greater amount of floodplain used for the golf course plan of the Knolls than what was ever used in the earlier regulation course designs. Thus, the usable landscape was planned in a most space-efficient manner.



0 1/8 1/4 MILES
500 1000 FEET

SCALE

Figure 21. The Knolls municipal regulation course, first opened in 1974, best advances the real-estate design by offering more fairway frontage. Notice that the course is designed in four separate units.

Commercial development surrounding the Knolls golf course is much less than the Miracle Hills and Benson Park study areas (as tabulated in table III and IV). But the Knolls is one of the farthest courses west and is adjacent to great expanses of agricultural acreage which abutts the western edge of the incorporated city limits. It will provide the impetus for expanded growth in the area, while concentrating the development within the usable space, as detailed by the zoning surrounding the course. The usable space adjacent to the course was simply increased substantially as a consequence of the golf course design, thus ending an era of golf course development on the urban landscape of Omaha.

Summary

A total of sixteen golf courses were constructed within the city limits of Omaha from 1898 to 1975. Of these sixteen, seven were nine-hole courses, with four of the nine-hole courses classed as pitch and putt type par-3 courses requiring very little land (thirty acres or less) for development. The reader should note that there are no Cayman or Executive courses in Omaha.

Table VIII has been consolidated from the findings presented in this and earlier sections. It shows the proportion of acreage committed to each of the zoning classifications with reference to the major course types utilized in the city. All courses have differing proportions of the various land uses surrounding them. However, generalizations can be made concerning the regulation courses constructed in an earlier era (especially the private country clubs); these are associated with the greatest concentrations of residential land use, especially low-density zoning for single-family residences. In contrast, the greatest proportions of medium-density zoning (specifically R5) are associated with the area around the nine-hole courses. Noteworthy also is the preponderance of agricultural lands and floodplain incorporated in the construction of the regulation-length, eighteen-hole courses.

TABLE VIII
 SUMMARY OF FINDINGS IN ANALYSIS OF LAND USE SURROUNDING* COURSES:
 The Average Proportion** of Land Uses by Golf Course Typology

	<u>The Regulation Courses</u>		<u>The Nine-Hole Courses</u>	
	Private Country Clubs	All other Regulation-length; 18-holes	Regulation length	Pitch & Putt length
	Omaha Field Club Highland C.C. Happy Hollow C.C. Omaha C.C.	Miracle Hills Elmwood Park Benson Park Applewood The Knolls	Fontenelle Pk. Spring Lake Cedar Hills	Miller Park Maple Village Westwood Hgts. Meadowbrook
R1	2.75%	1.14%	0	0.65%
R2	13.45%	2.63%	2.31%	4.90%
R3	8.05%	4.88%	2.30%	6.32%
R4	6.24%	13.07%	5.06%	16.69%
R5	3.90%	11.40%	39.36%	35.55%
R6	7.24%	10.66%	27.81%	7.79%
R7	0.98%	8.68%	1.03%	6.63%
R8	2.52%	0.36%	4.39%	1.97%
R9	1.34%	1.38%	3.43%	4.63%
subtotal R	46.47%	54.20%	85.69%	85.13%
S1	0	0.08%	0	0
S2	38.76%	17.36%	8.86%	6.29%
S3	9.00%	16.37%	0	1.23%
subtotal S	47.76%	33.81%	8.86%	7.52%
I	1.12%	1.90%	0	0.36%
C	4.61%	10.01%	5.40%	6.93%

Source: Field research and data compilation by author (1988).

* one-quarter mile (1320') surrounding the golf course boundary perimeter

** Percentages do not total to 100% due to rounding error

The nine-hole courses are surrounded by the greatest proportion of apartment and multi-family housing (R9 zoning). Note the higher degree of R9 zoning surrounding the pitch and putt type courses.

As shown by Table VIII, commercial zoning is most incorporated around the public (non-private) regulation-length eighteen-hole developments. Industrial zones are also represented more in the study areas of the public regulation courses than any of the other course types in the city.

Of the nine regulation courses (eighteen-hole), four are private country clubs. All four of these country clubs were developed during the early era of golf development in Omaha. They greatly impacted on the direction of the growth of the city, acting as a catalyst in providing low-density housing, recreational activities including golf, and open spaces. Large expanses of agricultural lands were "leap-frogged", where perhaps an entire section (640 acres) could be planned for the development of the golf course and other amenities provided by the respective country clubs. The surrounding lands would provide the lower density housing, some golf course frontage, and other lands for future development as zoned by the city and discussed in this chapter.

Whereas the nine-hole courses were normally a part of the current development of the city area, the regulation courses were built upon the open and new lands around the outside perimeter of the current development and available

infrastructure of Omaha. The exception to this was the Omaha Field Club, insomuch as it was constructed adjacent to a railway in 1898. It is the shortest layout of the private clubs, and naturally requires the least amount of land for its construction when compared to the other regulation-length, eighteen-hole courses. Further and more detailed findings will be discussed in Chapter IV - Conclusions.

CHAPTER IV

SUMMARY & CONCLUSION

This thesis was proposed to challenge the premise that Omaha has extensively overbuilt its recreational landscape in its provision of golf facilities and to examine golf courses as an integrated urban land use form. Whereas the National Recreation and Parks Association (NRPA) guidelines indicate that Omaha should be sufficiently served by nine golf courses, as determined by the city's population, sixteen courses are currently in operation within the City of Omaha. It therefore became necessary to more closely examine each of the golf courses by type, form, and purpose, and to address the apparent discord between the NRPA allocation guidelines and Omaha's actual golf developments.

It is also suggested that a golf course does not stand alone in city space, but more appropriately exists in communion with adjacent and surrounding urban land use forms and with a city's morphogenesis. Such an association of land uses suggests that the elements of time and space are important in a search for relationships of patterns between and/or among the previously established five golf course types (models) and the surrounding land uses examined in this study. Table IX represents summary information of Omaha golf course developments by type, date, and acreage.

The Regulation Length 18-hole Courses

1898	Omaha Field Club (pvt.)	5100 yd.
1916	Elmwood Park	4400 yd.
1922	Highland C.C. (pvt.)	6400 yd.
1925	Happy Hollow C.C. (pvt.)	6300 yd.
1927	Omaha C.C. (pvt.)	6000 yd.
1957	Miracle Hills	6100 yd.
1962	Benson Park	6400 yd.
1969	Applewood	6500 yd.
1974	The Knolls	5900 yd.

The Nine-Hole Courses

1923	Fontenelle Park	2700 yd.
1927	Miller Park *	1250 yd.
1928	Spring Lake	1870 yd.
1956	Cedar Hills	2300 yd.
1962	Maple Village *	1240 yd.
1963	Westwood Heights *	1250 yd.
1965	Meadowbrook *	1225 yd.

* denotes the pitch and putt type of 9-hole course.

Table IX. Summary of Golf Courses in Omaha.

Due to the dynamics of urban growth and the changing roles and functions of golf courses through time, this thesis now concludes that there are not too many golf courses within the City of Omaha. It further concludes that the NRPA standards are clearly too limited - - i.e., using the number of courses and ignoring distinct types of courses are inappropriate to a true understanding of the adequacy of golfing recreational space. The following Summary lends support to the above conclusions as proposed by this study,

and examines the associated land uses around golf courses as developed in chapter three.

SUMMARY

The Spatial Contribution to Land Development in Omaha: Centrifugal Forces and the Private Country Clubs.

Fundamental to the understanding of spatial organization is the concept of distance. Distance in geography is a fundamental consideration because it separates locations from one another, thereby necessitating various kinds of flows, growth and directional movements, and linkages between locations through time (Yeates and Garner, 1976:8). The temporal aspect is important because it allows for an examination of the role of courses in the morphogenesis of the city.

The introduction of the private country clubs in the 1920s (specifically the Highland Country Club, Happy Hollow, and Omaha Country Club), overcame the barrier of distance and directed the growth of Omaha toward them. Today, these courses continue to encourage adjacent residential and other land use development of all types and to promote growth in their respective areas. In point of fact, land use development could be temporally positioned in space to show that the private courses played a major role in promoting such urban growth, and that these courses continue to do so today.

Although other urban land use forms operate in space to minimize distance costs, these three private clubs acted to direct the growth of the city and thus dispersed the growth of Omaha to the north and the west. Thus, private clubs acted as a centrifugal force which served to direct the spatial dispersion of the city.

However, due to the distance from the core development of the city (as well as being private clubs), the private courses served only a small portion of the community. As stated in the introduction to this study, each private club is intended to serve only 200 to 500 families, thus providing golf only to the more affluent members of the social structure. In other words, the private regulation courses served those with the means to travel great distances and only if invited by another member of the club.

The fourth private club within the city is the Omaha Field Club. Constructed in 1898, it remains private and also limits membership to a specific number of people. However, Omaha Field Club did little to become a gravity pole for Omaha's development in comparison to the other private clubs.

Consequently, the four private clubs were developed in the city to serve (by definition and/or membership requirements), a maximum of only 800 to perhaps 2,000 families. These numbers do little to allow for their incorporation into the standards intended by the NRPA. Thus, private courses should perhaps not be considered or should serve a lesser consideration in

assessing the adequacy of course development and the quantity of golf course space in the city.

The NRPA standards more appropriately provide a guideline for the provision of golf to the general population through public courses. The special interests of the private courses should therefore be removed from the allocation equation and considered as separate from overall adequacy guidelines. On the other hand, the private clubs did act as an important force in the growth of Omaha and they do exist on the urban scene as a part of the recreational land use structure of the city.

The Public Regulation Courses:

Dynamics of Golf Course Development Design in Omaha

Although much land use adjacent to golf courses is classified (by zoning) as low density housing, it is important to note that the early development of golf courses (those courses associated with private membership) were of the traditional design - - i.e., more compact and space efficient. The design of these early golf course projects did not include planning for adjacent land uses at the time of their construction. The design of golf course layouts has changed dramatically over time. The most recent courses constructed in the city (the Applewood Golf Course in 1969 and The Knolls Golf Course in 1974), were designed as complete real-estate developments and, therefore, of necessity require an efficient

and practical use of land to economically create the regulation length, eighteen hole golf course.

If the need for open space warrants a higher price for residential housing, then the real-estate design contributes greatly to both the construction and the maintenance of the golf course. Both the Applewood and The Knolls courses provide for areas of residential development within the course design. However, neither course is a sprawling layout. That is to say, neither course is completely linear in design, which would maximize the amount of golf course frontage to accommodate the integrated residential sites. The Knolls course is the shorter in design, and is built on eight less acres than the Applewood course, built five years earlier.

We may conclude that the new Real-Estate Regulation Courses have become more space efficient in their design, while at the same time incorporating the real-estate layout to allow for concentrated residential housing (as well as other compatible uses) adjacent to the frontage of the golf course project.

The Nine-Hole Courses

During the early development of nine-hole courses (prior to 1930), diversity of land uses increased dramatically when comparing the pitch and putt course to the regulation length nine-hole course. Among the nine-hole courses, Fontenelle

Park is exceptional as it exemplified the longer course because it contains twice the amount of commercial land use acreage within the bordering study area, and indicates a greater amount of higher density multi-family dwellings, as well as a five percent allocation of acreage to lower density housing.

Overall, however, nine-hole courses seemed to provide little impetus for directing urban growth in the city. They did, however, become extremely space-efficient as a consequence of their shorter length and thus, more limited area. By golf course typology, five of the seven nine-hole courses are actually of the pitch and putt variety in Omaha.

Four of the pitch and putt nine-hole courses should be closely scrutinized to assess the safety provided to the recreational golfing population. There is an apparent need for the shorter length course, which provides for a shorter and easier game to the novice, the beginner, and those physically unable to complete 18-hole, or a regulation length, 9-hole exercise. But, due to the traditional design of the courses, the chances for stray golf shots into adjacent holes perhaps warrants them unsafe.

Cayman courses do not currently exist in Omaha. In the future, it may be appropriate to look into the conversion of Omaha's shorter courses to the Cayman form of golf. The ball is much less dense, and of course would greatly reduce the dangers from being struck by stray golf shots. It would

increase the challenge of the game, but still provide the sport to the novice player.

CONCLUSIONS

Perhaps the greatest contribution provided by this study to the understanding of recreational geography is the fact that the NRPA guidelines are of limited use in determining the adequacy of golf courses to the recreational space of a community. The NRPA does not include course typology nor quality in their assessment. Also, there is no adjustment for the limited availability of golf to the general population as provided by the private country clubs. It is therefore impractical to determine the adequacy of the number or acreage of courses in the city to the quantity suggested by the NRPA guidelines alone.

As in any dynamic community, the recreational needs of the population change with time. The guidelines established by the NRPA have remained static. Today, there is a greater awareness of the game of golf. There should be a "needs assessment" to best coordinate and serve the requirements of the golfing population in a city. Such a review of standards would better assess the provision of golf to a changing population of golfers.

In addition, golf has evolved away from a private recreational phenomena associated with countryside develop-

ments surrounding the outskirts of city. Golf courses now provide not only the recreational amenity intended for all, but also promote, contribute to and enhance the morphogenesis of the Omaha landscape.

Future Considerations

The golf course of today needs to be considered as an urban land use form, dependent on the physical landscape and vital to the urban development of the area it serves. Additional investigations of the uniqueness of the golfing population (through a survey and/or needs assessment), and a keen awareness of the general geography and specific land uses of the area can enhance the evaluation of an "efficient" golfing landscape. Emphasis should be placed on course design, to both minimize space, promote safety, and increase recreational open spaces to adjacent lands.

Further study into golf courses and their distribution in space would provide greater awareness concerning their role in the development and morphogenesis of urban space.

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