

AN EVALUATION
OF
DESIGN PROFESSIONAL INVOLVEMENT
IN THE
DEVELOPMENT PROCESS
OF
GOLF COURSE COMMUNITIES

by

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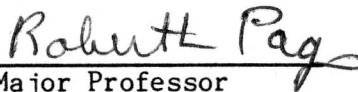
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CONTENTS

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Table of Contents ii
 List of Figures iv
 List of Tables. v
 Acknowledgements. vi

CHAPTER PAGE

1 INTRODUCTION
 Statement of the problem 1
 Importance of the Research 2
 Purpose of the Research 5
 Scope of the Study 6
 Objectives of the Research 7
 Methodology. 7
 Chapter Outline. 8

2 BACKGROUND
 The Evolution of Twentieth Century Land Development . . . 9
 Golf and its relationship with Land Development10
 The General Development Process13
 Section I: Market Analysis16
 Section II: The Approval Process.19
 Section III: Concept Plan Development23
 Section IV: Financial Analysis.24
 Section V: Preparation of a Preliminary Plan27
 Section VI: Detail Design31
 Section VII: Marketing the Development31
 Section VIII: Post Construction Operations32

3 HYPOTHESIS AND METHODOLOGY
 Purpose34
 Hypothesis34
 Collaboration.35
 Variables to be examined36
 Methodology and Data Collection40
 Developing the Sample Pool40
 The Pre-test Form Design and Administration. . .41
 Changes to Form--Demographics Section.42
 Changes to Form--Survey Matrix of Tasks.44
 Cover letters47
 Final Survey Form.50

CONTENTS (cont.)

4	RESULTS	
	Demographics Information . . . . .	.58
	Summary of Demographics Section . . . . .	.66
	Graphs of Mean Scores--Type of Firm . . . . .	.75
	Graphs of Mean Scores--Type of Practice . . . . .	.92
5	CONCLUSIONS	
	Major Conclusions and Implications	112
	Minor Conclusions and Implications	115
	General Observations	116
	Potential for Further Research	118
	LITERATURE CITED	119
	APPENDIX A: Operational Definitions	121
	APPENDIX B: Types of Golf Course Communities.	124
	APPENDIX C: Thank you letter	127
	ABSTRACT	

LIST OF FIGURES

	page
<hr style="border-top: 1px dashed black;"/>	
2-1, The Development Process. . . . .	.15
4-1, Mean Responses: Section I, Project Feasibility by Type of Firm . . . . .	.76
4-2, Mean Responses: Section II, The Approval Process by Type of Firm . . . . .	.80
4-3, Mean Responses: Section III, Conceptual Development by Type of Firm . . . . .	.82
4-4, Mean Responses: Section IV, Financial Analysis/ Project Financing by Type of Firm . . . . .	.85
4-5, Mean Responses: Section V & VI, Developing the Preliminary Plan by Type of Firm . . . . .	.87
4-6, Mean Responses: Section VII & VIII, Post Construction Operations by Type of Firm . . . . .	.89
4-7, Overall Mean Responses by Type of Firm . . . . .	.91
4-8, Mean Responses: Section I, Project Feasibility by Type of Practice. . . . .	.93
4-9, Mean Responses: Section II, The Approval Process by Type of Practice. . . . .	.96
4-10, Mean Responses: Section III, Conceptual Development by Type of Practice	98
4-11, Mean Responses: Section IV, Financial Analysis/ Project Financing by Type of Practice	100
4-12, Mean Responses: Section V & VI, Developing the Preliminary Plan by Type of Practice.	102
4-13, Mean Responses: Section VII & VIII, Post Construction Operations by Type of Practice.	104
4-14, Overall Mean Responses by Type of Practice	107

LIST OF TABLES

	page
4-1, Number of Projects . . . . .	.59
4-2, Current Involvement . . . . .	.59
4-3, Percentage of Total Time . . . . .	.60
4-4, Summary of Demographics Data by Type of Practice . . . . .	.61
4-5, Professional Registrations . . . . .	.63
4-6, Professional Society Affiliations. . . . .	.63
4-7, Years of Design Professional Experience . . . . .	.64
4-8, Size of Firm for which the Participants are Employed . . . . .	.64
4-9, Distribution of Participants by Type of Firm . . . . .	.65
4-10, Distribution of Participants by Type of Practice. . . . .	.65
4-11, Crosstabulation, Type of Firm by Number of Employees . . . . .	.67
4-12, Crosstabulation, Type of Practice by Size of Firm . . . . .	.67
4-13, Crosstabulation, Type of Practice by Professional Experience. . . . .	.68
4-14, Crosstabulation, Type of Firm by Years Experience . . . . .	.68
4-15, Crosstabulation, Type of Firm by Number of Projects . . . . .	.69
4-16, Crosstabulation, Type of Firm by Type of Practice . . . . .	.69
4-17, Fill-in Responses to Question 1A, "Others" . . . . .	.78
4-18, Fill-in Responses to Question 1A, "Others" . . . . .	.78
4-19, Fill-in Responses to Task III-6, "Other" Professionals. . . . .	.84
4-20, Description of Data by Type of Firm	110
4-21, Description of Data by Type of Practice	111

CHAPTER ONE

INTRODUCTION

The design and implementation process of golf communities is complex. This process consists of many steps which are critical to insuring the potential success of a proposed project. These crucial determinants include a carefully developed feasibility analysis and an adequate financing strategy which, in turn, may determine the extent of physical development of a golf course community. Other determinants include governmental approval for the proposed project and post-construction management issues after a portion of the project is completed. These factors all have their effect on the design and planning of the proposed project.

Many of the decisions directly related to project feasibility and financing are made among the professionals that comprise development planning teams. These professionals include project developers, designers, consultants, and those involved in construction, maintenance, and management of the planned project (Smart, 1981).

As an integral component of the development team, the professionals

responsible for making many of the design decisions concerning the physical design and layout of all land uses may be any one or a combination of a number of design professionals. Landscape architects, architects, golf architects, planners, engineers, and others have been involved in determining the physical form and layout of many contemporary golf courses and golf course communities (Cornish and Whitten, p. 16). More importantly, landscape architects (as land planners) have an initial and ongoing influence in determining the specific uses for large scale parcels of land (Davis, p 125). This thesis will demonstrate that the level of involvement is related to each professional's personal interest and expertise in the various stages of the golf course community development process.

Importance of the research

This research effort is important to the profession of landscape architecture for the following reasons:

1) The scale of a golf course community development approaches that of a new town development or as an addition to an existing town. The health, safety, and welfare of the members belonging to the community is dependent upon the quality of the built environment. Landscape architects and other design professionals have a major impact in determining the quality of this environment.

2) Golf course community developments are extremely costly both in terms of an investment for a developer and to many of the residents desiring to live in a "first-home" golf course community. Every effort should be made during the design process in order to maximize design

alternatives for cost-benefit purposes for the community. This study will help to illustrate key stages in this process for design professionals by determining their level of involvement in the various tasks associated with the golf course community development process.

In addition, these types of projects are unique not only in the sense that huge acreages of land are affected, but more importantly, that a golf course community normally does not have the ability for any other type of adaptive reuse. Other projects may utilize land that was once used for another purpose, such as Battery Park City on New York's Manhattan Island. In this instance, a high density residential and commercial office space development was placed on a landfill. In other words, once a golf course is placed into a community for the purposes of offering a golfing facility to its residents, the land allotted for the golf course can be used for little else, except for possibly a park.

3) To demonstrate to the profession of landscape architecture that design professionals who practice this type of land use planning be not only well versed in large scale design issues of land development, but to also suggest that academia examine the potential for placing a greater emphasis on other disciplines than those directly associated with landscape architectural design.

4) Many practitioners of landscape architecture feel a need to increase communication amongst its professionals (Palmer, 1983). Exemplary of this notion is demonstrated by the fact that all participants surveyed in this study requested a summary of results from the researcher.

The golf course community development process, forming the basis of

this study, was chosen for several reasons. Many of the master planning developments of this project type approach the scale of new town development. Therefore, complex issues concerning project feasibility, land use planning, governmental and public approval for a proposed project must be resolved at a scale equal to that of planning a new town.

The physical land planner must also collaborate with many individuals in addition to the developer if the development process of the proposed project is to maintain a desired direction. Skills not normally utilized, particularly oral and written skill, are utilized to a greater extent in a collaborative setting as opposed to a professional working as an individual. As a result, this study will help to shed light on the roles and responsibilities of the design professionals involved, primarily, landscape architects.

Incorporating a golf course into a community creates a tension between design professionals working on the same project, primarily, the golf course architect and the physical land planner. This tension arises on account of prioritizing land uses. Many times, if the developer desires a golf course of championship or "above average" quality in terms of play, land that may best be suited for housing or commercial development may necessitate the golf course to be placed onto it. The professional responsible for designing the community portion of the development may then be forced to place roads and lots on less than adequate land, resulting in undesirable or unmarketable housing lots. Conversely, if the land planner leaves only a certain portion of land for golf development as a result of prioritizing land for housing or

other uses, the land dedicated for a golf course may not be the most desirable land on which to develop a golf course. To resolve this dilemma, the design professionals must operate in mutual cooperation of each other in order to develop a golf course community, which optimize housing and golf course sites, to be considered a successful financial venture.

Purpose of the Research

The purpose of the research is to determine several issues concerning design professionals in the development process of a golf course community.

(1) An assessment will be made as to the level of involvement by various design professionals in the development process of a golf course community. These design professionals were evaluated as to the level of involvement in tasks associated with project feasibility studies, project financing, zoning, the approval process, and post construction operations of a typical golf course community.

(2) The extent of collaboration between designers and the other members of the development team in both the project feasibility stage and the preliminary design phase were also assessed. This study will attempt to verify the fact that professional collaboration occurs among design professionals and other development team members to a varying level of degrees.

(3) The extent to which various design professionals differ in their involvement were also measured. Variables examined for differences in involvement include the type of firm to which the designers are employed, their type or orientation of their professional

practice, and their professional experience in years.

(4) This study will help to determine what design professionals could be doing in terms of specific development process tasks. Areas of potential professional training and education will be outlined as relating to general topics; marketing, finance, and engineering.

Scope of the Research

This study will involve those design professionals who commonly practice golf course community design, planning, and development. Two types of tasks these professionals usually involve themselves are (1) tasks that are not directly related to design oriented issues (project feasibility, the approval process, project financing, and post construction operation; and (2) tasks that are associated with professional collaboration between the designers and other development team members in project feasibility, the approval process, and preliminary design development. In order to focus this study on task assessment, it will not involve:

(1) an assessment of land use design tasks involving the preparation of detailed documents concerning roads, commercial & industrial land uses, or residential lots.

(2) examining the professional relationships that all members of the development team have to each other. These professionals include developers, marketing consultants, or golf course management representatives.

(3) examining professional collaboration as relating to specific situations that design professionals and the other development team members may find themselves. For example, this thesis will not attempt

to describe and determine the essence of professional collaboration that may occur between golf course architects and engineers detailed construction drawings are being prepared. These issues may be related to specific projects and will not be investigated here.

Objectives of the research

This study will help communicate to the portion of the landscape architecture profession that commonly practices land development of this nature, the need to fully understand and comprehend all aspects of golf associated land development. By demonstrating the complexity of this project type, a student interested in practicing this form of community development will have a better understanding of the process of large scale land development in which golf becomes the major recreational amenity and, at times, the primary design feature. For the seasoned land planner, the study will help to reaffirm his commitment to effectively applying broad based knowledge regarding design decision-making.

Methodology

The primary method used for obtaining data was through the use of a survey instrument. By telephoning design professionals known to have had experience in golf course community development, a pool of participants was developed. Directories listing design professionals and the firms to which they belong were used to verify and to make complete, the information about the designers and the type and scope of their practices.

Data was then analyzed as to the mean responses the participants

indicated on the survey. Comparisons between types of firms, types of practice and the extent of professional experience (in years) were conducted in order to make inferences as to the differences in involvement as relating to these three variables.

Chapter Outline

Chapter two, the background portion of the thesis, discusses the historical development of the golf community. In addition, the development process of a golf course community is described in detail from project feasibility and marketing analysis through post construction management operations of the development. Chapter three, methodology, describes the data collection process for the study. This chapter also describes the survey instrument design and the administration techniques used on the participants. Chapter four describes how the design professionals were "categorized" for the study and the mean responses they gave. Chapter five discusses the major conclusions found as a result of this research. Operational definitions, followed by references and appendices will conclude this thesis.

CHAPTER TWO

BACKGROUND

The background portion of this thesis will be divided into two parts, the evolution of 20th century residential land development, and a discussion about the integration of the golf course as a recreational amenity to residential developments. Also included will be a detailed documentation of the golf course community development process.

The Evolution of Contemporary Residential Land Development

The planning process involving residential housing and land development prior to World War II was relatively simple. A tract of land was acquired, and subdivided, allowing homeowners to purchase the lots. Social, economic, and physical factors brought about significant changes in the process. Zoning ordinances and subdivision regulations were imposed to protect the health, safety, and welfare of the homeowners. Economic depression brought a temporarily halt to the con-

struction industry, and World War II created construction and labor shortages which accounted for the lack of housing (O'Mara, 1978). After the war, conditions returned to normal and people had money to spend. New households were formed and the building boom accompanied the "baby boom". Housing demand that was postponed due to economic depression and war increased greatly in the mid-1940's. Between 1946 and 1975, over 44 million units of privately owned housing were started (O'Mara, 1978).

Golf and its Relationship to Land Development

In brief, the history of golf dates back 500 years to the linkslands of Scotland where the Royal and Ancient Course of St. Andrews is considered to be the first designed golf course (Cornish and Whitten, 1983). Through the next several centuries, golf was to spread to England and Europe, Australia, and to America by Scotsman who played on the original links. In the U.S., golf was played in one form or another since the eighteenth century but the first golf course and club was established around 1887 in Foxburg, Pa. (Cornish and Whitten, 1983, Encyclopedia Britannica, 1972). The popularity of the game increased as golf equipment and balls were to become available to the regions of the U.S. that built the first courses; Pennsylvania, New York, Massachusetts, and Chicago, Illinois (Cornish and Whitten, 1983).

However, the period in history when the golf course became a recreational amenity to land development, however, is of special significance to this study. While a specific date cannot be given, golf course community development may have had its origins in the early 1920's in the office of the Olmsted Brothers (Hubbard, 1927).

With respect to golf, the nineteen twenties is considered to be the

golden age of golf architecture. Advances made in golf course construction helped in the evolution of golf course architecture as an art and as a profession. The "Roaring Twenties" economics coupled with an improvement in golf balls and clubs made golf more affordable to the middle class which allowed them to learn to play the game (Cornish and Whitten 1983). With this increased participation in golf, residential developments with golf courses offered alternative concepts in land development and residential living.

During the "golden age", Landscape Architecture magazine published several articles on golf course planning, architecture, and construction. Very few articles discussed the complexity of managing a planning effort for a golf course community. However, one project worthy of discussion is the Westwood Country Club of St. Louis. This project had many individuals involved in the master planning for the development. This "Board of Design" included a consulting engineer as the director of works, golf architect, a drainage and irrigation engineer and his associate, building architects, and a landscape architect/town planner. Club officers felt that time, money, and effort could be saved many times over through the use of these specialists (Elson and Amoden 1929). The idea of integrating a golf course into a real estate project did not establish itself as a primary design concept for large scale land developments until the late 1950's and early 1960's (O'Mara, 1978). If a golf course was to accompany land development, the combination of clubhouse, golf course, roads, and housing lots became a standard problem and could only be solved through a group effort that included the landscape architect/land planner, the clubhouse architect,

the engineer, the "real estate man", and the golf architect (Hubbard, 1927).

Golf course architecture and planning saw little progress during the depression of the 1930's. Many of the golf clubs that were in operation closed due to the stock market crash on account of members not being able to afford to play. Other courses that had been planned for development were postponed or entirely cancelled (Cornish and Whitten, 1981). Not until the 1950's was the golf course again utilized in greater numbers with land developments (O'Mara, 1978).

Within the past 50 years, the development process of golf course community developments has essentially remained the same but due to increases in housing density, and advances made in construction science, engineering, and golf course architecture and maintenance, the planning, design and implementation process is significantly more complex. Single-family detached housing has become multi-use or cluster housing with varying density levels. Golf course architecture has evolved into a sophisticated form of art, an art which is characterized by numerous styles and rigorous maintenance requirements. The presence of turfgrass specialists, golf course consultants and management specialists lengthen the list of professionals involved.

Today, the golf course integrated into a community accomplishes several things: it is an amenity which can command increased prices for developed land: it acts as an attraction device for potential homebuyers seeking open space adjacent to their homes. This helps to offset the initial construction costs of the golf course. In addition, the integration of a golf course into a residential community appeases many

subdivision zoning ordinances requiring certain acreage of planned open spaces. Integrating a golf course into land development continues to be a desirable, if not the only method of providing golf facilities to a community (Interview, Harry Eckhoff, 1986). Historically, an increasing proportion of all golf courses built in the latter half of the twentieth century have accompanied land developments (Eckhoff, 1985).

THE DEVELOPMENT PROCESS

The development process for both a residential and recreational project involves "a complex set of decisions over time by a group of key and supporting participants or decision agents. Key decision agents include the landowner, the developer, and the consumer; supporting decision agents include realtors, financiers, and public officials (Weiss, 1966, p. 10). The developer, being the owner, an individual, a group of individuals, a corporation, or a consortium of individuals, is the central actor in the development process (O'Mara, 1978). He is normally the person or persons who directs, manages, and controls the development process from pre-development planning activities through post construction operations (Smart, 1981) and becomes the final decision maker in all matters pertaining to his development. He must be a skilled team manager whose responsibilities include successfully coordinating all parts of the complex development process including its financial backing (Smart, 1981) therefore, he must take the risk (O'Mara, 1978). To minimize the risk, he needs the help of others--land assemblers, subdevelopers, builders, site planners, architects, marketing specialists, and all other related technical and service specialists.

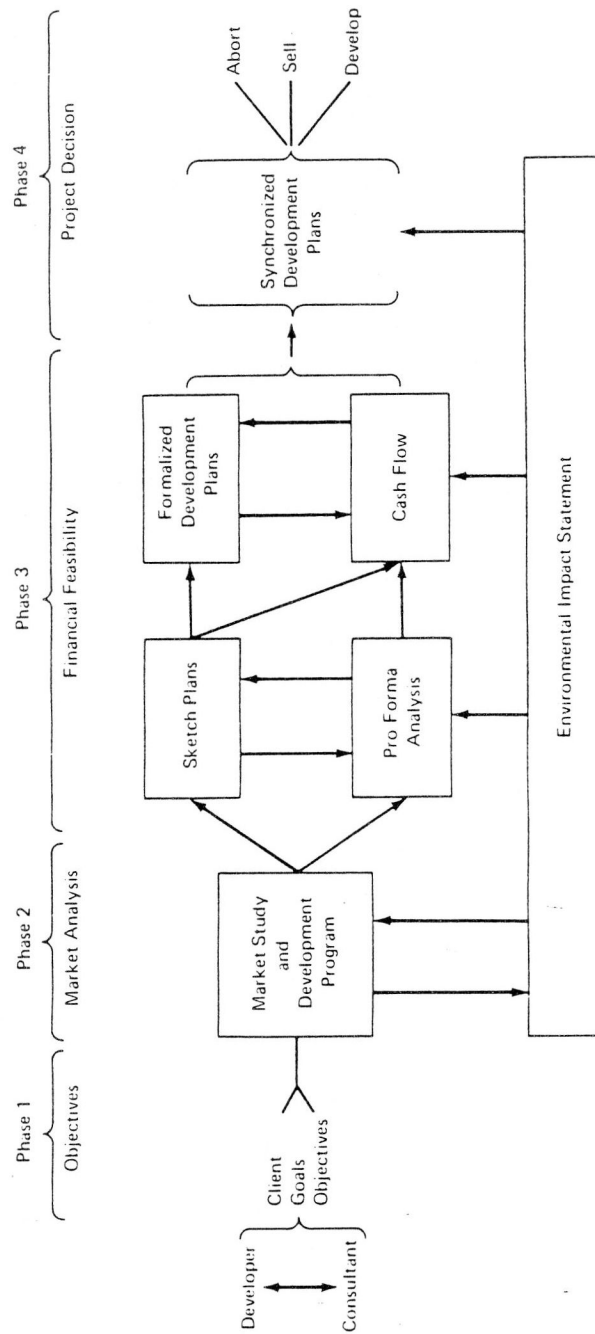
Within the past several years, team members have offered expertise in many disciplines. Economics, politics, finance, aesthetic, environmental, and legal aspects of a project must be accounted for by the individuals representing these disciplines (O'Mara, 1978).

Much of the developer's success depends upon his managerial talents. "A basic consideration, always to be firmly kept in mind is that private housing development for a private market is first, last, and all the time, a business operation, conducted for profit and the merit of decisions is always judged by their effect on profit" (Clawson, 1971). Therefore, a coordinated and mutual effort among team members becomes crucial if the planning and implementation stages of a development are to be resolved as easily and as smoothly as possible.

Within the process, the physical land planner is typically seen as one of the designers of the development from conceptual and preliminary planning through the preparation of construction documents for the project. Other major parts of the process involve project feasibility studies (market and financial), zoning and the approval process, and post construction operations in which planners and local officials must have mutual cooperation with each other.

Due to the complexity of the development process, the physical land planner, many times, will act as a project manager under the direction of the developer. In this situation, the planner must have knowledge of many site planning issues which will allow him to effectively operate as project manager. The placement of roads, housing units, recreational

FIGURE 2-1
THE DEVELOPMENT PROCESS
 (from "How to Conduct and Analyze Real Estate Market and Feasibility Studies", p. 5)



amenities, commercial/office areas, and any other program elements a developer desires in his plan all require, on the part of the designer, a general knowledge of their physical and functional requirements when placed on the landscape. Using this knowledge, he can hope to anticipate successes or failures in regard to design and placement of these elements in a project.

The land planner and the developer, however, usually rely on other individuals in order to obtain any specialized knowledge or information a situation may require. In this instance, the designer is operating as a "generalist", a coordinator of design issues within the development process under the direction of the project developer.

Recreational or residential developments comprised of golf and real estate are planned and built as a combination of residential, commercial and recreational planning strategies. Depending upon the type of project, the specific planning and development process will vary in response to a residentially-, commercially-, or a recreationally-based project. Regardless of the project, certain elements of the development process apply to all projects.

The following sections outline and describe a typical development process for a golf course community. The subject matter in the sections was used as the basis for developing a survey questionnaire as shown in Chapter Three of the thesis, Methodology.

Section I: PROJECT FEASIBILITY/MARKET ANALYSIS

For residential developments and golf courses, a thorough market analysis is done to determine the feasibility of a project in its conceptual form. Certain aspects of the project may need changing

depending upon the results of the market analysis. The project may not be feasible at all. According to Urban Land Institute residential council member James Klingbeil, a market analysis is normally completed by independent research firms or by staff members employed by the developer (O'Mara, 1978).

In residential developments, the market analysis consists of gathering data concerning all aspects of the project in question. The analysis includes:

- determining the market area (spatial) where existing housing types will compete with each other.
- determining the economic trends for the area and surrounding area (employee potential)
 - A. Potential - Creation of jobs through proposed industry
 - B. Natural - taking advantage of an existing source of potential employment
 - C. Can the existing labor force support such industry?
- determining demand factors
 - A. Existing employment vs. unemployment
 - B. Disposable income of the proposed market
 - C. Population growths vs. reductions; household size and family size, growth characteristics, and market absorption
- determining supply factors
 - A. Amount of construction activity
 - B. Housing inventories
- determining market conditions
 - A. Number of housing vacancies vs. occupied units
 - B. Marketability of sales and rental units
 - C. Prices and Rents (high housing demand, relatively high cost to rent)
 - D. Building costs; condition of the construction industry

- E. Financing conditions
- F. Mortgage defaults and foreclosures

- determining the market share, that is, what percentage of a proposed or existing market may a developer expect to capture with his development?

According to Carl Norcross, A development golf course could be economically successful if any one of the following criteria is met:

- if the development is of considerable distance from other developments and an "attraction" device is needed to draw people to the development;
- if an area already lacks a sufficient number of courses;
- if a prestigious atmosphere is desired by those potential homeowners;
- if recreation is to be a large part of a community;
- if a development is meant to be a semi-retirement community whose patrons have a considerable amount of spare time;
- if green space is a requirement as a result of townhome or cluster housing zoning;
- if the project will be selling for 5 years or more and can charge off the cost of the course over many units.

On the other hand, a full 18-hole golf course should not be built:

- if the developer does not absolutely need it;
- if it reduces the amount of buildable land beyond what makes the development economically successful;
- if housing types elicit lower income homeowners;
- if the general character of the potential site is rough or steep property;
- if homeowners plan to sell their home within 3 years;

Klingbeil also says that a market study is essential for any type of land development. Another U.L.I. council member Gary Ryan replies

that developers should use statistics from market studies as a basis for project feasibility but also explains that developers should "form their own judgment concerning market share based on the ability to deliver a product". In conclusion, the market analysis/study exposes and defines the needs of certain groups of people and should not be used as a "roadmap" for development (O'Mara, 1978).

The National Golf Foundation has developed establishment, and maintenance criteria for golf courses as a separate development. The feasibility of producing a golf course is based on the character of a community--its size, location, climate, population, economic base, growth potential and recreational assets. As part of pre-planning, the developer must also answer other questions concerning feasibility. What has been the pattern of population growth for the area of land in question? Has there been failures in similar development projects? If so, why? What is the playable condition of courses that might be considered competitive in the region? What are the economic and ethnic characteristics of the area? What is the principal type of employment? What is the per capita income for the area? Is it increasing along with the national or regional trends? What is the unemployment characteristics? What financial strategy may be used to pay for development? Lastly, what is the length of the playing season? (Eckhoff, 1985).

Section II: LAND USE PLANNING, ZONING, AND THE APPROVAL PROCESS

Land use planning is the proposed future development for any tract of land (Peng, p. 3) and is an area of practice common to the profession of landscape architecture. Its practitioners are referred to as

planners (Davis, p. 126). "A planner is a person, who by some combination of education, experience, and vocation, is concerned in some directive capacity in land use planning processes. This means work in some responsive capacity in assembling, evaluating, and applying much and varied information aimed toward some land use purpose. Some type of land use plan is normally developed by planners of this type if parcels of land are to be developed.

In order for land use plans to become implemented, zoning, as a "police power" of the state and locality, is the device by which a land use plan is implemented. If a region is not incorporated into a municipality, the county planning commission in which the region is located becomes the authoritative unit that approves or disapproves proposed zoning changes. If an area is part of a larger municipality, a city zoning board or commission are enabled to make approvals. It is customary that physical land planners, in conjunction with developers, are normally the persons who apply for such zoning approvals and must interact with the proper governmental officials in the process.

Following the denial or acceptance of any land use plan, a set of subdivision regulations must be developed for select portions of the development if the residential portion of the development "will constitute a permanent asset to the community, and will provide the maximum degree of comfort, health, convenience, and beauty consistent with true economy" (Patterson, p. 93). Like zoning, subdivision regulations exist as a police power of the local governing authority (city or county) and are administered by the state enabling legislation (Patterson, p. 94).

Developers and planners normally spend a considerable amount of time applying for approvals, visiting local governmental offices with plats awaiting review, acceptance, or denial, and attending local public hearings regarding the proposed development. No one process for governmental approval exists, thus, the process can be complex often taking months or years to accomplish. Special cases may also arise. In Florida, Hawaii, New York, and Vermont, regional planning boards may intervene in the local subdivision approval process to override local subdivision control decisions sometimes causing delay (Patterson, p. 94). In addition to approval needed for urban development (subdivisions), projects proposed in environmentally sensitive areas may be more difficult to obtain (due to the natural affinity for recreational projects to be located in special environmental areas). Even though the proposal could represent the best land use practices, approval is never guaranteed.

Critical design decisions that must be made concern the layout and arrangement of major site features of which the golf course and real estate are a majority. After these decisions have been made and documents have been prepared reflecting those decisions, local governmental approval is then acquired concerning the preliminary layout of roads, lots, and easements. Submission for master plan approval informs the municipal planning commissions of the activity of developers in terms of proposed land development. Although the golf course normally within the development requires no formal approval regarding its location, its placement is delegated by the placements of roads, lots, easements, and other land use elements. Once approval is granted,

changing the locations of land use elements for whatever reason considerably lengthens the preparation time required to revise plan drawings and the subsequent governmental approval of those revised plans. It is imperative, therefore, that development team members collaborate extensively during the preliminary design stages of the process to help minimize or eliminate these types of problems.

The basic steps in the subdivision approval procedures are: 1) pre-application; 2) preliminary plat submission for approval; 3) submittal of final plat; 4) paying appropriate fees to local governmental units (as approval occurs); and 5) constructing the site improvements.

SITE SELECTION

Selecting a site for the development may occur during or as a result of the market analysis. The market study may impact the development concept which, in turn, may impact the location, size, and the configuration of the site chosen. Normally, a developer will seek a site compatible with the project concept and not vice-versa. Rarely is a project considered feasible on a parcel of land already owned by the developer (O'Mara, 1978).

The size and configuration of the site needed will depend upon its projected use, size, and the market (O'Mara, 1978). On developments encompassing several hundred acres, options for expansion should occur through small, adjacent parcels. With respect to individual golf courses, a minimum of 120 acres is required for a regulation 18-hole course including the clubhouse, parking, and driveways (Jones and Rando, 1973).

Physical characteristics of the site that are normally analyzed and diagrammed include topography and slope, hydrology (watersheds, water source features), relative high and low elevation, geology, oceanography (if applicable), vegetation types, presence and potential for wildlife, meteorology (climatical data), ecological and environmental factors (views, sounds, and special conditions), utilities, circulation and related infrastructure (highways, roads, airports, ports harbors, bridges, and dams), natural resources, historical sites and landmarks, existing land uses and proposed changes, and the permitting process-- legal restrictions (zoning, building codes and restrictions, and any changes to these), certainty of approvals over time, easements, and deed restrictions.

Section III: CONCEPTUAL PLAN DEVELOPMENT

The conceptual development stage of the process may be accomplished during or after the physical site analysis has been completed. Program elements for facilities in a particular project should be further developed and tested by utilizing the data and formulas from the market analysis. These studies will evaluate various development areas and the maximum usage for those areas will be determined through graphic means; conceptual diagrams, ideal functional relationship diagrams, capacity studies delineating gross acreage available for development, areas for preservation, density and yield studies, and preliminary sketches showing special features or characteristics the project may have. Engineers, physical land planners, and economists normally perform these duties (Smart, 1981). Architects, simultaneously, are to evaluate

architectural types, forms, and appropriate construction methods for the area; establish design criteria and standards for construction, research local construction costs, building codes, requirements, and restrictions.

As a result of integrating land planning and engineering, conceptual land uses will need modifying as physical analysis and program concepts are refined. More detailed studies will be required as portions of the site are chosen for development based on priority. Preliminary projections for financial negotiations will also be prepared.

Section IV: FINANCIAL ANALYSIS/FINANCING THE PROJECT

Development of a financial plan for implementation is needed to revise, if necessary, the phasing and composition of the project. The financial plan is also needed to evaluate and analyze the financial feasibility of the proposed program (Smart, 1981). This is done to optimize economic returns consistent with project goals and objectives. It also provides a data base and a means with which to monitor and maintain financial control throughout the implementation of the project.

To insure this, the following procedure is recommended:

- 1) development of parameters not previously accounted for in the market analysis, that is, infrastructure for roads, utilities, residential site development costs, and development costs, and costs for amenities such as golf courses, swimming pools, bike paths, tennis courts, etc.
- 2) analysis of inflationary effects on project revenues and costs
- 3) preparation of pro-forma statements which are lists of profit/loss components associated with project development (O'Mara, 1978). Cash flow statements, also as part of the pro-forma statement, is a breakdown (in 3 month or "quarter" time periods) of expected revenues and costs of the project

4) revisions to the original development plan based on financial analysis review and upon consultation with the physical land planner

5) interpretation of the financial analysis in regard to timing, phasing, strategy, marketing program, or the potential for a joint venture or bulk land sales

The financing process, in conclusion, involves 1) deciding whether or not a capital market should be approached for funds, 2) preparation and distribution of the mortgage package to interested lenders, 3) filing of interested lenders applications, 4) negotiation about the financing terms, 5) making the "go, no go" decision, 6) signing commitment letters and paying the appropriate fees.

The sources for funds are many and will depend upon the types of financing sought. Sophisticated and well presented feasibility analysis is the best tool for securing funds for construction by a lender (Smart, 1981). As a member of the development team, an intermediary who specializes in financing techniques who could seek out funds in an otherwise imperfect capital market may prove to be an effective means of determining the optimum financing strategy for the particular development during this stage.

The financial analysis is a highly complex component in the development process. Since developers are normally the individuals taking the risk in any land development effort, they must understand the types and purposes of various forms of project financing strategies. Key issues on all levels of financing must be resolved before any project may be considered feasible. The financing arena is complicated, consisting of financing strategies, front end development costs, capital markets, equity and debt financing, construction financing, and

permanent financing.

Two types of financing exist for residential communities and are dependent upon risk: equity and debt financing (O'Mara, 1981, p. 94). Equity financing is a strategy in which a developer invests his own time and money in a development. In equity financing, the amount of return for the developer cannot be precisely determined because his return depends upon profit (Smart, 1981, p. 94). Debt financing or risk utilizes money from lending sources that are used in addition to the owner's or developer's money. The interest on debt risk financing is fixed and known, and is also considered less risky than equity financing (Smart, 1981, p. 94).

Three different front-end costs exist in this development type apart from planning and engineering services; land acquisition, site improvements, and the addition of amenities of which the golf course is a part (O'Mara, 1978, p. 96).

Land Acquisition

Since private lending institutions normally do not assist a developer in purchasing land, he must do so himself. In order to ease the risk, the land option was devised. An "option" is a land purchasing tactic in which the developer may decide to either sell a parcel of land or to develop the tract of land after a certain amount of time has past. Joint ventures are just one of the methods used for acquiring tracts of land for potential development. Investors may receive equity interest in the development if the development proves feasible.

Site Improvements

The site improvements include the construction of water lines, sewers, roads, electric and telephone lines and any improvements either on- or off-site apart from the dwelling units themselves. The costs for site improvements are usually so great that innovative financing for construction becomes one of the critical factors in land development (O'Mara, 1978, p. 96). The financing of site improvements may be difficult for the smaller, less experienced developer because no set method exists for acquiring money to cover these high, front-end costs. Larger development companies usually have more solutions available to them. Developers must also be careful not to make new homeowners pay large down payments for the improvements because of the effect it might have on the previously determined housing market.

Construction Financing

Many different techniques exist for financing the construction of part or all of the development only which a few can be listed here. Construction financing, many times, will come from commercial banks, loan institutions, and real estate investment trusts (R.E.I.T.'s), pension funds, and mortgage bankers.

Section V: PREPARATION OF A PRELIMINARY PLAN

A preliminary master plan will then be prepared to help review and refine preliminary cost estimates and to update facilities programs by the economic/market planners. According to Eric Smart, other components include:

- the preparation of detailed land use plans;

- the refinement of carrying capacity studies of gross acreage of development;
- the preparation of studies demonstrating alternatives for review by the economic planners;
- the preparation of project design guidelines.

At this stage of design development, all aspects concerning site planning, physical design, engineering, architecture, financial and market studies will be evaluated. The physical planners normally proceed with overall site plans. Alternatives to land use planning types within the constraints of prior planning efforts will conclude the preliminary design stages (Smart, 1981).

Development of a Community Analysis

A community analysis helps to:

1) identify all the factors, conditions, and forces both adverse and supportive which could influence the decisions and actions of public officials, community leaders, and special interest groups (Smart, 1981).

2) deal with the appropriate approval issues and the individuals required for approval. All permits must be identified.

The approval process is a continuing one, often taking years to accomplish.

The Master Plan

The overall master plan should include but not be limited to the following:

- 1) Residential areas
- 2) Commercial areas and special features
- 3) Recreational areas, open spaces, and parks
- 4) Circulation (pedestrian, bicycle, and auto)
- 5) Historical/Cultural features
- 6) Vegetation Patterns

- 7) Land for future development and/or acquisition
- 8) Utilities and Maintenance items
- 9) Commercial/public service elements
- 10) Infrastructure elements; airstrips, bridges, dams, access roads, etc.
- 11) Access
- 12) Topography
- 13) Adjacent land uses
- 14) Drainage or watersheds

Included with the master plan, many times, are:

- 1) Perspectives illustrating the character of the proposed development
- 2) Perspectives, elevations, and sections showing design intent
- 3) Utility plan, sizes and types
- 4) Large scale detail areas
- 5) Phasing plans
- 6) Long term ownership documentation

Development Phasing

Phasing development construction has grown increasingly more complex due to the increased sophistication of almost every project type and is dependent upon the timing and sequence of events related to development. Flexibility for the developer is a key ingredient in determining a phasing strategy (O'Mara, 1978, p. 198).

The components that determine phasing include the market analysis for the project, relative size of storm drainage watersheds, topography constraints, and the number of cut and fill operations necessary in constructing a certain phase, and probably most important, to determine the optimum number of units that can be absorbed by the market in a reasonable amount of time (O'Mara, 1978, p. 140). Market absorption will depend upon several factors itself including marketing the development. The number and type of units that will normally be built in the first stage of development depend upon the type of construction

d length of the production cycle in time (O'Mara, p. 140). One hundred to 150 single family units is optimum while no more than 150 apartment units should be constructed during a "phase one" operation.

Also of importance is access to the site and existing utilities. As U.L.I. Residential Council member Raymond Brock says, "A development phase should be an absorbable entity geared to the market with consideration given to minimizing such front end costs as excessive utility extensions". This is especially true in determining the extent of phase one of a development.

In determining the specifics of any phase, the scope of development should be clearly understood. This includes resolving and noting densities for the various areas within the development. The remaining parcels of land should be zoned and approved as deemed necessary and appropriate. Remaining parcels of other phases should be zoned and approved with respect to densities and general housing types.

Phasing should ideally be a 4-stage process;

- 1) the developer should gain feedback from city governments and agencies on the "acceptability" of his proposed development;
- 2) the preliminary plan will be developed to agitate legislative action (zoning) as well as be utilized as a tool to resolve design issues;
- 3) final development plan will normally concrete the preliminary design;
- 4) approval of various phases of development will occur as part of the overall master plan.

The most important stage is the preliminary design stage. In this stage and in the third, limits are set for formal approval and public hearings are scheduled. Public approval for project phasing strategy

must be obtained.

Amenities for a project (clubhouses, public boat docks, golf courses parks, tennis courts, pools, etc.) should be phased along with the construction of housing units. A block of units should be served by one amenity package under the management of one community association. Some believe most of the amenities should be available to the new residents of phase one with additional space allotted for the expansion of amenities after additional development phasing occurs. Since the golf course acts as a major market attraction device for the development, it is usually one of the first amenities to be constructed. In this way, the phasing of dwelling units that fronts onto the golf course is flexible because of the potential number of units that may be placed near the golf course.

Section VI: Detail Design of Elements

The design of detail elements in any development includes precise layout plans, grading plans, building plans, lighting, landscaping, as well as security provisions. The building architect, landscape architect, graphic designer, and interior designer should develop a detailed design vocabulary to compliment and reinforce the project image and be reviewed by the market analyst or market manager before final adoption.

Section VII: Marketing the Project

The function of marketing specialists is twofold. First, to develop the right product, at the right time, in the right place for the right price (Smart, 1981). Second, the marketing specialists help to

determine target markets and to monitor them continuously. They are considered to be integral in the development process. The marketing effort should reflect the appeal desired by the developer through the creation and distribution of their primary sales tools--project brochures.

Section VIII: Post Construction Operations

The management and operation of a recreational/resort type development is similar to residential developments but differ in the fact that resort type projects rely primarily on people who occupy units within the development on a temporary basis.

Two basic types of management programs exist; privately-owned, "for profit" enterprises, and "not for profit" community associations (Smart, 1981, p. 57). In "not for profit" ventures, the transition period between developer-controlled and homeowner-controlled operations is considerable.

Under both types, two forms of land use controls may be utilized in order for the development to maintain a desired level of aesthetic appeal. They include restrictive covenances and community associations. The community associations exist to transfer the management tasks from the developer to the property owners or when the developer management responsibilities are terminated.

The management structure of operations of the development must be determined during the early planning stages of the project. The particulars of ownership transition from developer to homeowner association should be clearly explained in the proper legal documentation. The period of developer ownership should also be well

defined.

Essentially, when a development undergoes its own management operations, the last stage of the development process is complete. Land planners may have little involvement in this transitional phase from developer to homeowner unless they are partners in the development corporation or are involved in similar circumstances.

CHAPTER THREE

HYPOTHESIS AND METHODOLOGY

Purpose

The purpose of this study is to assess the current state of involvement by various design professionals in the golf course community development process. In addition, the extent of professional collaboration between the participating design professionals and other members of the development team was assessed. Involvement is defined as the extent of direct participation by a professional and was measured by the extent or magnitude of direct or indirect influence the professional has in accomplishing a task in the development process. The study will examine the extent to which a design professional typically becomes involved in all areas of the development process including market or financial analysis, post construction management operations, and the approval process.

Several different types of environmental design professionals were surveyed. Included were those who practice golf course community planning and golf architects who sometimes practice land planning in addition to golf course design.

It was anticipated that the design professionals typically do not involve themselves with the process of market analysis data collection. However, data and information as derived from market analysis may be used by designers as a basis for design decision-making. It was also predicted that designers are extensively involved in the approval process with state, county, and municipal officials. In addition, the designers were not expected to be highly involved in the post construction management operations of a golf community. Differences in response to these type of tasks were anticipated as well.

Collaboration

Certain phases of the development process involve collaboration between development team members. Two such areas of intense collaboration include project feasibility and preliminary design development. The extent of collaboration will be determined in these two phases of the design process and will be treated in the same manner as the development process tasks.

Marshall claims that landscape architects practice, and have practiced, in the presence of specialist for many years. These may include bankers, lawyers, realtors, golf architects, building architects, management consultants, landscape designers, and engineers. In order for specialists to contribute in an holistic manner to projects, they must operate as part of a larger "team". Mutual cooperation and coordination between the design professionals, the developer, and other team members becomes crucial if the development is to be designed and subsequently built as planned. Therefore, assessing the participation of land planner collaboration with other members of the

golf course community development team, will accompany this study.

The areas of collaboration to be analyzed include the project feasibility stage and the preliminary design phase of the development process. Project feasibility was chosen primarily to determine the potential impact or influence design professionals may have on the this initial stage of project development. The preliminary design phase was also chosen as a stage for examining professional collaboration in that the design and placement of all major elements in the development along with a number of design alternatives is accomplished as a result of the collaboration among many different professionals.

The extent of collaboration between the various design professionals and other members of the development team will differ depending upon the issue to be resolved. Differences will be measured between categories of a variable for the same task. The subject matter that is normally discussed between the participants and other members of the development team will not be determined in this study due to the nature of collaboration a specific situation may require. The author predicts that the participants are highly involved with developers, golf architect(s), engineers, and building architects as project designers. Collaboration with other development team members in which the planner has indirect contact (marketing personnel, economists, etc.), however, is anticipated to be limited.

Variables to be Examined

Originally, the level of participation may have depended upon several variables. They included:

- 1) the amount of experience the planner possesses;

- 2) the amount of departmental managing that the design professional is responsible for;
- 3) the personal aspirations of designers in terms of the type of work they choose to practice.

Later, a determination was made that other variables should be examined as possible determinants that may exhibit different levels of response between the different types of design professionals. These variables are:

- 4) the type of firm to which the planner belongs, and;
- 5) the type or orientation of practice the designer commonly engages.

It was also anticipated that examining variables four and five from above will result in responses that are a reflection of the individual designers and not the organization to which they are employed.

Variable 1: Amount of Experience

A general level of experience may have a great impact on the extent to which planners involve themselves in the golf course development process. To say that novice or lesser experienced design professionals are involved primarily in producing documents related to design and construction of a proposed project may be a safe assumption. As a professional gains experience, the job responsibilities may shift from drafting and preparation of various drawings to management level duties and tasks. Included in these types of tasks are ones that do not directly relate to design issues (a non-design task); determining project feasibility or applying for approvals to name only two. It was anticipated that the more experience a designer possesses, a greater

level of involvement by the professionals may be measured in these non-design tasks.

Variable 2: Departmental Managing

This variable relates indirectly to the first in that the management and coordination of design professionals is imperative in order to establish and maintain a certain level of order and direction, particularly in large service-oriented type firms. A person may not necessarily become a manager as a result of experience. It was hypothesized that departmental managers, on account of their position and experience, will be involved in non-design tasks to a greater extent than will other design professionals with a similar level of experience in a non-managerial position.

Variable 3: Personal Aspirations of the Planner

This variable was later determined to be both of little consequence in determining the level of design professional involvement. It would also have been difficult to measure. This variable could not be clearly defined as a valid variable in this study and, therefore, was not used.

Variable 4: The Type of Firm

The participants may belong to any number of firm types -- golf architecture & planning, multi-disciplinary, landscape architecture & planning, architecture & engineering (A & E), architecture only, and land planning only.

The above types of firms have basic inherent differences as to the characteristics of services they offer. The following definitions, however, are not intended to specifically categorize a firm type. On

the other hand, a great deal of overlap may exist between them.

Golf architecture & planning firms primarily offer design services related to golf course design and development. Landscape architecture firms, generally speaking, become involved in the design and development of a variety of project types -- parks and recreation, site development, urban design, and residential design to name just a few. Multi-disciplinary firms, while occasionally employing landscape architects as physical land planners, utilize the skills from a number of different professions and backgrounds, namely, the combination of talents from the professions of environmental design and engineering. Architecture firms, in general, concentrate on the design of buildings and structures. This type of firm relates strongly to architecture and engineering (A & E) firms that, for the most part, offer a somewhat broader range of services regarding architectural practice.

Variable 5: Type or Orientation of Practice

The type of practice that the design professionals normally engage was also investigated as a possible factor in determining differences in involvement. Three types of practice that were studied included:

- 1) ones whose professionals practice golf course design exclusively, primarily, golf course architects;
- 2) ones whose professionals practice a combination of golf course design and land use planning;
- 3) ones whose professionals typically do not practice any golf course design, namely, physical land use planners.

These three basic types of practice as different groups are less defined than the participants that are grouped by years experience or by

the type of firm to which the designers belong. In addition, a considerable amount of overlap between these groups probably exists. Conclusions based on responses from designers representing these types of professional practice may be more difficult to ascertain due to this lack of definition.

METHODOLOGY AND DATA COLLECTION

Developing the Sample Pool

Data for this research effort was collected by the use of a survey completed by design professionals who practice both land planning and golf course community development. Originally, the pool of professionals surveyed was to be assembled using at least 3 publications:

- 1) The 1985 Landscape Architects Membership Handbook;
- 2) In Practice: A Rooster of Private Firms, Public Agencies, and Academic Programs which Employ Landscape Architects and;
- 3) The 1984-85 National Directory of Landscape Architectural Firms published by the Professional Practice Institute of the American Society of Landscape Architects. This publication is not extensive in coverage of firms because a fee must be paid by those firms to appear in the directory.

These publications, however, had little to do with professionals involved specifically with golf course community development. As a result, other methods of assembling a pool of participants was utilized, primarily, direct contact with firms and with professionals known to have had some experience with the development of golf course communities.

The professionals contacted first were golf course architects

themselves. The list of golf course architects and designers provided by the National Golf Foundation was the most effective source of golf architects to be telephoned. Approximately 25 golf "architects" on the list were randomly selected, telephoned, and asked if they practice some form of land use planning along with golf course design. Many of them said they did and would entertain a survey from the researcher. Other golf course architects gave names of designers and planning firms with whom they commonly collaborate. Others mentioned planners whom they knew practiced community development planning but had no formal association with the golf architect. To verify the information given by the golf architects, the design professionals were referenced, telephoned, and were asked if they would complete a survey to which most of the designers agreed. A separate list was then compiled of names and addresses of those to be surveyed.

The Pre-test Survey Form Design and Administration

Assistance on the survey design and cover letter was obtained from Professor Vicki Clegg, employed in the Office of Campus Planning and Analysis, Kansas State University by suggestion from the researcher's thesis committee. The pre-test survey form was designed to test the survey for readability, comprehensiveness, and length of completion time, and was not intended to be statistically analyzed. To aid in making the pre-test survey form easy to read, "zip-a-tone" shading film (10%, 85 lines/inch.) was used to outline the columns of numbers and the corresponding choices and was printed on a Brother HR-35 letter quality printer; the cover letters, dot matrix.

The pre-test survey consisted of several parts. Two pages of

demographic questions and seven pages of development "tasks" comprised the pre-test survey form. A one-page cover letter, pre-test survey form, and a self-addressed stamped envelope for returning completed surveys comprised the pre-test package. All pre-test forms were copied on bond paper and mailed in plain white envelopes. The names and addresses of the planners and their firms were hand-written on the envelopes.

Five professionals were asked to complete the pre-test form. Four were physical land planners, one; a golf architect. Four of the surveys were completed and only one planner made comments as to the contents of the survey. No other comment was made about the survey length, completion time or the types of questions asked. The data obtained from the returned pre-test forms was not statistically analyzed.

Changes from the pre-test form to the final form--DEMOGRAPHICS

Several changes to the pre-test survey form were suggested by Professor Sally McNulty in the Department of Statistics, K.S.U., and by the researcher's thesis committee. Changes to the "task matrix" section of the survey was at the discretion of the researcher.

On the pre-test form, participants were asked, in question one, to indicate the number of golf course development projects in which they have been involved. One of the choices for response was "none". After determining that the target participants had been involved to some extent in this project type, a response of "none" served no purpose and was omitted from the final survey form.

Another content change was made concerning the professional registrations or "titles" held by the participants and their

professional society affiliations. In the pre-test form, participants were asked to indicate specifically to whether they were registered landscape architects and to no other registrations. They were also asked if they were currently members in the American Society of Landscape Architects. As the question was stated, no other professional affiliation could be indicated. On the final survey form, the participants were asked to indicate their professional registrations and society affiliations as they were listed in the demographics section of the survey. This allowed for a broader range of choices to be indicated by those participants. Question nine, the "position held in the firm" question, was omitted by suggestion from personnel in the Department of Statistics because a redundancy was thought to have existed between that question and question eight, "Number of years professional experience". It was assumed that the design professional's level of professional experience (in years) could approximately determine his position or status in the firm for which he is employed. However, this is not always the case. The question should probably have remained as initially written on the survey form.

Another change in the "demographics" portion of the survey was the addition of an open ended question concerning the approximate percentages of time the participants spent on management, collaboration, or production-oriented tasks. Finally, question three, asking the participants to respond to the "type of practice" to which they belong, was reduced from five choices to three choices and was placed at the bottom of the demographics section.

Changes from the pre-test to the final survey -- MATRIX

Several changes were made to the matrix section of the survey form. Many tasks that were asked of the pre-test participants were not asked of the final participants. Although the final survey form was shortened, the cost to mail the survey "package" complete with cover letter, return envelope, and "results" notification was still \$0.39. Shortening the survey form by two pages permitted the use of a \$0.22 stamp on self-addressed stamped returning surveys.

From suggestions given by a pre-test participant, a section entitled "Land Use Planning, Zoning and the Approval Process" was added after the "Project Feasibility" section. The tasks were refined in Section VII (The Approval Process) and from various other sections of the pre-test form. Many sections were reformatted. This shortened the survey form and made it easier to follow. Section V (Developing the Preliminary Plan) was shortened significantly while Section II (Site Selection) was omitted altogether from the final form. Pre-test matrix section consisted of 84 tasks. The final matrix section contained 62. The final survey form used "zip-a-tone" 20% shade film @ 65 lines/inch. due to increased visibility when the original survey form was photocopied.

THE FINAL SURVEY

The participation assessment portion of the survey is formatted as a matrix chart and consists primarily of the development process as outlined in Chapter two, Background, of the thesis. Major sections are entitled:

- I. Market Analysis/Project Feasibility;
- II. Land Use, Zoning, and the Approval

- Process;
- III. Preliminary Design Development;
 - IV. Financial Analysis/Project Financing;
 - V. Preliminary Plan Development/Detail Design
 - VI. Detail Design of Elements
 - VII & VIII. Post Construction Operations

Each of these major sections of the development process were further broken down into individual tasks. These tasks were listed from top to bottom as shown with main section headings printed in boldface. Responses were placed on a scale located on the right side of the survey and were numbered from "zero" to "six" with the number "0" appearing at the left, in a column (designating a "no involvement" in a particular task) and "6" at the right (designating a high or "complete" level of participation).

The relative level of involvement by participants in each of the tasks was determined by the numerical value they indicated on the matrix.

Three different cover letters accompanied the final forms, depending upon the situation. Cover letter "A" on page 47 accompanied the survey form sent to designers with whom initial contact was made. Cover letter "B" on page 48 accompanied surveys to those professionals with whom initial contact was not made, and cover letter "C" on page 49 accompanied the surveys mailed in the follow-up procedure.

Sixty-seven surveys were initially mailed during the first week in March, 1987. Fifteen surveys were sent to one planning firm in Florida at their request but only four surveys were completed by planners in that firm. The uncompleted surveys were returned to the researcher and were used in a follow-up procedure. After three weeks, 16 surveys,

accompanied by a different cover letter, were sent to the professionals who did not respond to the surveys sent in the initial mailing procedure.

A total of 36 surveys have been returned but only 35 completed surveys were analyzed for this study. The 36th survey was not used primarily because the data extracted from one survey would have altered mean responses by no more than 1/10 a point in the matrix portion of the survey. In addition, the frequency of response and crosstabulation tables would have necessitated recalculation in order to incorporate the thirty-sixth survey.

FIGURE 3-4, THE FINAL SURVEY FORM COVER LETTER "A"

Date

Dear Mr. -----

Enclosed is the survey form we discussed over the telephone concerning your professional involvement in the development process of a golf course community. Although your participation in this study is completely voluntary, YOUR PARTICIPATION WOULD BE GREATLY APPRECIATED, ESPECIALLY SINCE THE NUMBER OF PROFESSIONALS INVOLVED IN THIS AREA OF PRACTICE IS LIMITED. The study offers no direct benefit to you except the results of the study, however, no foreseeable risks exist. You may choose not to answer any of the questions on the survey. Each survey is numerically coded insuring your confidentiality. No one, except myself, will have access to the data given on a completed survey. A self-addressed stamped envelope is included for your convenience in returning the completed survey as soon as possible.

If there are any questions about completing the survey or if additional surveys are needed, please call the KSU Department of Landscape Architecture at (913) 532-5961 and leave a message for either myself or Prof. Robert Page, my thesis committee chairman. I will certainly return the call.

The results of this research will be available during the fall of 1987. If you are interested, I will be happy to send you a summary of the results.

Sincerely yours,

John Petrushka, Graduate Student
Department of Landscape Architecture
Kansas State University

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FIGURE 3-5, THE FINAL SURVEY FORM COVER LETTER "B"

Date

Mr. -----

Dear Mr. -----

As you are probably aware, the planner's role in the development process of golf course communities is involving and complex, due partially to the "professional team" collaboration that is typical in this development effort. When a designer collaborates with other professionals, tensions may arise out of a misunderstanding of the roles played by the planners and the other members of the development team.

I propose to clarify the roles the land planner plays in these endeavors by surveying practicing land planners and golf architects who occasionally operate as planners directly involved in the development of golf course communities. As a result, the developer and team members will be better informed as to the level and type of professional involvement typical of the land planner in producing a golf community.

Your participation in this study is completely voluntary. The survey itself is not coded in any way, therefore, the answers you give on the survey cannot be traced back to you or your firm. No one, but myself, has access to the data given on a completed survey.

YOUR PARTICIPATION WOULD BE GREATLY APPRECIATED, ESPECIALLY SINCE THE NUMBER OF PROFESSIONALS INVOLVED IN THIS AREA OF PRACTICE IS LIMITED. A self-addressed stamped envelope is included for your convenience in returning the completed survey as soon as possible. If there are any questions about completing the survey or if additional surveys are needed, please call the KSU Department of Landscape Architecture at (913) 532-5961 and leave a message for me. I will certainly return the call.

The results of this research will be available during the fall of 1987. If you are interested, I will be happy to send you a copy of the completed study.

Sincerely yours,

John Petrushka, Graduate Student
Department of Landscape Architecture
Kansas State University

enclosures

FIGURE 3-6, THE FINAL SURVEY FORM COVER LETTER "C"

Date

Mr. -----

Dear Mr. -----,

Our day is filled with tasks that demand our total attention. Some of those tasks are secondary to others. Among them include indirect duties-- explaining to someone a process or completing surveys for research purposes.

If at all possible, take a few minutes to complete the enclosed survey. If I have not yet received your completed survey, I thank you for your participation.

You may choose not to answer some of the questions. Each survey form is coded so that no one except myself has access to the information you give. In addition, no survey form can be directly traced back to your firm.

Response from participants in this research effort has been very good. However, I still need for you to return a completed survey to me as soon as possible so that my data analysis will be accurately represented.

YOUR PARTICIPATION WOULD BE GREATLY APPRECIATED, ESPECIALLY SINCE THE NUMBER OF PROFESSIONALS INVOLVED IN THIS AREA OF PRACTICE IS LIMITED. A self-addressed stamped envelope is included for your convenience in returning the completed survey as soon as possible. If there are any questions about completing the survey or if additional surveys are needed, please call the KSU Department of Landscape Architecture at (913) 532-5961 and leave a message for either myself or my thesis committee chairman, Prof. Bob Page. I will certainly return the call.

The results of this research will be available during the Fall of 1987. If you are interested, I will be happy to send you a copy of the completed study.

Sincerely yours,

John Petrushka, Graduate Student
Department of Landscape Architecture
Kansas State University

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FIGURE 3-7, THE FINAL SURVEY FORM

PLANNER DEMOGRAPHICS

DIRECTIONS: PLEASE PLACE AN "X" IN THE BLANK BESIDE THE RESPONSE THAT YOU SELECT FOR EACH OF THE FOLLOWING NINE ITEMS.

1. How many Golf Course Community projects have you been involved?

- 1-5
- 6-10
- 11-15
- 16-20
- more than 20

2. Currently, are you involved in the development of a Golf Course Community?

- Yes
- No

3a. Typically, what percentage of your time is spent involved with a golf course community as opposed to other project responsibilities?

- Less than 5%
- 5-25%
- 26-50%
- 51-75%
- More than 75%

3b. Of the time spent on Golf Course Community development, what percentages of time do you spend on the following responsibilities?

- % Project Management tasks, i.e., time budgeting, paperwork, task delegation, etc.
- % Collaboration with other professionals on development teams.
- % Production time, i.e., drafting, preparation of drawings, reproduction, etc.
- % Other (please list, if applicable) _____
- % _____

4. Are you a registered:

- Landscape Architect?
- Architect?
- Golf Course Architect?
- Planner?
- Engineer (Civil or otherwise)?
- Other? (please list) _____

5. To which of the following professional society(ies) are you a member?
- American Society of Landscape Architects
 - American Institute of Architects
 - American Planning Association
 - American Society of Golf Course Architects
 - American Society of Civil Engineers
 - Other (please list) _____
6. What is the extent of your professional land planning experience? (do not include golf course design)
- 1-5 years
 - 6-10 years
 - 11-15 years
 - 16-20 years
 - More than 20 years
7. How many professionals does the firm for which you work employ (excluding support, i.e., clerical, reproduction, etc.)
- 1-5
 - 6-10
 - 11-25
 - 26-50
 - More than 50
8. Which of the following best indicates the type of firm for which you are employed?
- Multi-disciplinary
 - Architectural-Engineering
 - Golf Architecture and Planning
 - Engineering-Planning
 - Landscape Architecture-Planning
 - Architectural only
 - Land Planning only
 - Other; please explain _____
9. Would you consider your firm to practice:
- Golf Course Design almost exclusively;
 - Golf Course Design along with Land Planning services;
 - No golf course design: the firm relies on the services of a golf architect if a golf course is needed to be implemented into a development.

DIRECTIONS:

Keep in mind that "Participation" should be interpreted as the relative extent of direct participation. On the right side of the survey sheet, please indicate the relative amount of participation for each task by circling the number representing the extent of participation (a "0" for "no involvement" to a "6" for the highest level or "complete" participation).

completely
 to a very great extent
 to a great extent
 to some extent
 to a little extent
 to a very little extent
 no involvement

Section I: (Market Analysis/Project Feasibility)

TO WHAT EXTENT DO YOU (AS A PLANNER) TYPICALLY PARTICIPATE IN:

Collaborating with the following individuals in the feasibility stage of the development process of a typical golf course community?

- (1) Developers. 0 1 2 3 4 5 6
- (2) Economists. 0 1 2 3 4 5 6
- (3) the Marketing Research Firm 0 1 2 3 4 5 6
- (4) Others (please list) _____ 0 1 2 3 4 5 6

Collaborating with the following individuals in determining the feasibility of a golf course as a recreational amenity?

- (1) Developers. 0 1 2 3 4 5 6
- (2) Economists. 0 1 2 3 4 5 6
- (3) Golf Architects 0 1 2 3 4 5 6
- (4) Others (please list) _____ 0 1 2 3 4 5 6

Determining the feasibility factors of the following elements pertaining to the development:

- (1) The affected market area for residential development? 0 1 2 3 4 5 6
- (2) The potential for employment?. 0 1 2 3 4 5 6
- (3) Market conditions pertaining to housing vacancies vs. occupied units in the area surrounding the proposed development?. 0 1 2 3 4 5 6

FIGURE 3-7 (Cont.), THE FINAL SURVEY FORM, page 4

completely
 to a very great extent
 to a great extent
 to some extent
 to a little extent
 to a very little extent
 no involvement

Section I: Project Feasibility (cont.)

TO WHAT EXTENT DO YOU TYPICALLY PARTICIPATE IN:

Determining the following feasibility factors of:

- (4) The market share concerning:
 - (a) a daily fee golf facility? 0 1 2 3 4 5 6
 - (b) residential development? 0 1 2 3 4 5 6
- (5) The impact on golf as an amenity by analyzing existing golf courses in the vicinity? 0 1 2 3 4 5 6

Analyzing data concerning the following:

- (1) The amount of construction activity in the area surrounding the proposed development? 0 1 2 3 4 5 6
- (2) Market absorption for the residential units? 0 1 2 3 4 5 6

Section II: (Land Use, Zoning, and the Approval Process)

TO WHAT EXTENT DO YOU TYPICALLY PARTICIPATE IN:

The approval process by:

- (1) preparing the preliminary plat for govt. approval? 0 1 2 3 4 5 6
- (2) managing intervention of:
 - (a) state agencies in the approval process? . . . 0 1 2 3 4 5 6
 - (b) county agencies in the approval process? . . 0 1 2 3 4 5 6
- (3) interacting with the local planning commissions for zoning approvals? 0 1 2 3 4 5 6
- (4) interacting with the local board of adjustments or board of appeals in the zoning process? . . . 0 1 2 3 4 5 6
- (5) public review process for zoning approvals? . . . 0 1 2 3 4 5 6
- (6) preparing the final plat for govt. approval? . . . 0 1 2 3 4 5 6

The preparation of the subdivision regulations? 0 1 2 3 4 5 6

Changing or modifying zoning ordinances for the development? 0 1 2 3 4 5 6

FIGURE 3-7 (Cont.), THE FINAL SURVEY FORM, page 5

completely
 to a very great extent
 to a great extent
 to some extent
 to a little extent
 to a very little extent
 no involvement

Section III: (Preliminary Design Development)

TO WHAT EXTENT DO YOU TYPICALLY PARTICIPATE IN:

Graphically illustrating to others involved in design development, the inventory and analysis of all site data?	0	1	2	3	4	5	6
Continuing to develop program elements as determined by the market analysis?	0	1	2	3	4	5	6
Determining carrying capacities for specific program elements arranged in various ways on the landscape?	0	1	2	3	4	5	6
Producing quick perspective sketches showing special features or characteristics of the desired project?	0	1	2	3	4	5	6
Collaborating with the following professionals on more than 2 occasions in preliminary design development?							
(1) Economists	0	1	2	3	4	5	6
(2) Engineers (civil or otherwise)	0	1	2	3	4	5	6
(3) Golf Architects	0	1	2	3	4	5	6
(4) Other planners	0	1	2	3	4	5	6
(5) Building Architects	0	1	2	3	4	5	6
(6) Others (please list)							
_____	0	1	2	3	4	5	6
_____	0	1	2	3	4	5	6
Reviewing and evaluating architectural types, forms, and construction methods?	0	1	2	3	4	5	6

FIGURE 3-7 (Cont.), THE FINAL SURVEY FORM, page 6

	completely
	to a very great extent
	to a great extent
	to some extent
	to a little extent
<u>Section IV: (Financial Analysis and</u>	to a very little extent
<u>Project Financing)</u>	no involvement

TO WHAT EXTENT DO YOU TYPICALLY PARTICIPATE IN:

- Preparing pro-forma statements concerning the project development and feasibility? 0 1 2 3 4 5 6
- Preparing cash flow statements as part of the pro-forma statement? 0 1 2 3 4 5 6
- Utilizing pro-forma statements as a design decision-making tool? 0 1 2 3 4 5 6
- Determining a development phasing strategy? 0 1 2 3 4 5 6
- Developing parameters not previously accounted for in the market analysis, i.e., infrastructure for roads, utilities, development costs of the golf course and other recreation amenities such as swimming pools, bike paths, tennis courts, etc.? 0 1 2 3 4 5 6
- Assisting in securing funds for the development? 0 1 2 3 4 5 6
- Determining front-end costs on any phase of development? 0 1 2 3 4 5 6
- Determining final development costs? 0 1 2 3 4 5 6
- " " financing techniques? 0 1 2 3 4 5 6
- Determining land acquisition costs? 0 1 2 3 4 5 6

Section V: (Developing the Preliminary Plan)

TO WHAT EXTENT DO YOU TYPICALLY PARTICIPATE IN:

- Designing and delineating the following plan items:
- (1) Residential Areas, Commercial Areas, and Recreational areas (open spaces, and parks)? 0 1 2 3 4 5 6
 - (2) Circulation patterns and routes for:
 - (a) Pedestrians 0 1 2 3 4 5 6
 - (b) Bicycles 0 1 2 3 4 5 6
 - (c) Autos 0 1 2 3 4 5 6
 - (3) Layout plans or routing plan for the golf course? 0 1 2 3 4 5 6
 - (4) Infrastructure elements (airstrips, bridges, dams, access roads, etc.)? 0 1 2 3 4 5 6

FIGURE 3-7 (Cont.), THE FINAL SURVEY FORM, page 7

	completely
	to a very great extent
	to a great extent
	to some extent
	to a little extent
<u>Section VI: (Detail Design of Major Program Elements)</u>	to a very little extent
	no involvement

TO WHAT EXTENT DO YOU TYPICALLY PARTICIPATE IN:

Developing the following detail drawings concerning the:

- (1) layout plans for roads, lots, or easements? . . . 0 1 2 3 4 5 6
- " " " the clubhouse and other buildings? 0 1 2 3 4 5 6
- (2) final grading plans for roads? 0 1 2 3 4 5 6
- (2) final grading plans for housing lots? 0 1 2 3 4 5 6
- (4) preliminary and final grading plans for the golf course? 0 1 2 3 4 5 6
- (5) Perspectives illustrating the character of the proposed project? 0 1 2 3 4 5 6

Determining a consistent design vocabulary for developing detailed elements? 0 1 2 3 4 5 6

Reviewing the "design vocabulary" that is consistent with project goals and concepts with marketing specialists? 0 1 2 3 4 5 6

Section VIII: (Marketing the Project)

TO WHAT EXTENT DO YOU TYPICALLY PARTICIPATE IN:

- Project brochure design? 0 1 2 3 4 5 6
- Designing a "logo" or other graphic marketing device? . . . 0 1 2 3 4 5 6

Section IX: (Post Construction Operations)

TO WHAT EXTENT DO YOU TYPICALLY PARTICIPATE IN:

- Assisting in transferring property rights from developer to homeowner? 0 1 2 3 4 5 6
- Creating a homeowner association or becoming involved in some way? 0 1 2 3 4 5 6
- Conducting post occupancy evaluations on any parts of the project after some portion of the project has been completed? 0 1 2 3 4 5 6

CHAPTER FOUR

RESULTS

The results of investigating the role of the land planner in the development process of golf communities will be discussed in the following two sections; Design Professional Demographics and the Survey Matrix. A section of analysis reporting the frequency of responses for each of the nine items in the planner demographic section will begin the research analysis. Each of the nine responses will be reported and individually discussed. Conclusions will then be drawn about the design professionals who have participated in the study in terms of their demographics. Tables listing the mean responses for all participants to their level of involvement in the development process tasks will follow the summary of planner demographic information.

DESIGN PROFESSIONAL DEMOGRAPHICS

The following tables indicate the frequency of responses for each of the "demographic" questions. In each table, the number of respondents equals 35 and the percentage given represents all participants. Percentages for each table total 100% unless noted.

Question 1: How many Golf Course Community Projects have you been involved?

No. of projects	Frequency	% of total
1-5	5	14.3
6-10	9	25.7
11-15	8	22.9
16-20	2	5.7
More than 20	10	28.6
no response	1	2.9
Total	35	100%

TABLE 4-1, NUMBER OF PROJECTS

The sample is well represented in terms of the number of projects the design professionals have been involved. The largest percentage of responses indicated the designers to have been involved with more than 20 projects.

Question 2: Currently, are you involved in the development of a Golf Course Community?

	Frequency	% of total
YES	31	88.6
NO	3	8.6
no response	1	2.9
Total	35	100%

TABLE 4-2, CURRENT INVOLVEMENT

All golf course architects participating in the study were currently involved with a golf course community. One participant employed with a landscape architecture firm and one belonging to a multi-disciplinary firm indicated no current involvement.

Question 3a: Typically, what percentage of your time is spent involved with a golf course community as opposed to other project responsibilities?

	Frequency	% of total
Less than 5%	7	20.0
6-25%	10	28.6
26-50%	9	25.7
51-75%	5	14.3
more than 75%	2	5.7
no response	2	5.7
Total	35	100%

TABLE 4-3, PERCENTAGE OF TOTAL TIME SPENT

Although a considerable amount of time occupies the participant's time, these indications of time spent may not be accurate due to the design professional's interpretation of the question. They may have answered the question without regard to indirect tasks -- meeting, travel, governmental approvals, etc. The question should probably have asked for project "types" and not "responsibilities".

Question 3b: Of the time spent on Golf Course Community development, what percentages of time do you spend on the following responsibilities?

Participants had four different categories of "job responsibilities" in which they listed percentages of time they spent when involved with a golf course community and are listed as follows;

- (1) time spent on project management type duties;
- (2) time spent collaborating with other professionals;
- (3) time spent on production oriented duties; and
- (4) time spent on "other" duties.

Responses to these categories established the basic scope of the participant's job responsibilities in terms of time spent on general tasks. Table 4-4 on page 61, lists the results of question 3B.

PROFILE OF PLANNERS (BY "TYPE OF FIRM")
FROM QUESTION 3-B, DEMOGRAPHICS SECTION OF SURVEY FORM

SURVEY #	% MANAGEMENT TASKS (PAPERWORK, TASK DELEGATION, ETC.)				% COLLABORATION WITH OTHER PROFESSIONALS		% PRODUCTION TASKS (INCLUDES "DESIGN")		TYPE OF FIRM	TYPE OF PRACTICE	SIZE OF FIRM #	PLANNING EXPER. IN YEARS +	PROFESSIONAL REGISTRATIONS				GENERAL NOTES	
	% OTHER TASKS				LANDSCAPE ARCHITECT	ARCHITECT	PLANNER	GOLF COURSE ARCHITECT					ENGINEER	FILL-IN RESPONSES TO TASKS				
31	50	25	25						GOLF ARCH.	COMBINATION	#	++						
10	30	20	50						"	COMBINATION	#	++						
13	20	15	35	30					"	COMBINATION	#	+++++						
15	27	17	40	20					"	G.C. EXCLUSIVE	#	++						SITE OBSERVATION
23	20	10	20	25	25				"	G.C. EXCLUSIVE	#	+++++						FIELD ADJUSTMENTS, INSPECTION
35	30	10	60						"	COMBINATION	#	+++						
4	20	20	60						"	COMBINATION	#	++						DESIGN & PLANNING
7	20	10	70						"	G.C. EXCLUSIVE	#	+++++						
28	20	10	70						"	COMBINATION	#	+++						
19	20	10	70						"	G.C. EXCLUSIVE	#	n.r.						DESIGN
24	15	25	55	5					"	No Golf Design	#							DESIGN
29	15	25	60						"	COMBINATION	#	+++						P.O.A. DOCUMENTS, SITE PLANNING FOR CLUBHOUSE
33	10	20	30	20	20				"	G.C. EXCLUSIVE	#	+++++						PRIMARY RESORT PLANNING
11	10	50	30	10					"	COMBINATION	#	+++++						TRAVEL, LETTERS, PHONE CALLS, ON SITE ASSISTANCE
22	10	20	60	10					"	G.C. EXCLUSIVE	#	++						CITY, COUNTY, OWNER MEETINGS
12	10	10	70	10					"	COMBINATION	#	++++						DID NOT INDICATE TASK SALES
26	75	25							L.A. & PLANNING	NO G.C. DESIGN	#####	+++++						
3	50	25	25						"	COMBINATION	#####	+++++						FOR FINAL DESIGN, GOLF ARCHITECT USED
18	20	70	10						"	NO G.C. DESIGN	#####	+						
32	30	15	55						"	COMBINATION	#	+++++						
25	10	50	40						"	NO G.C. DESIGN	#####	++						
14	25	25	50						"	COMBINATION	###	++++						(GOLF COURSE) LAYOUT ONLY
8	25	25	50						"	NO G.C. DESIGN	##	++						DESIGN, PROCESSING
34	10	25	55	10					"	NO G.C. DESIGN	###	++++						DESIGN
27	20	10	70						"	COMBINATION	#####	+						HAVE DONE COURSES IN HOUSE BUT PREFER TO HIRE A G.A.
20									"	NO G.C. DESIGN	#	+++++						
2	50	25	25						MULTI-DISCIPLINARY	NO G.C. DESIGN	###	+++						THE FIRM MAY DO ROUTING CONCEPTS
30	10	30	50	10					"	NO G.C. DESIGN	###	++++						
17	10	30	60						"	NO G.C. DESIGN	###	+						DESIGN OF UNITS
16	10	20	70						"	COMBINATION	###	++						CLUBHOUSE DESIGN AND LANDSCAPE ARCHITECTURE
21	0	25	75						"	COMBINATION	#####	+++++						
9	10	10	80						"	COMBINATION	#	++++						
6	5	10	85						"	COMBINATION	#####	+++						
1	80	10	10						ARCH. & ENG.	NO G.C. DESIGN	#####	+++						THEY DO PRELIMINARY DESIGN

L E G E N D

# SIZE OF FIRM	+ PROFESSIONAL EXPERIENCE IN YEARS	NOTES:
# 1-5 PERSONS	+ 1-5 YEARS EXPERIENCE	"COMBINATION" FIRM PRACTICES BOTH GOLF COURSE DESIGN AND LAND PLANNING
## 6-10 PERSONS	++ 6-10 YEARS EXPERIENCE	"G.C. EXCLUSIVE" = GOLF COURSE DESIGN ALMOST EXCLUSIVELY
### 11-25 PERSONS	+++ 11-15 YEARS EXPERIENCE	"L.A. & PLANNING" = LANDSCAPE ARCHITECTURE AND PLANNING FIRM
#### 26-50 PERSONS	++++ 16-20 YEARS EXPERIENCE	"ARCH. & ENG." = ARCHITECTURE AND ENGINEERING FIRM
##### MORE THAN 50 PERSONS	+++++ MORE THAN 20 YEARS EXPERIENCE	

TABLE 4-4, PROFILE OF DESIGN PROFESSIONALS BY "Type of Firm"

The table is divided into three sections by "type of firm". Within each section, the survey forms were placed in order according to the proportion of time spent on either management duties, collaboration duties, production duties, or "other" duties. The participants who indicated that management type duties which occupy the majority of their time were placed at the top of each group. Those who indicated that production duties occupy the majority of their time were placed towards the bottom of the list. Only one golf architect, two designers from landscape architecture firms, one designer from a multi-disciplinary firm and the single participant from an architectural -- engineering firm indicated that the majority of their time was spent on management level tasks. In addition, the proportion of time spent on management oriented tasks by these professionals seems to have little to do with the amount of professional experience they possess. Six golf architects and six other designers have at least 16 years professional experience but do not seem to be highly involved in management level duties.

Other information can be obtained through examining the table. Each survey indicates the type of practice the participants commonly engages. The size of firm, which is denoted by a series of asterisks (*) is shown in addition to the years experience each planner possesses which is denoted by a number of plus signs (+). The legend at the bottom explains what the asterisks and the plus signs represent. The professional registrations of all participant planners are listed as well as the "fill-in" responses to "other" duties. The last column lists general notes as they apply to each survey.

Question 4: Are you a registered:

	Frequency	% of total
Landscape Architect?	23	65.7
Architect?	3	8.6
Golf Course Architect?	9	25.7
Planner?	4	11.4
Engineer?	2	5.7
other?	0	0

TABLE 4-5, PROFESSIONAL REGISTRATIONS

NOTE: Percentages will exceed 100% due to respondents having more than one registration. In addition, the frequency of response for all participants will exceed the 35 surveys analyzed. It should also be noted that the registration for a "golf course architect" does not exist. The professionals responding to being registered are probably members of the American Society of Golf Course Architects or the majority of their time is spent designing and building golf courses. A differentiation between a registered "planner" and a design professional having an A.I.C.P. certification was not ascertained in this question.

Question 5: To which of the following professional society(ies) are you a member?

Society	Frequency	% of Total
American Society of Landscape Architects	13	60.0
American Institute of Architects	2	6.7
American Planning Association	6	20.0
American Society of Golf Course Architects	9	30.0
American Society of Civil Engineers	0	0.0
other	4	13.3

TABLE 4-6, PROFESSIONAL SOCIETIES

NOTE: Percentages will exceed 100% due to many respondents having more than one professional affiliation. In addition, the total number

of frequencies will exceed the 35 surveys analyzed. Under the "other" category, a few participants indicated other memberships to which they belong. They included;

- 1) National Society of Professional Engineers;
- 2) National Golf Foundation;
- 3) Urban Land Institute, and;
- 4) The Golf Course Superintendents Society of America.

Question 6: What is the extent of your professional land planning experience? (do not include golf course design)

	Frequency	% of Total
1-5 years	3	8.6
6-10 years	7	20.0
11-15 years	7	20.0
16-20 years	6	17.1
more than 20 years	10	28.6
no response	2	5.7
Total	35	100%

TABLE 4-7, YEARS OF PLANNER EXPERIENCE (IN YEARS)

Question 7: How many professionals does the firm for which you work employ (excluding support, i.e., clerical, reproduction, etc.)

# of persons	Frequency	% of total
1-5	15	50.0
6-10	2	6.7
11-25	1	3.3
26-50	4	13.3
more than 50	8	26.7
Total	35	100%

TABLE 4-8, SIZES OF FIRMS FOR WHICH PLANNERS ARE EMPLOYED

Question 8: Which of the following best indicates the type of firm for which you are employed?

Firm type	Frequency	% of total
Multi-disciplinary	7	20.0
A & E	1	2.9
Golf Architecture & Planning	17	48.6
Land. Arch. & Planning	10	28.6
Total	35	100%

TABLE 4-9, TYPES OF FIRMS

NOTE: No respondent indicated that he was employed with an "engineering--planning", "architectural only", "land planning only", or "other" firm type as listed on the survey form.

Question 9: Would you consider your firm to practice:

Practice Type	Frequency	% of Total
Golf Course Design almost exclusively	6	17.1
Golf Course Design/Land Use Planning	17	48.6
No golf course design	12	34.3
Total	35	100%

TABLE 4-10, TYPES OF PROFESSIONAL PRACTICE

The demographic information about each design professional was used to categorize each participant as to the type of firm for which they work, the type of practice they commonly engage, years experience, etc. This was done primarily by crosstabulating the various demographic variables. Inferences will be made concerning the design professionals surveyed for this study to help substantiate the responses the participants gave regarding their levels of involvement in the development process tasks.

The preceding data is presented in the format of a crosstabulation table, hereafter referred to as a "crosstab table" or "crosstab". These tables demonstrate the relationship between two variables in terms of all responses. Each category of variable was examined against the categories of another variable when crosstabulation analysis is conducted. For example, the variable "professional experience in years" has several categories to which the planners belong; "1-5 years", "6-10 years", "11-15 years", "16-20 years", and "more than 20 years" experience. A simple table such as Figure 4-7 on page 64 shows the breakdown of all respondents in terms of the level of experience. When the categories of one variable are examined or "crosstabulated" with the categories of another variable, e.g., the type of firm to which a participant is employed, the results are exhibited in the form of a table. The categories for one variable are listed across the top of the table and the categories for the other variable are listed on the side of the table. Only two variables can be crosstabbed at any one time.

SUMMARY OF PLANNER DEMOGRAPHICS

This discussion of summarizing demographic information concerning the design professional involve a number of variables. Those examined include:

- 1) the type of firm to which the participant belongs;
- 2) the number of employees that comprise the firm for which the participant is employed;
- 3) the type of practice the participant most commonly engages;
- 4) the amount of experience (in years) the participant possesses;
- 5) the number of golf course communities the participant has been involved.

Several categories comprise each variable. Each category within a

variable is listed in each crosstabulation.

These crosstabulations exhibit several characteristics concerning the participants and each is followed by a list of implications the demographic characteristic have to this study.

TYPE OF FIRM	SIZE OF FIRM		
	1-10	11-50	More Than 50 Persons
Multi-disciplinary	1	4	2
A & E			1
Golf Architecture & Planning	16	1	
Landscape Architecture & Planning	3	2	5

TABLE 4-11, CROSSTABULATION, "TYPE OF FIRM" BY "NUMBER OF EMPLOYEES IN FIRM"

Almost all golf course architecture & planning firms employ less than five persons excluding support staff (Table 4-11). Other types of firms, in contrast, employ many more.

TYPE OF PRACTICE	SIZE OF FIRM		
	1-10 Persons	11-50 Persons	More Than 50 Persons
One That Practices Golf Course Design Almost Exclusively	6		
One That Practices a Combination of Golf Course Design and Land Planning	12	2	3
One That Does Not Practice Any Golf Course Design	3	4	5

TABLE 4-12, CROSSTABULATION; "TYPE OF PRACTICE" BY "SIZE OF FIRM"

Six of the 16 participants (as shown in Table 4-11), however, work for firms which practices golf course design and planning almost exclusively (Table 4-12).

6 TYPE OF PRACTICE	DESIGN PROFESSIONAL EXPERIENCE (in Years)			
	1-5 Years	6-20 Years	More Than 20 Years	No Response
One That Practices Golf Course Design Almost Exclusively		2	3	1
One That Practices a Combination of Golf Course Design and Land Planning		11	5	1
One That Does Not Practice Any Golf Course Design	3	7	2	

TABLE 4-13, CROSSTABULATION; "TYPE OF PRACTICE" BY "PROFESSIONAL EXPERIENCE"

TYPE OF FIRM	DESIGN PROFESSIONAL EXPERIENCE (in Years)			
	1-5	6-20	More than 20 years	No Response
Multi-disciplinary		5	1	
A & E				
Golf Architecture & Planning		9	6	2
Landscape Architecture & Planning	2	5	3	

TABLE 4-14, CROSSTABULATION; "TYPE OF FIRM" BY "YEARS EXPERIENCE"

From Table 4-13, those that practice golf course design almost exclusively have more years experience than those who practice a combination of golf course design and land use planning or than those who do not practice golf course design at all. Coincidentally, those employed with golf architecture & planning firms have more years experience than their counterparts in multi-disciplinary firms and landscape architecture firms (See Table 4-14).

TYPE OF FIRM	NUMBER OF PROJECTS PARTICIPANTS HAVE BEEN INVOLVED			
	1-10	11-20	More than 20 Projects	No Response
Multi-disciplinary	5	2		
A & E	1			
Golf Architecture & Planning	2	6	8	1
Landscape Architecture & Planning	6	2	2	

TABLE 4-15, CROSSTABULATION; "TYPE OF FIRM" BY "NUMBER OF PROJECTS"

Those who practice golf course design almost exclusively have been involved in more projects than the other two types of firms (from Table 4-15).

TYPE OF FIRM	TYPE OF PRACTICE		
	One That Practices Golf Course Design Almost Exclusively	One That Practices A Combination of Golf Course Design & Land Planning	One That Does Not Practice Golf Course Design
Multi-disciplinary		4	3
A & E			1
Golf Architecture & Planning	6	10	1
Landscape Architecture & Planning		3	7

TABLE 4-16, CROSSTABULATION; "TYPE OF FIRM" BY "TYPE OF PRACTICE"

Table 4-16 indicates that no professional belonging to a multi-disciplinary firm or landscape architecture firm practices golf course design & planning exclusively. One participant, however, indicated that although the firm to which he was employed (golf course architecture & planning) practices a combination of golf course design and land use planning, he was not involved in any golf course design directly.

Table 4-16 also shows that those employed with multi-disciplinary

firms have a tendency to practice a combination of golf design and land use planning more than to not practice golf course design at all (four to three). On the other hand, those belonging to a landscape architecture and planning firm are more likely to not practice golf course design at all than to practice a combination of golf course design and land planning (seven to three).

PRELIMINARY INVESTIGATION OF TASK MATRIX DATA

The following section discusses the characteristics of the raw data concerning the variables that were tested. This was done because the raw data could not be illustrated in the thesis. The variables are listed and discussed in the same order as they appear in chapter three.

Variable 1: Experience

The participating design professionals were asked to indicate on the survey form, the amount of land planning experience they possess. The categories are as follows:

- 1) 1-5 years
- 2) 6-10 years
- 3) 11-15 years
- 4) 16-20 years
- 5) more than 20 years
experience

The different experience levels were then crosstabulated with the development process tasks. Upon initial investigation and analysis, the responses for every experience level within almost every task were shown to be spread between all choices of responses. Not only did the participants indicate an extremely wide range of involvement levels for the tasks, the level of involvement was split between a high and low

experience levels. This preliminary investigation showed that little to no correlation exists between the participant's level of experience and the level of involvement in the development process tasks.

Variable 2: Amount of Departmental Managing

As seen earlier, question 3B asked the participants to indicate their proportion of time spent (as a breakdown of percentages) in tasks associated with management, collaboration, production, and "other" duties required of the participants. Most of the respondents indicated that the majority of their "professional time" was spent in production oriented tasks, as shown in Table 4-4 on page 61. Almost all of the design professionals who participated in this study simply do not spend a majority of their time in management level-related job duties. In determining whether a correlation exists between a design professional's job responsibilities (management verses production) and the level of involvement in the development tasks, no qualified judgement can be made. This is due to a lack of participation by management level participants representing landscape architecture and multi-disciplinary firms.

Variable 3: Personal Aspirations of the Planner Omitted.

Variable 4: Type of Firm

Examination of the raw data in the crosstab tables indicated a certain consistency in mean response when the planners are divided into categories by the "type of firm" to which they belong. That is, the characteristics of the raw data is clustered around a given value for most of the matrix tasks. As a result of this consistency, the mean

responses given by the participant's involvement in the development process will be discussed as relating to the type of firm for which they are employed. It should be noted here that responses from design professionals reflect their individual involvement and are not necessarily representative of the firms for which they work.

Variable 5: Type of Practice

Within the previous variable, type of firm, a "golf architecture and planning" firm is one category of variable. This category, however, is comprised of two types of practices to which the participants may belong -- those who practice golf course design almost exclusively and those who practice a combination of golf design and land use planning. Therefore, the responses from participants representing golf architecture and design firms may be examined more carefully in terms of the type of firm to which the design professionals belong and the orientation of their practice. Also, preliminary investigation of the raw data between the types of practices the participants normally engage and the development process tasks showed responses to be clustered around certain values for certain tasks in each of the three categories comprising this variable.

SURVEY MATRIX REPORTING

The following two sets of graphs represent the level of involvement by the participating design professionals in tasks associated with the golf course community development process. The first set illustrates the mean or average response of the participants by the type of firm to which they belong. The second set represents the mean responses by the type of professional practice they most commonly engage. Each table of graphs corresponds to a specific section of tasks and each task is numbered within the section of the development process to which it belongs (I, II, III, etc.) and by the order in which the task is analyzed (1, 2, 3, etc.). For example, Task II-3 would denote the third task in Section II, the Approval Process. Analysis will be discussed section by section.

Two types of questions comprise the matrix portion of the survey. One type of question relates directly to the level of involvement by the participants in specific tasks of the development process. The second type of question concerns the extent of professional collaboration the participants commonly experience with other members of the development team. Both types of questions will be addressed in a way that is most appropriate to the nature of each question. Since the level of planner participation in each task has been rated in terms of a "mean" or "average" response, figures are rounded off to the nearest 1/10th of a decimal for ease in comparison.

The graphs are formatted similar to the tasks assessment portion of the survey matrix. The scale begins at "0" on the left side of the graph denoting "no involvement" and ends at "6" for complete involvement

on the right for each set of graphs. Following each page of graphs, each section will be briefly discussed and summarized as to the overall involvement by the participant design professionals.

Tables 4-20 and 4-21 on pages 107 and 108 describe the characteristics of the raw data for each category of variable for each task in the development process. The validity of the data used to generate the graphs is represented in Tables 4-20 and 4-21. Table 4-20 graphically describes the characteristics of the mean responses for the variable "type of firm" and Table 4-21 describes the characteristics of the mean responses by "type of practice". As noted in both of these tables, the data in each category may be "clustered", "spread", or "split" around a particular value or values between "0" and "6". See explanation on how to read the charts on pages 105 and 106. Both tables fold out to allow the reader to examine the graphs and the tables simultaneously.

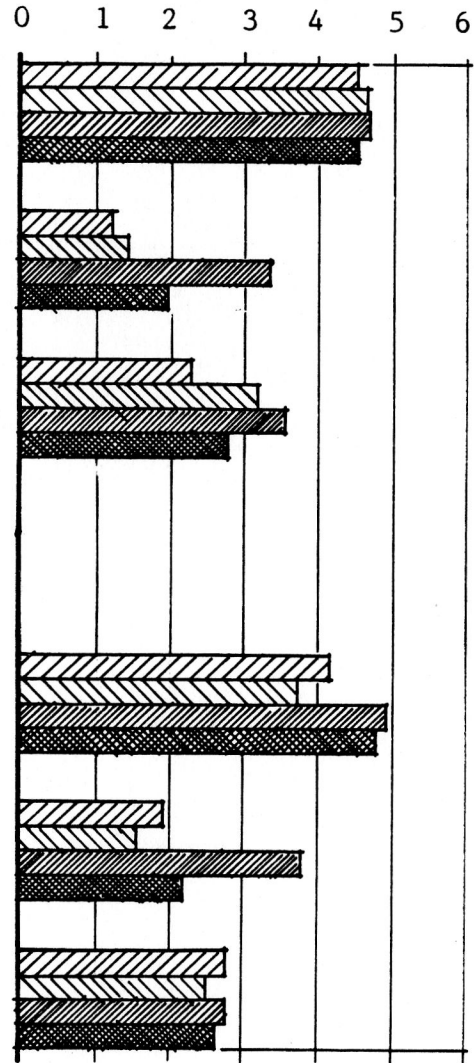
GRAPHS BY "TYPE OF FIRM"

The first bar in the graphs reporting responses for the "types of firms" represents golf architecture & planning firms; the second bar, multi-disciplinary firms; the third bar, landscape architecture & planning firms and; the fourth bar, the average of all responses.

As mentioned earlier, the responses given by the participants are reflective of the individual and do not necessarily represent the firm for which the participant is employed.

FIG. 4-1, MEAN RESPONSES
SECTION I: MARKET ANALYSIS/PROJECT FEASIBILITY by "TYPE OF FIRM"

COLLABORATE WITH THE FOLLOWING
 INDIVIDUALS IN THE FEASIBILITY
 STAGE OF THE DEVELOPMENT PROCESS
 OF A TYPICAL GOLF COURSE
 COMMUNITY:



COLLABORATE WITH THE FOLLOWING
 INDIVIDUALS IN DETERMINING THE
 FEASIBILITY OF A GOLF COURSE AS A
 RECREATIONAL AMENITY?

LEGEND (THOSE REPRESENTING A . . .)





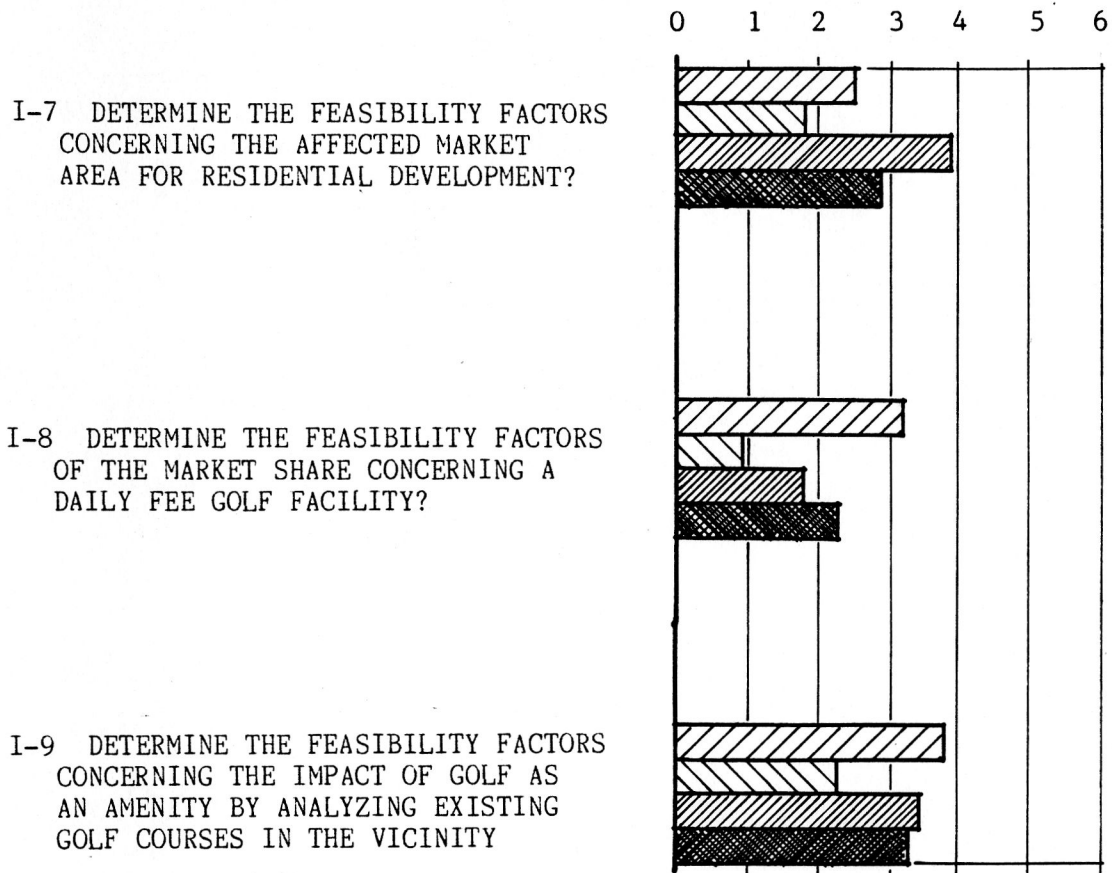




-  -- GOLF COURSE ARCHITECTURE & PLANNING FIRM
-  -- MULTI-DISCIPLINARY FIRM
-  -- LANDSCAPE ARCHITECTURE & PLANNING FIRM
-  -- ALL RESPONSES

FIG. 4-1 (cont.), MEAN RESPONSES
SECTION I: MARKET ANALYSIS/PROJECT FEASIBILITY by "TYPE OF FIRM"



LEGEND (THOSE REPRESENTING A . . .)

-  -- GOLF COURSE ARCHITECTURE & PLANNING FIRM
-  -- MULTI-DISCIPLINARY FIRM
-  -- LANDSCAPE ARCHITECTURE & PLANNING FIRM
-  -- ALL RESPONSES

SUMMARY, Section I: Project Feasibility Summary (type of firm)

The design professionals indicated the highest level of involvement with developers in determining both the feasibility of a golf course community for an area and the potential for a golf course as a recreational amenity.

Those employed with golf architecture & planning firms indicated the lowest involvement in terms of non-golf related tasks -- collaborating with economists in both project feasibility (Task I-2) and the feasibility of golf as an amenity (Task I-5). However, involvement in the feasibility of golf related tasks is higher as compared to the other two types of firms (tasks I-6, I-7, I-8).

Participants representing multi-disciplinary firms indicated the widest range of responses regarding their involvement in the tasks of project feasibility. Their involvement appears to be lower in tasks I-4 through I-9 than those belonging to the other firms.

Landscape architecture & planning firms indicated the highest level of involvement in all tasks for section I except where the task was specifically golf-related (tasks I-8, I-9). The tasks in which design professionals indicated a high level of involvement were specifically "market feasibility" and "collaboration" related.

Under "other individuals", the following were indicated and are listed on page 79.

TABLE 4-17

Responses to Task 1A: "Other Individuals"

frequency	professional	rating
1	Accountants	2
1	Attorneys	2
2	"in the development team"	4,4
2	other planners	3,5
2	engineers	3,4
1	Golf Pros	2

TABLE 4-18

Responses to Task 1B: "Other individuals"

frequency	professional	rating
2	Municipality	5
1	Military	5
1	Engineers	3
1	Natl. Golf Fnd.	3
2	Mrktng./Management	5,5
1	Planners	6

FIG. 4-2, MEAN RESPONSES
SECTION II: THE APPROVAL PROCESS by "TYPE OF FIRM"

THE APPROVAL PROCESS BY:

MANAGING THE INTERVENTION OF:

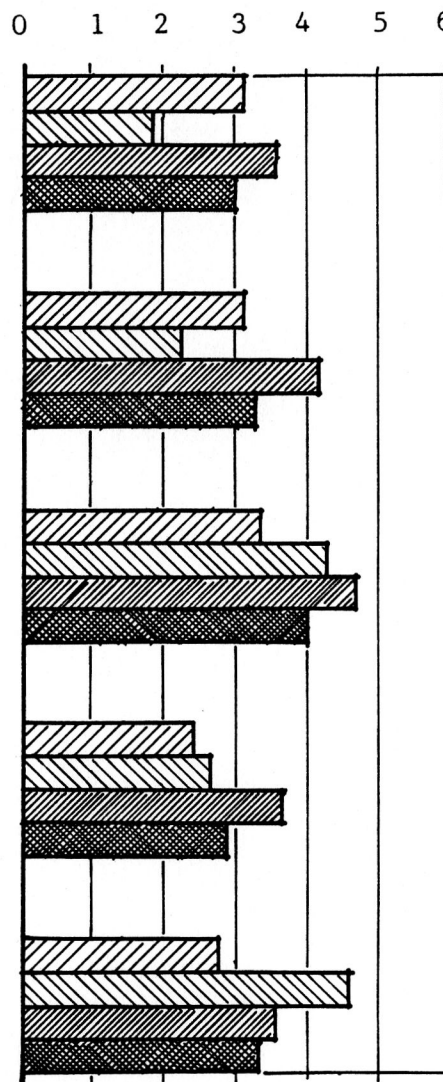
II-1 STATE AGENCIES IN THE APPROVAL PROCESS

II-2 COUNTY AGENCIES IN THE APPROVAL PROCESS





II-3 INTERACTING WITH LOCAL PLANNING COMMISSIONS FOR ZONING APPROVALS

II-4 INTERACTING WITH THE LOCAL BOARD OF ADJUSTMENTS OR BOARD OF APPEALS IN THE ZONING PROCESS

II-5 PUBLIC REVIEW PROCESS FOR ZONING APPROVALS



LEGEND (THOSE REPRESENTING A . . .)

-  -- GOLF COURSE ARCHITECTURE & PLANNING FIRM
-  -- MULTI-DISCIPLINARY FIRM
-  -- LANDSCAPE ARCHITECTURE & PLANNING FIRM
-  -- ALL RESPONSES

SUMMARY

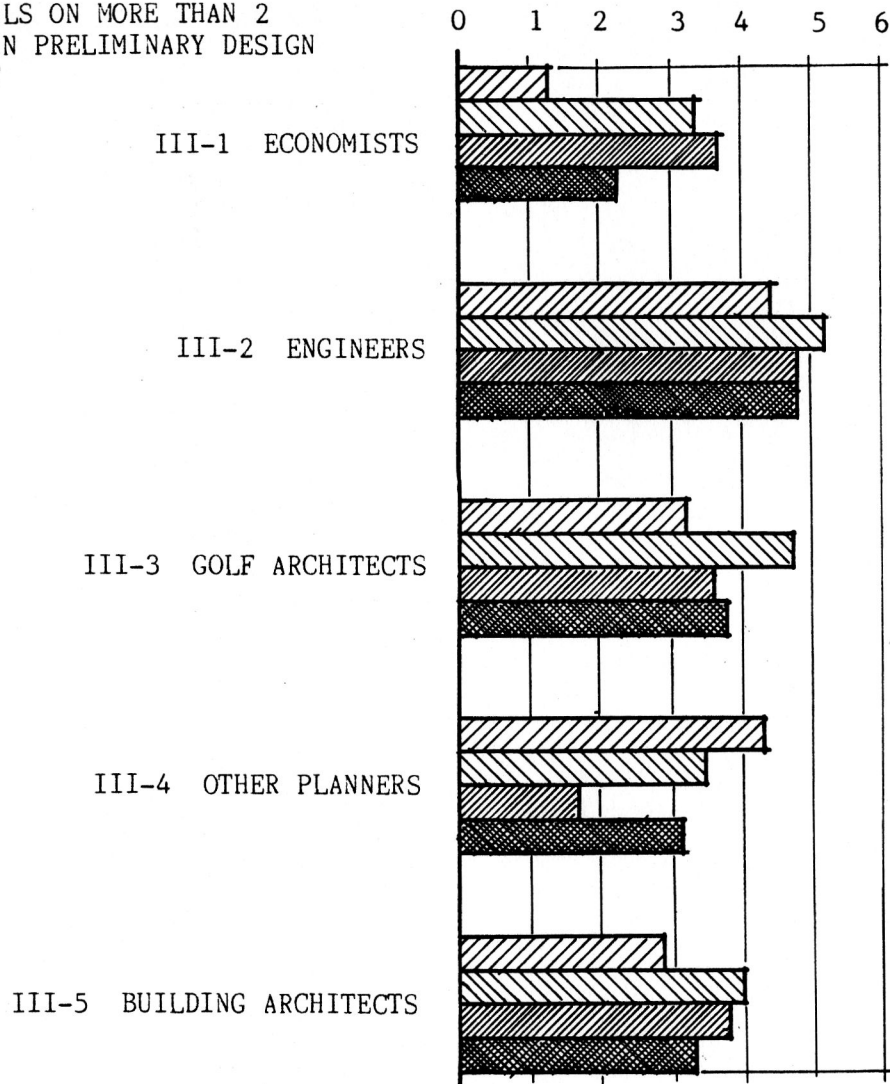
Section II: The Approval Process (by type of firm)

Interacting with the local planning commissions by the participants appears to be the task given the highest rating in terms of involvement. The lowest one indicated was interacting with a local board of adjustment. This may be due to the fact that the participating design professionals do not have to interact with a separate committee in obtaining a zoning change. If zoning changes are needed, they probably consult directly with the planning or zoning commission.





Overall involvement by the participants is neither high nor low.

FIG. 4-3, MEAN RESPONSES
SECTION III: CONCEPTUAL PLAN DEVELOPMENT by "TYPE OF FIRM"

COLLABORATE WITH THE FOLLOWING
 PROFESSIONALS ON MORE THAN 2
 OCCASIONS IN PRELIMINARY DESIGN
 DEVELOPMENT



LEGEND (THOSE REPRESENTING A . . .)

-  -- GOLF COURSE ARCHITECTURE & PLANNING FIRM
-  -- MULTI-DISCIPLINARY FIRM
-  -- LANDSCAPE ARCHITECTURE & PLANNING FIRM
-  -- ALL RESPONSES

SUMMARY

Section III: Conceptual Plan Development (by type of firm)

The questions pertaining to the collaboration tasks in this section should have distinguished between other development team members employed with the same firm versus members belonging to other firms.

The level of response depends upon the individual being asked about his or her collaboration with another design professional. For example, the golf course architects tend to collaborate to a great extent with physical land planners during preliminary design development and vice versa. These same golf course architects gave highly split responses to collaborating with other golf architects. In addition, those participants from landscape architecture and planning firms do not collaborate, for the most part, with other planners. Of the six development team members listed here, design professionals collaborate to the greatest extent with engineers during preliminary design development. Second to them is probably building architects.

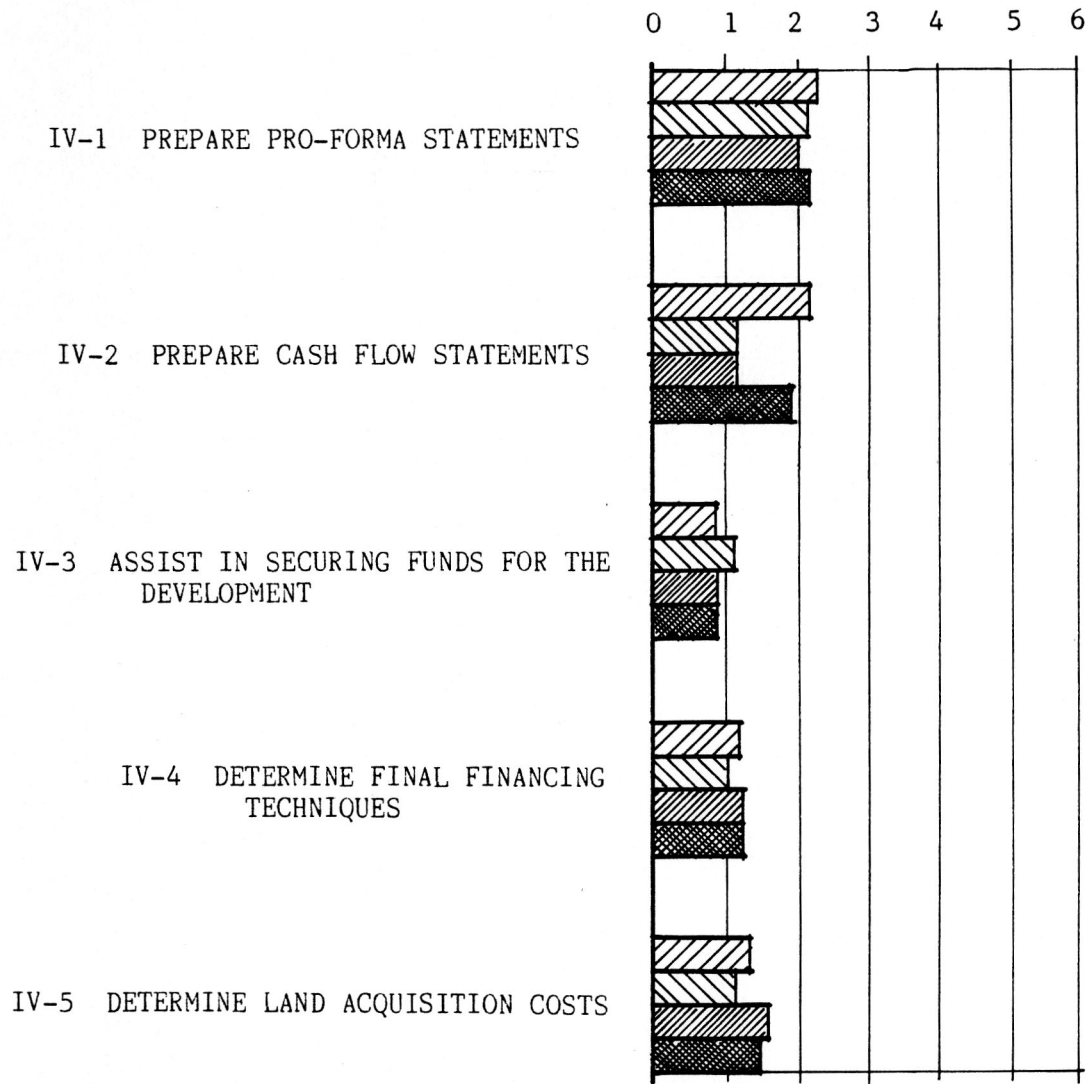
Many more individuals have the potential to be involved as well in preliminary design development. The following table lists the fill-in responses of "other" development team members for which the participants commonly collaborate, the frequency for which the individual was mentioned, and the level of collaboration (from 0 to 6) the participants commonly experience with that person. See Table 4-19 on the following page.

TABLE 4-19





FILL-IN RESPONSES TO TASK III-6, "OTHER" PROFESSIONALS

Frequency	"Other" Professional	Level of Involvement indicated by the participant(s)
3	Environmental Analyst	3
1	Attorneys	2
1	Surveyors	3
1	Landscape Architects	4
not available	City Staff/Urban Planning	not available
1	Archeological Consultant	3
1	Market Analyst	3
2	Traffic Engineers	3

FIG. 4-4, MEAN RESPONSES
SECTION IV: FINANCIAL ANALYSIS, FINANCING THE PROJECT by "TYPE OF FIRM"



LEGEND (THOSE REPRESENTING A . . .)

-  -- GOLF COURSE ARCHITECTURE & PLANNING FIRM
-  -- MULTI-DISCIPLINARY FIRM
-  -- LANDSCAPE ARCHITECTURE & PLANNING FIRM
-  -- ALL RESPONSES

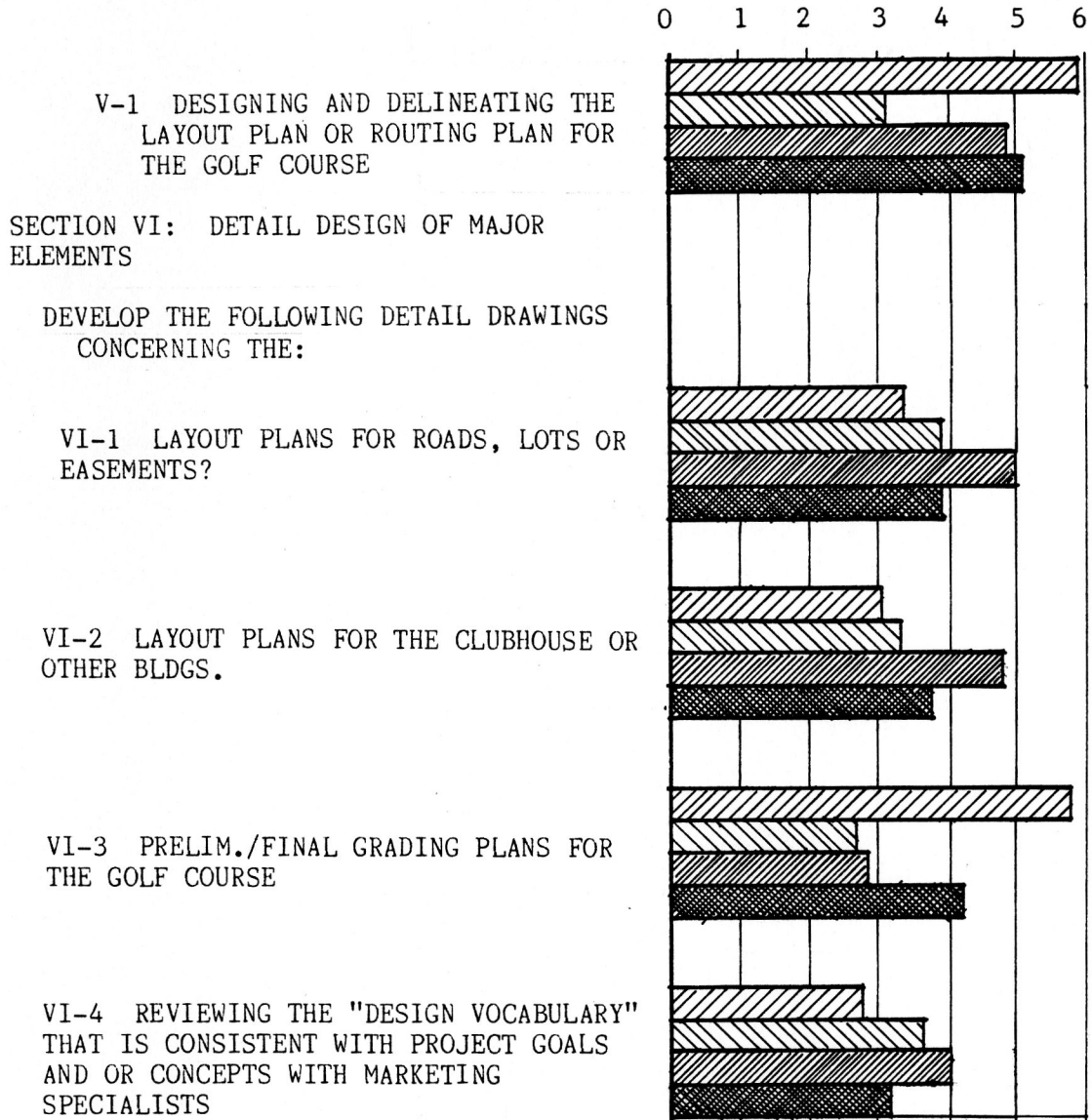
SUMMARY

Section IV: Financial Analysis, Financing the Project (by type of firm)





Overall, very low by all categories. Securing funds for development was rated the lowest of all tasks in the development process by all planners.

The involvement by the design professionals in the financial issues of development is discussed in further detail on page 100 in chapter 5.

FIG. 4-5, MEAN RESPONSES
SECTIONS V & VI, MASTER PLAN DEVELOPMENT by "TYPE OF FIRM"



LEGEND (THOSE REPRESENTING A . . .)

-  -- GOLF COURSE ARCHITECTURE & PLANNING FIRM
-  -- MULTI-DISCIPLINARY FIRM
-  -- LANDSCAPE ARCHITECTURE & PLANNING FIRM
-  -- ALL RESPONSES

SUMMARY

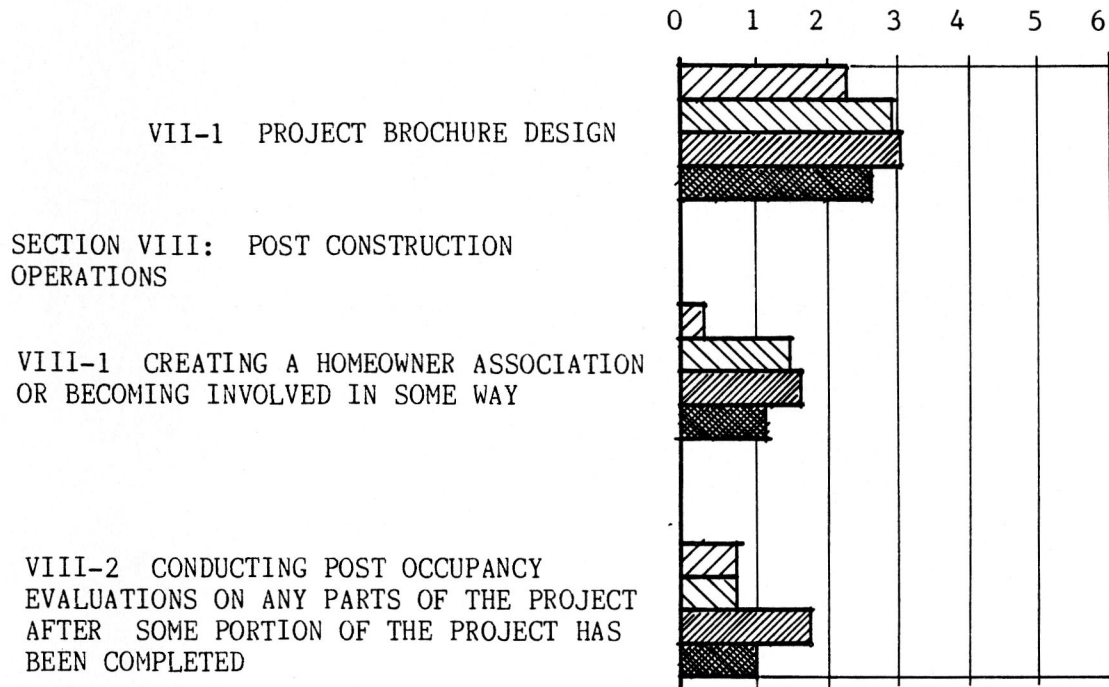
Section V & VI: Master Plan Development (by type of firm)

In terms of the golf course, those from golf architecture firms have greatest involvement in tasks associated with golf.





As demonstrated in task V-1, "routing the golf course", golf course architects indicated the highest level of involvement (6) for that task. Those representing landscape architecture and planning firms also indicated a high level of involvement (4.9) for this same task. The mean response for task VI-3, "grading the golf course" given by golf architects remains high (5.8) but the involvement indicated by those from landscape architecture and planning firms dropped considerably (2.8) from task V-I. This phenomenon raises a significant point. A great number of design professionals from landscape architecture firms apparently route the golf course but do not involve themselves with more detailed duties associated with the golf course. They probably leave the grading of the holes and other design and construction issues to golf architects. This is further discussed in Chapter 5.

Those design professionals employed with landscape architecture and planning firms show the greatest involvement in the layout of roads, lots, easements, and the golf clubhouse as opposed to those employed with multi-disciplinary or golf course design firms. The levels indicated by golf course architects, however, are not significantly lower than responses indicated by physical land planners. This is also discussed in further detail in Chapter 5.

FIG. 4-6, MEAN RESPONSES
SECTIONS VII & VIII: MARKETING/POST CONSTRUCTION OPERATIONS
by "TYPE OF FIRM"



LEGEND (THOSE REPRESENTING A . . .)

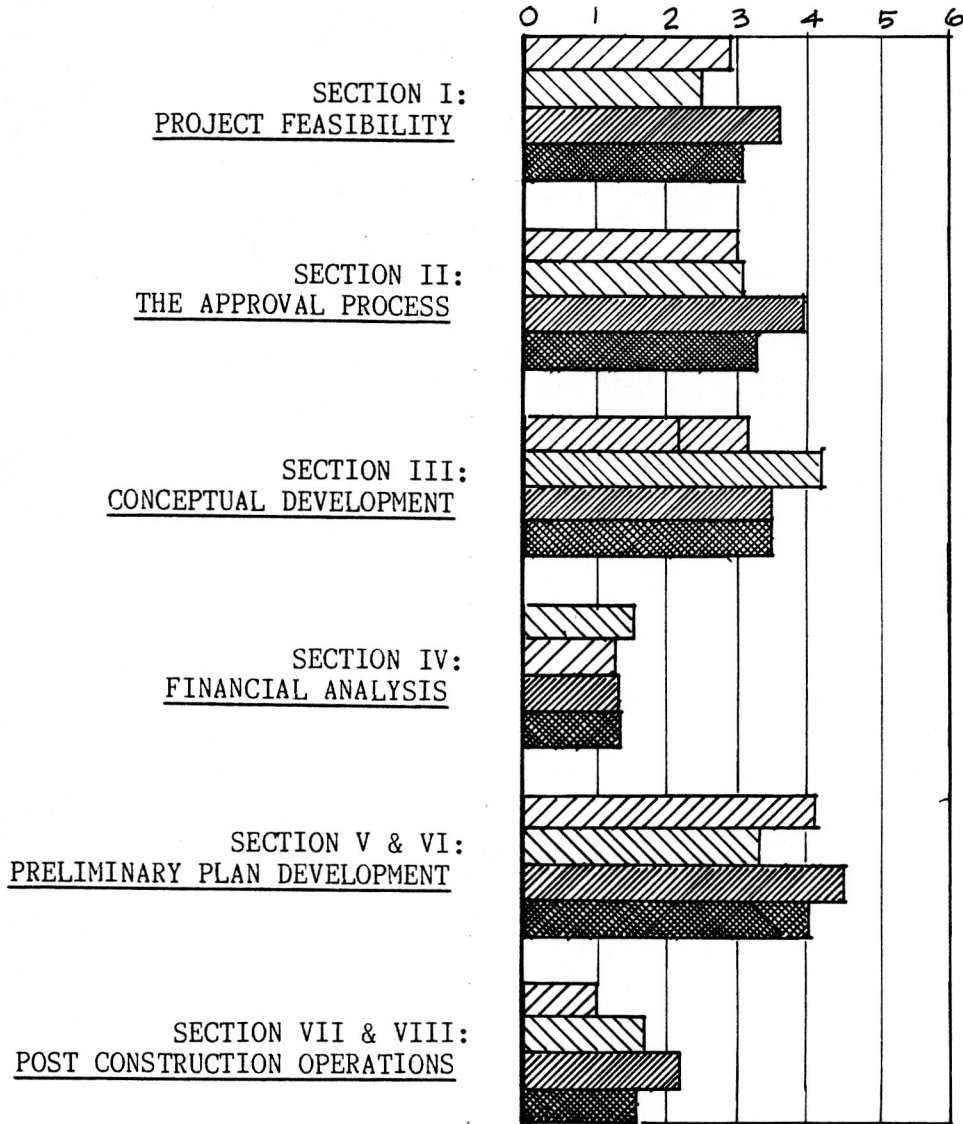
-  -- GOLF COURSE ARCHITECTURE & PLANNING FIRM
-  -- MULTI-DISCIPLINARY FIRM
-  -- LANDSCAPE ARCHITECTURE & PLANNING FIRM
-  -- ALL RESPONSES

SUMMARY





Sections VII & VIII: Marketing/Post Construction Operations (by type of firm)

Overall, the designers surveyed participate relatively little in this phase of the development process. The design professional's involvement is higher in creating a project brochure than the other two tasks because the task directly involves "design" of some kind. The participants indicated that they are professionally involved in creating a homeowner association only to a little extent. They indicated even a lesser amount of involvement in conducting post occupancy evaluations on any part of the completed project.

FIG. 4-7, OVERALL MEAN RESPONSE OF ALL TASKS, by "TYPE OF FIRM"



LEGEND (THOSE REPRESENTING A . . .)

-  -- GOLF COURSE ARCHITECTURE & PLANNING FIRM
-  -- MULTI-DISCIPLINARY FIRM
-  -- LANDSCAPE ARCHITECTURE & PLANNING FIRM
-  -- ALL RESPONSES

GRAPHS BY "TYPE OF PRACTICE"

The following graphs indicate the level of involvement by the design professional participants with respect to the type of practice they commonly involve themselves. The "types of practice" are:

- (1) ones that practice golf course design almost exclusively;
- (2) ones that practice a combination of golf course design and land use planning; and
- (3) ones that do not practice golf course design.

As shown in Table 4-16 on page 69, four of the seven participants representing multi-disciplinary firms claim to practice both golf course design and land planning. Only three of the 10 participants from landscape architecture firms, however, indicated they practiced both types. No participant from either a multi-disciplinary or a landscape architecture firm indicated that they practiced golf course design exclusively. The participants who practice either a combination of golf course design/land planning or who do not practice any golf course design belong to either a multi-disciplinary or landscape architecture and planning firm.

The mean responses from all participants in these graphs will be identical to the same mean responses placed on the previous graphs.

FIG. 4-8, MEAN RESPONSES
SECTION I: MARKET ANALYSIS/PROJECT FEASIBILITY by "TYPE OF PRACTICE"

COLLABORATE WITH THE FOLLOWING
INDIVIDUALS IN THE FEASIBILITY
STAGE OF THE DEVELOPMENT PROCESS
OF A TYPICAL GOLF COURSE
COMMUNITY:

I-1 DEVELOPERS

I-2 ECONOMISTS

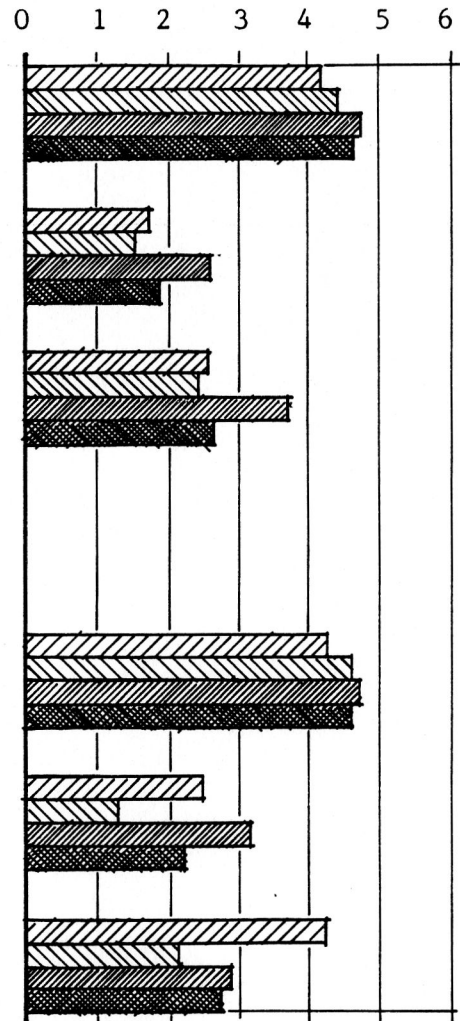
I-3 THE MARKETING
RESEARCH FIRM

COLLABORATE WITH THE FOLLOWING
INDIVIDUALS IN DETERMINING THE
FEASIBILITY OF A GOLF COURSE AS A
RECREATIONAL AMENITY?

I-4 DEVELOPERS

I-5 ECONOMISTS

I-6 GOLF ARCHITECTS



LEGEND

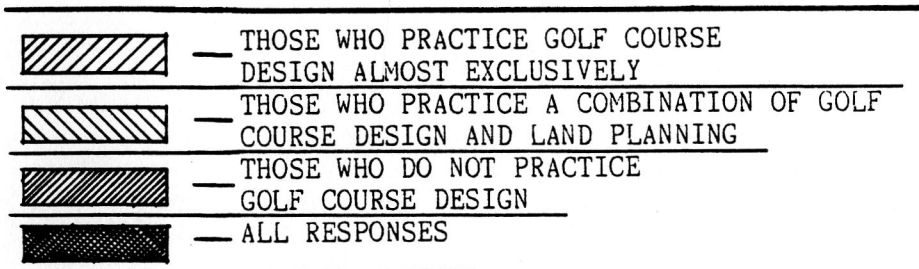
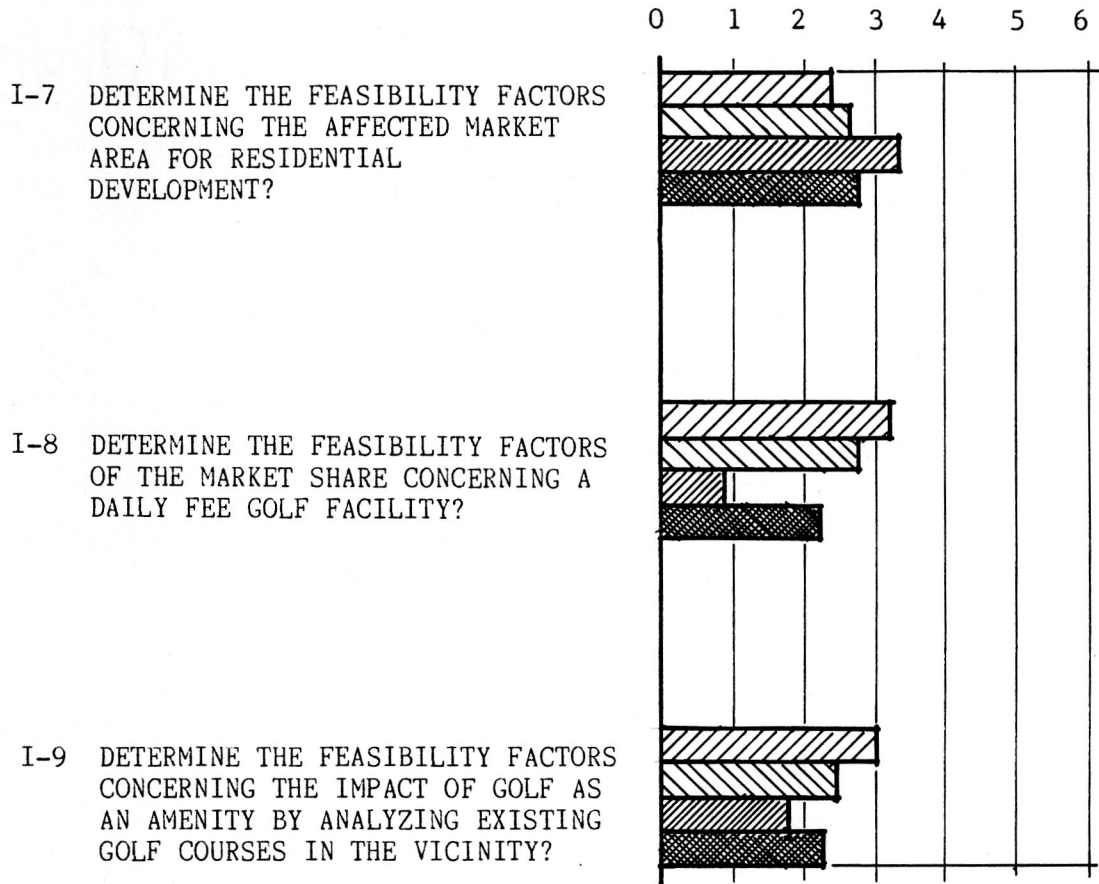
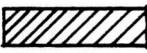





FIG. 4-8, MEAN RESPONSES (cont.)
SECTION I: MARKET ANALYSIS/PROJECT FEASIBILITY by "TYPE OF PRACTICE"



LEGEND

-  — THOSE WHO PRACTICE GOLF COURSE DESIGN ALMOST EXCLUSIVELY
-  — THOSE WHO PRACTICE A COMBINATION OF GOLF COURSE DESIGN AND LAND PLANNING
-  — THOSE WHO DO NOT PRACTICE GOLF COURSE DESIGN
-  — ALL RESPONSES

SUMMARY

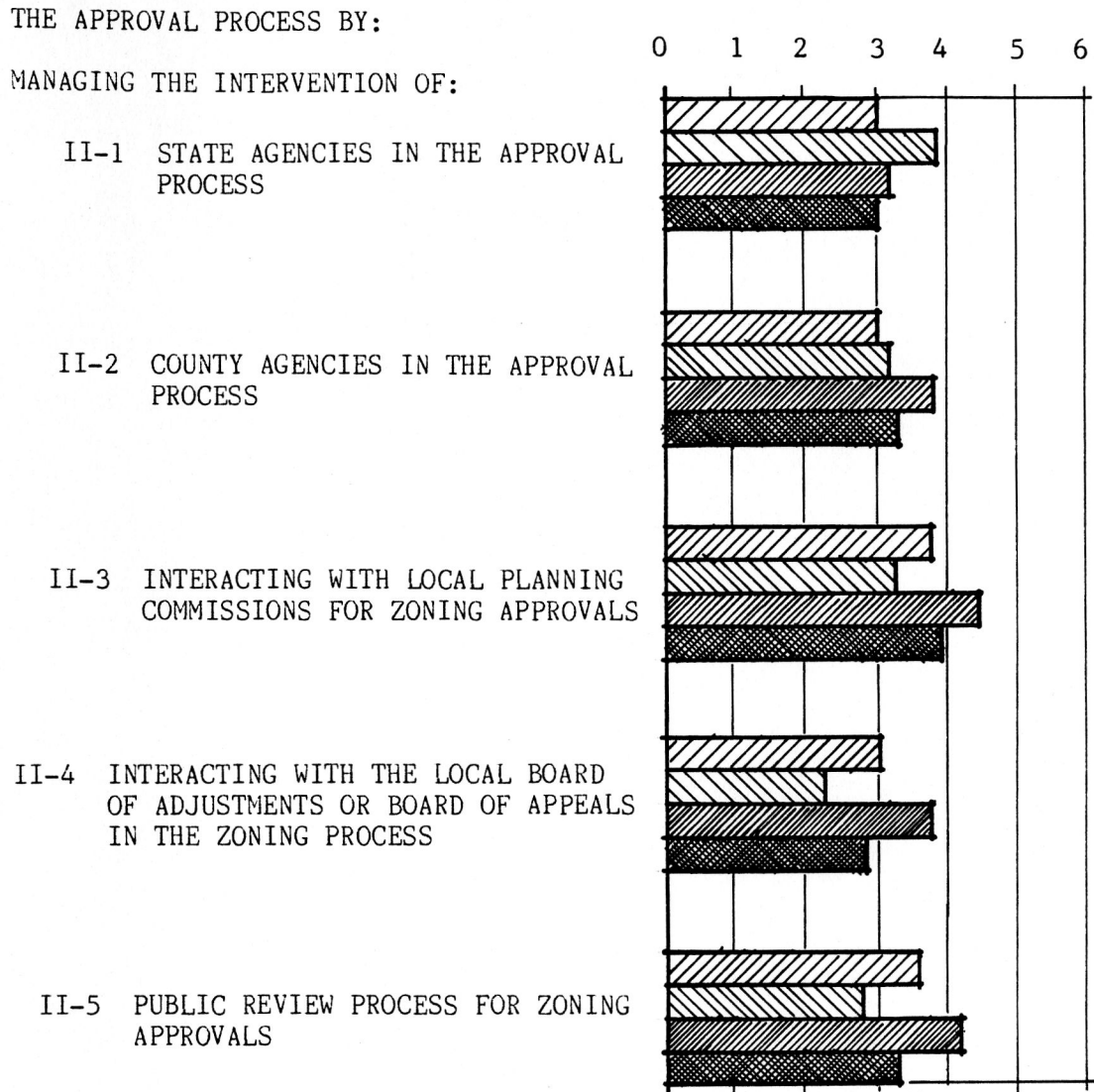
Section I: Project Feasibility (by Type of Practice)

Figure 4-14, Data Description Sheet indicates the participants who practice golf design almost exclusively responded to the tasks in a "centralized" fashioned. Those practicing a combination of design services, as well as ones not practicing golf course design at all, indicated a wide ranges of involvement or their responses to tasks in this section was split between two values.





The collaboration effort with developers by the participant design professionals is once again rated very high by all participants. The mean responses to tasks I-2, collaborating with an economist, I-3, the marketing research firm, and I-5, collaborating with an economist in determining a feasibility of the golf course are similar to that in the previous section. Task I-6, collaborating with a golf course architect was rated high by those who practice golf course design exclusively. The characteristic of responses to this task, however, shows the responses by these golf architects to be highly split between high (six) and low (zero) values. Those participants from firms that do not commonly practice golf course design indicated a somewhat higher level of involvement in collaborating with other development team members apart from the developer than do golf architects.

Golf Course architects who practice golf course design almost exclusively have a somewhat higher involvement in tasks I-8, determining the market share of a daily fee golf facility, and task I-9, determining the impact of golf as an amenity. The characteristic of the responses is split, however, between low and high values in these tasks.

FIG. 4-9, MEAN RESPONSES
SECTION II: THE APPROVAL PROCESS by "TYPE OF PRACTICE"



LEGEND

-  — THOSE WHO PRACTICE GOLF COURSE DESIGN ALMOST EXCLUSIVELY
-  — THOSE WHO PRACTICE A COMBINATION OF GOLF COURSE DESIGN AND LAND PLANNING
-  — THOSE WHO DO NOT PRACTICE GOLF COURSE DESIGN
-  — ALL RESPONSES

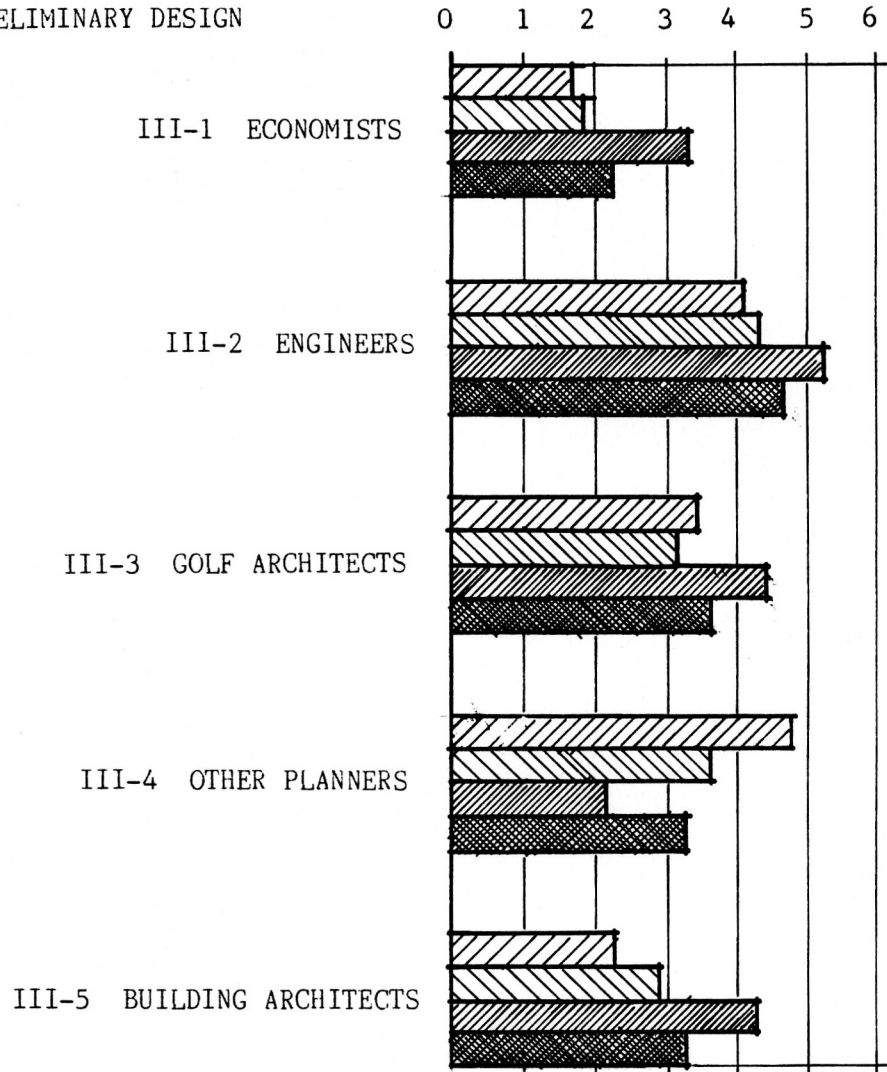
SUMMARY

Section II: The Approval Process (by Type of Practice)





Figure 4-14, Data Description Sheet indicates the characteristic of all responses to be "spread" among all values and are "split" between two values as well as from the participants who practice a combination of golf course design and land planning. Interacting with the zoning commission (task II-3) appears to be the only task that has high validity in terms of a mean response. It is also the task rated highest with regards to involvement by all participants. Golf course architects indicated no less involvement in this task as compared to other design professionals. In terms of the involvement by golf course architects who practice golf course design almost exclusively, the mean responses are not significantly different from other design professionals.

FIG. 4-10, MEAN RESPONSES
SECTION III: CONCEPTUAL PLAN DEVELOPMENT by "TYPE OF PRACTICE"

COLLABORATE WITH THE FOLLOWING
 PROFESSIONALS ON MORE THAN 2
 OCCASIONS IN PRELIMINARY DESIGN
 DEVELOPMENT



LEGEND

-  — THOSE WHO PRACTICE GOLF COURSE DESIGN ALMOST EXCLUSIVELY
-  — THOSE WHO PRACTICE A COMBINATION OF GOLF COURSE DESIGN AND LAND PLANNING
-  — THOSE WHO DO NOT PRACTICE GOLF COURSE DESIGN
-  — ALL RESPONSES

SUMMARY

Section III: Conceptual Plan Development (by Type of Practice)

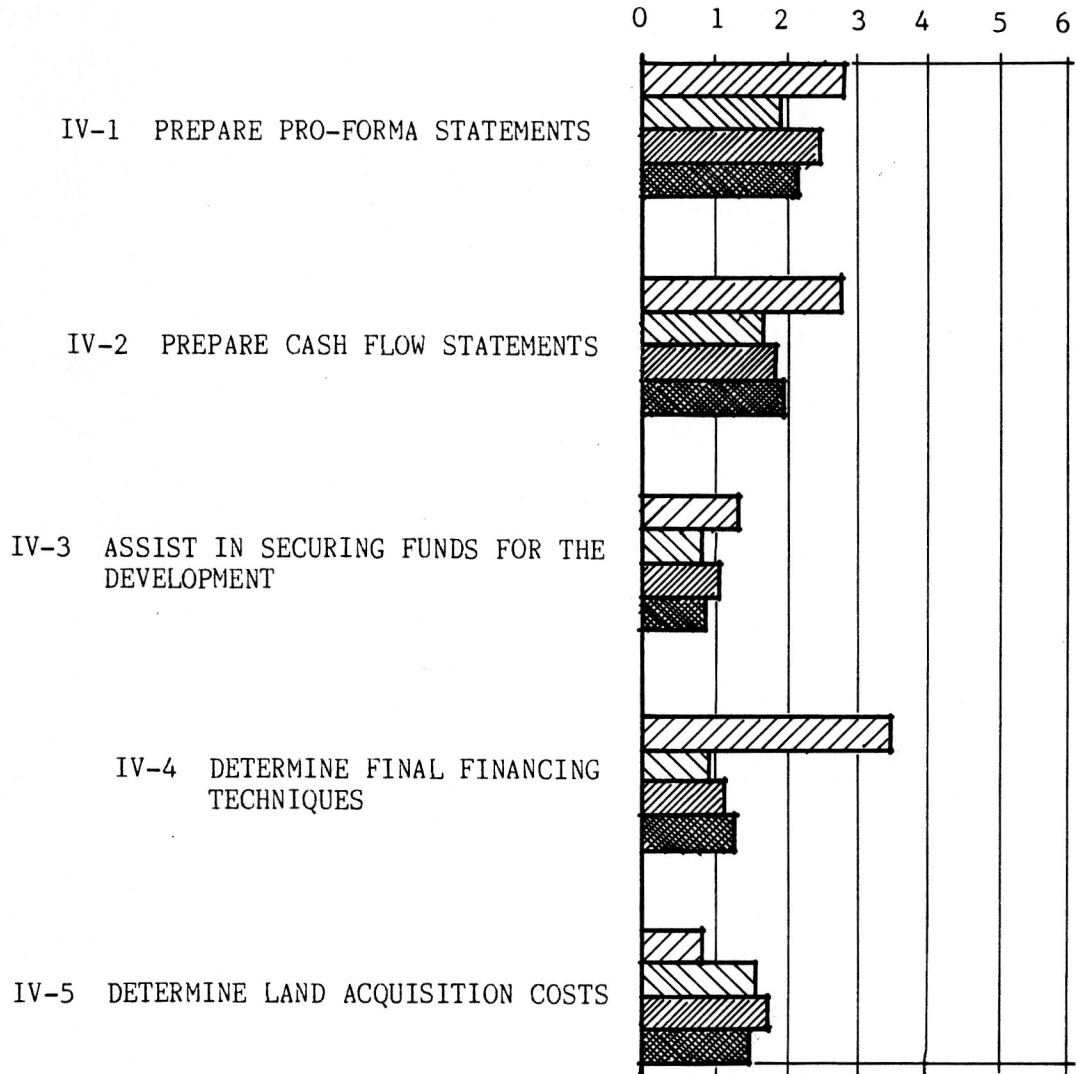
This section assesses the level of professional collaboration as experienced by the participants. Six professionals as listed were examined. They include the economist, engineers, golf architects, other planners, architects, and "others". The purpose of determining the extent of collaboration with these individuals by the participants was to examine involvement with others in resolving general design issues.

For the six listed on the survey form, those golf course architects who practice golf course design almost exclusively gave the most consistent responses in terms of "centralized" or clustered characteristics for all tasks. Task III-2 (collaborate with engineers) and task III-4 (collaborate with other planners) appear to be most valid in terms of a mean response for each of the responses from participants comprising these three types of practice.





Golf architects who practice golf course design exclusively collaborate highly with other planners during this stage (task III-4). At the same time, those participants belonging to firms that do not practice golf course design collaborate to a very little extent with other planners. In addition, those same golf architects do not collaborate as greatly with architects on the same project as do design professionals who do not practice golf course design.

Collaborating with engineers appears to have been given the highest rating by all participants. See Table 4-19 on page 84 for the responses to the fill-in portion of the question.

FIG. 4-11, MEAN RESPONSES
SECTION IV: FINANCIAL ANALYSIS/PROJECT FINANCING by "TYPE OF PRACTICE"



LEGEND

-  — THOSE WHO PRACTICE GOLF COURSE DESIGN ALMOST EXCLUSIVELY
-  — THOSE WHO PRACTICE A COMBINATION OF GOLF COURSE DESIGN AND LAND PLANNING
-  — THOSE WHO DO NOT PRACTICE GOLF COURSE DESIGN
-  — ALL RESPONSES

SUMMARY

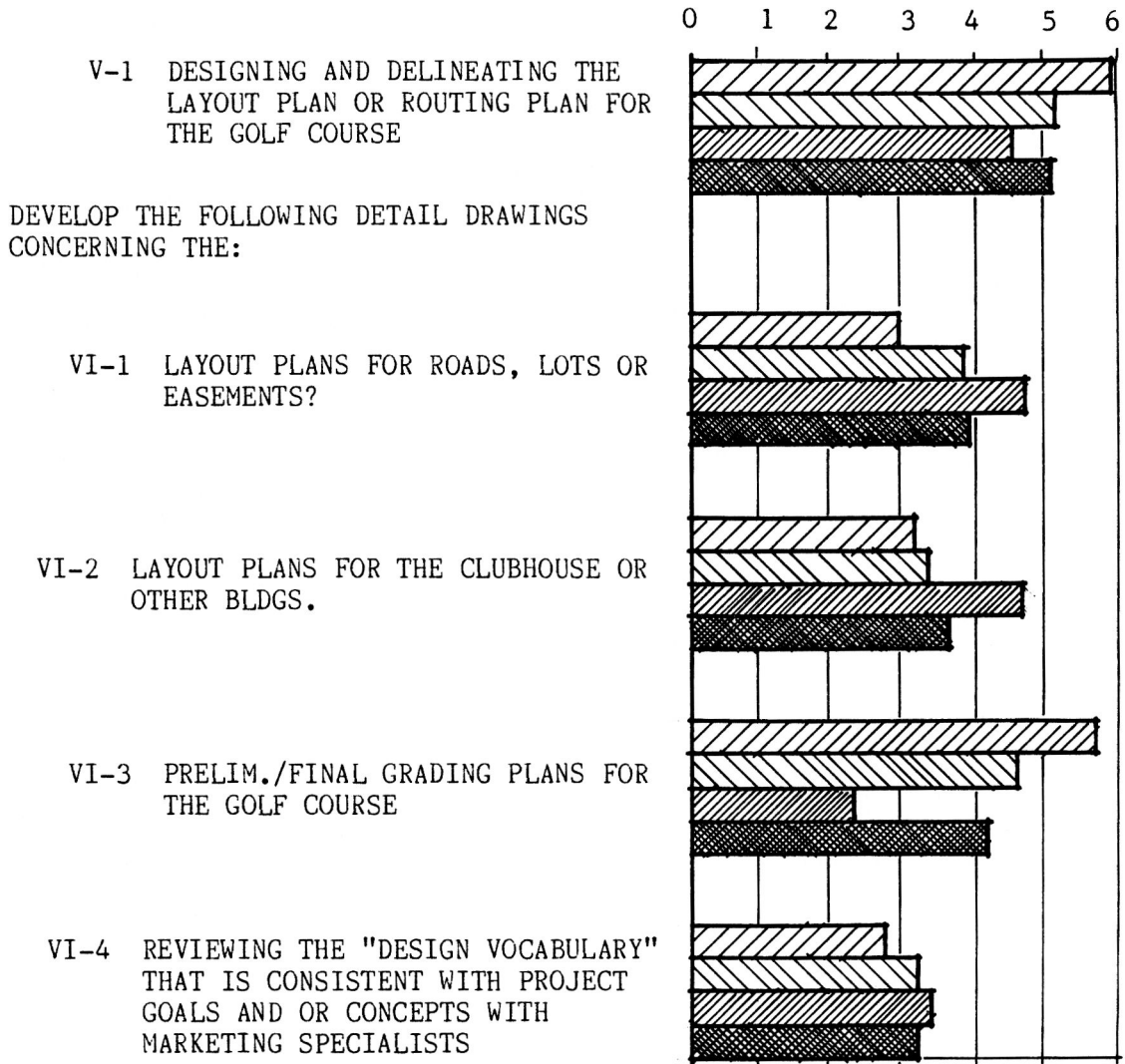
Section IV: Financial Analysis/Project Financing (by type of practice)

Overall response indicate involvement is very low most tasks.





Those participants who practice golf course design exclusively indicated the highest level of involvement in the first two tasks; (IV-1) preparing pro-forma statements and (IV-2) preparing cash flow statements and are well represented in terms of validity. Responses from those who practice golf course design exclusively are widely spread for Task IV-4, determining final financing techniques despite their high rating.

Golf architects tend to prepare both pro-forma and cash flow analysis statements to a greater extent than other design professionals in this type of project. This may help to explain their somewhat higher level of involvement in determining a final financing strategy or technique (task IV-4). Therefore, if a design professional becomes directly involved with project cash flow, he/she would probably be more qualified to determine the most appropriate method for project financing, bearing in mind, however, that the design professional's involvement is still relatively low as indicated by the preceding mean responses.

FIG. 4-12, MEAN RESPONSES
SECTIONS V & VI: MASTER PLAN DEVELOPMENT by "TYPE OF PRACTICE"



LEGEND

-  — THOSE WHO PRACTICE GOLF COURSE DESIGN ALMOST EXCLUSIVELY
-  — THOSE WHO PRACTICE A COMBINATION OF GOLF COURSE DESIGN AND LAND PLANNING
-  — THOSE WHO DO NOT PRACTICE GOLF COURSE DESIGN
-  — ALL RESPONSES

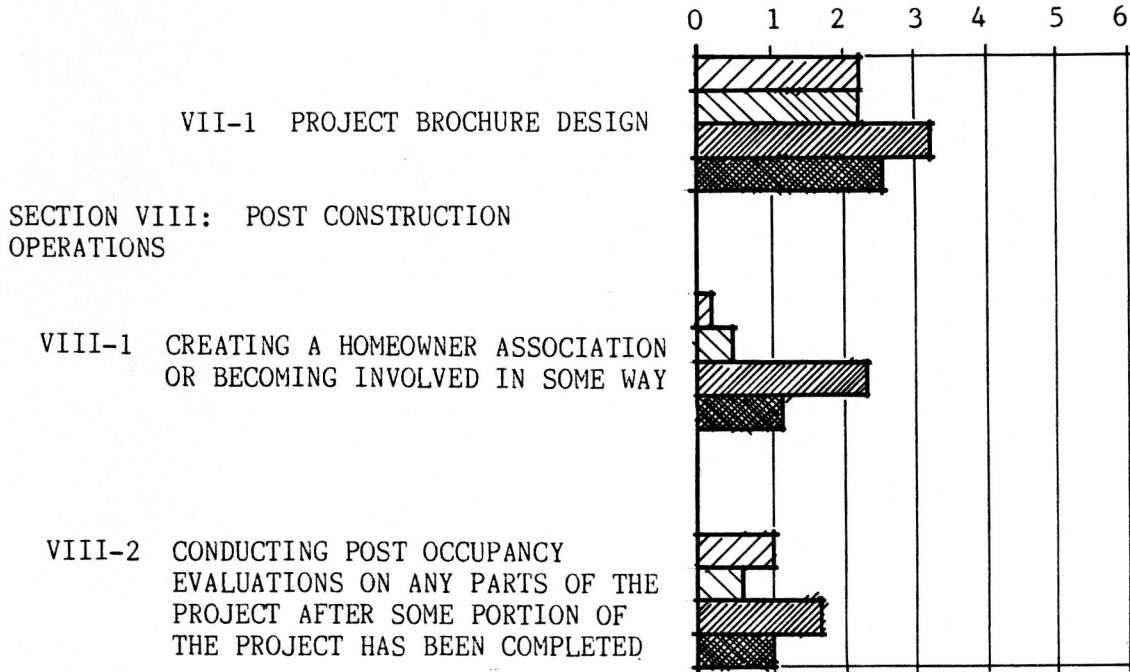
SUMMARY

Section V & VI: Master Plan Development (by Type of Practice).

All participants indicated a high level of involvement in task V-1, routing of the golf course while preparing the grading plan of the golf course is accomplished by golf architects. This phenomenon was previously discussed in the summary for this section by "type of firm".

This set of graphs, however, reveals another issue. Golf architects who practice golf course design exclusively indicated a similar level of involvement in task VI-1, designing the layout of roads and lots and VI-2, designing the layout of the clubhouse or other buildings (a rating of three) as did participants who practice either a combination of design services or those who do not practice golf course design at all. Assuming data is correct, a golf course design and planning firm that claims to practice golf course design exclusively may not actually exist. In other words, golf course architects, whatever their orientation of design services they offer, must be able to design other elements, such as roads, parking, clubhouse facilities, and residential lots even if they claim to practice only golf course design. This issue is further discussed in Chapter 5.

FIG. 4-13, MEAN RESPONSES
SECTIONS VII & VIII: MARKETING/POST CONSTRUCTION OPERATIONS by
"TYPE OF PRACTICE"



LEGEND

	THOSE WHO PRACTICE GOLF COURSE DESIGN ALMOST EXCLUSIVELY
	THOSE WHO PRACTICE A COMBINATION OF GOLF COURSE DESIGN AND LAND PLANNING
	THOSE WHO DO NOT PRACTICE GOLF COURSE DESIGN
	ALL RESPONSES

SUMMARY

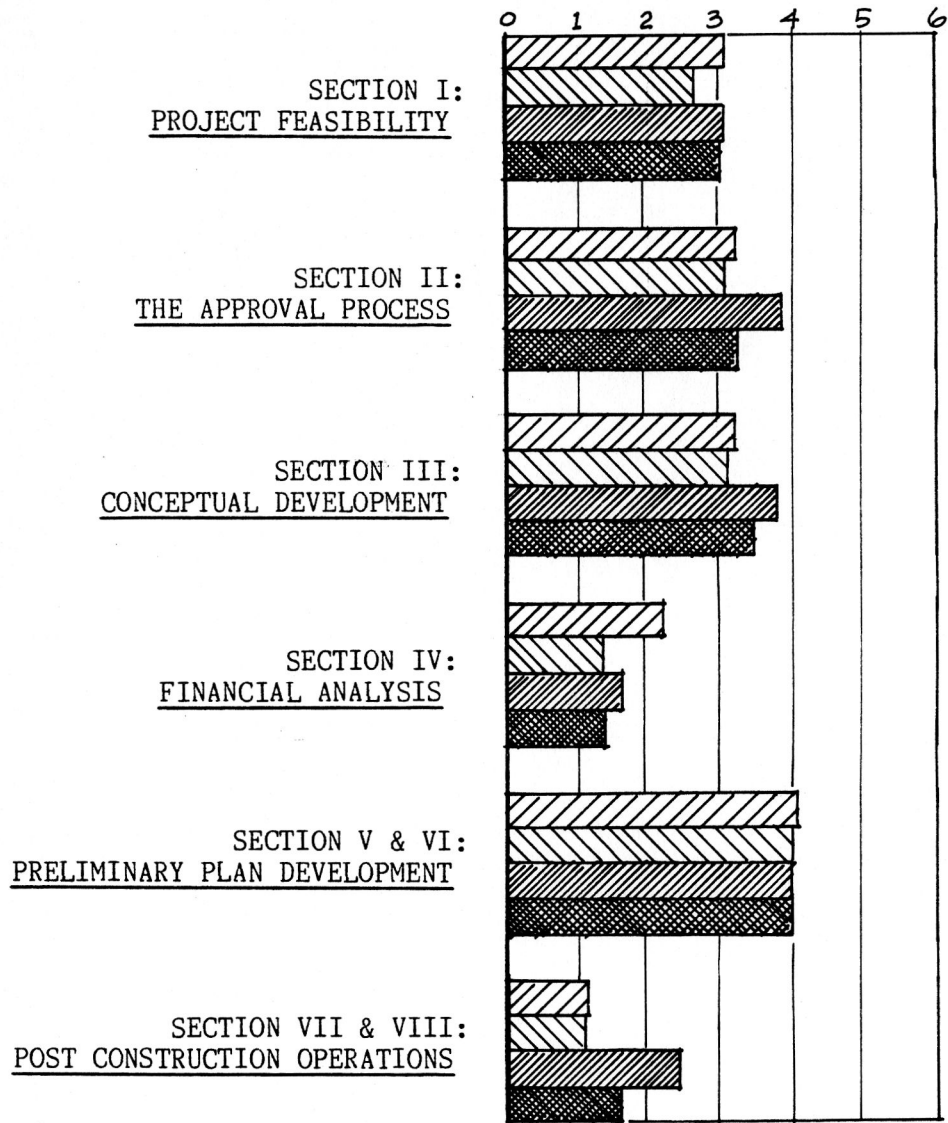
Section VII & VIII: Marketing the Project/Post Construction Operation (by type of practice)

For task VII, Project Brochure Design, responses are mid-range, that is, around two or three on a scale of zero to six. This is probably due to the fact that the creation of a project brochure involves utilizing graphic design principles in order to help illustrate the character or atmosphere of the proposed project the brochure attempts to convey. Task VIII-1, "creating a homeowner association or becoming involved in some way" could have been more specific in that both "creating a homeowner association" and "becoming involved in some way" should not have been asked in the same question. Those individuals whose firms that do not practice golf course design (multi-disciplinary and landscape architecture firms) are involved to a higher level than their golf course designer counterparts. The level of involvement by those who do not typically practice golf course design, however, is still relatively low (2.3).


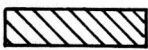


Design professionals do not seem to be significantly involved in post occupancy evaluation. Many firms simply may not be able to afford the time or effort needed for completing post occupancy evaluations on projects. Criteria to judge or evaluate the successes or failures of a project of this type is probably specific to the nature of some component of the project. For example, a developer may consider the project to be highly successful if a greater number of living units or lots are purchased by homeowners in a shorter amount of time than what the developer originally expected. In another example, the golf course

may be highly unsuccessful in terms of difficulty or length for the type of golfer who may play the course while densities, zoning, street patterns, or other areas of the development unrelated to the golf course may simultaneously be successful.

FIG. 4-14, OVERALL MEAN RESPONSES TO ALL TASKS by "TYPE OF PRACTICE"



LEGEND

-  — THOSE WHO PRACTICE GOLF COURSE DESIGN ALMOST EXCLUSIVELY
-  — THOSE WHO PRACTICE A COMBINATION OF GOLF COURSE DESIGN AND LAND PLANNING
-  — THOSE WHO DO NOT PRACTICE GOLF COURSE DESIGN
-  — ALL RESPONSES

DATA DESCRIPTION SHEETS

The following tables show the characteristics of the responses as they appear on the raw data crosstabulation tables used in generating the graphs.

The tables show the three categories for one variable and are listed across the top. Underneath each category are three characteristics of responses that were given by participants. The responses given were either clustered around one value, spread across several values, or split between two or more values. The response chosen most by planners in a particular category is shown in the fourth column under "Response Chosen Most".

Clustered responses best represent the "mean" response value as shown in the previous two sets of bar graphs. Responses that are spread over a series of values are somewhat representative of the mean response shown, and responses that are "split" between two or more values least represents the mean response.

In order to determine the characteristic of responses for any one task, an asterisk (*) is placed in one or more columns as representing the characteristic of responses. Two asterisks (**) indicate an unusually strong relationship between the category of variable and the task. For example, Task I-1, Collaboration with developers, exemplifies a clustering from golf course architects and those belonging to landscape architecture firms. An asterisk is placed under the column entitled "clustered data" for both categories of variables for this particular task. On the other hand, the responses from those designers belonging to multi-disciplinary firms are "split" between two values.

The raw data representing this category of variable (multi-disciplinary firms), therefore, is represented less accurately than the raw data representing the other two categories of "types of firms", golf architecture & planning and landscape architecture & planning. In this manner, the mean responses as indicated by the graphs can be checked as to the validity of the mean responses as shown by each bar graph.

TABLE 4-20, DESCRIPTION OF DATA by "Type of Firm"

T A S K S	TYPES OF FIRMS											
	GOLF ARCHITECTURE AND PLANNING				MULTI-DISCIPLINARY				LANDSCAPE ARCHITECTURE AND PLANNING			
	Clustered Data				Clustered Data				Clustered Data			
	Spread Data				Spread Data				Spread Data			
	Split Data				Split Data				Split Data			
RESPONSE CHOSEN MOST				RESPONSE CHOSEN MOST				RESPONSE CHOSEN MOST				
SECTION I: PROJECT FEASIBILITY												
I-1) Collaborate with Developers.....	*	*	6	*	*	6	*	*	4,5			
I-2) Collaborate with Economists.....	*	*	0,1	*	*	0,1	*	*	5			
I-3) Collaborate with Mar. Resch Firm.....	*	*	2	*	*	1,3	*	*	2,5			
I-4) Collaborate with Dev./Golf Feasibility....	*	*	4	*	*	5	*	*	5			
I-5) Collaborate with Econ./Golf Feasibility...	*	*	2	*	*	0	*	*	3,4			
I-6) Collaborate with Golf Arch./Golf Feas....	*	**	0,2	*	**	0	*	*	2			
I-7) Determine Affected Market Area.....	*	*	0,3	*	*	1,2	*	*	5			
I-8) Determine Market Share; Daily Fee Golf...	*	*	3,5	*	*	0	*	*	0			
I-9) Determine Impact of Golf as an Amenity....	*	*	5	*	*	2,3	*	*	4,5			
SECTION II: THE APPROVAL PROCESS												
Managing the Intervention of;												
II-1) State Agencies.....	*	*	3,5	*	*	0,3	*	*	4			
II-2) County Agencies.....	*	*	3	*	*	0,3	*	*	5			
II-3) Interacting w/ Local Planning Commission	*	*	4	*	*	5	*	*	5			
II-4) Interact w/ Local Board of Appeals.....	*	*	0	*	*	1	*	*	3			
II-5) Public Review Process.....	*	**	0,4	*	*	5	*	*	3			
SECTION III: PRELIMINARY DESIGN DEVELOPMENT												
Collaborate w/ the Following Professionals on More than 2 Occasions in Prelim. Des. Dev.												
III-1) Economists.....	*	*	0	*	*	0,1,3,5,6	*	*	4,5			
III-2) Engineers.....	*	*	4	*	*	5,6	*	*	4,5			
III-3) Golf Architects.....	*	**	0,6	*	*	6	*	*	5			
III-4) Other Planners.....	*	*	4	*	*	6	*	*	1			
III-5) Building Architects.....	*	*	3	*	*	5,6	*	*	4			
III-6) Others.....	*	*		*	*		*	*				
SECTION IV: FINANCIAL ANALYSIS/PROJECT FINANCING												
IV-1) Prepare Pro-Forma Statements.....	*	*	2	*	*	0,2	*	*	3			
IV-2) Prepare Cash Flow Statements.....	*	*	3	*	*	0,1	*	*	1			
IV-3) Assist in Securing Funds.....	*	*	0	*	*	0	*	*	1			
IV-4) Determine Final Financing Tech.	*	*	0	*	*	0	*	*	0,1			
IV-5) Determine Land Acquisition Costs.....	*	*	0	*	*	0	*	*	3			
SECTION V & VI: PRELIMINARY PLAN/DETAIL DESIGN												
V-1) Routing Plan for Golf Course.....	*	*	6	*	*	1,3	*	*	5,6			
VI-1) Layout Plan; Lots or Easements.....	**	*	6	*	*	3,5	*	*	5			
VI-2) Layout Plans/Clubhouse or other Bldgs...	*	*	0,5,6	*	*	5	*	*	5			
VI-3) Prelim./Final Grading Plans; Golf Course	*	*	6	*	*	3	*	*	3			
VI-4) Reviewing "Design Voc." w/Mrkng. Spec.	*	*	5	*	*	3,6	*	*	4			
SECTION VII & VIII: POST CONST. OPERATIONS												
VII-1) Project Brochure Design.....	*	*	3	*	*	2	*	*	3			
VIII-1) Create a Homeowner Assoc.	*	*	0	*	*	1	*	*	2			
VIII-2) Conduct Post Occupancy Evaluations....	*	*	0	*	*	0,1	*	*	0			

TABLE 4-21, DESCRIPTION OF DATA by "Type of Practice"

"TYPE OF PRACTICE" T A S K S *****	GOLF COURSE DESIGN ALMOST EXCLUSIVELY		COMBINATION GOLF COURSE DESIGN AND LAND PLANNING		NO GOLF COURSE DESIGN	
	Clustered Data		Clustered Data		Clustered Data	
	Spread Data		Spread Data		Spread Data	
	Split Data		Split Data		Split Data	
	RESPONSE CHOSEN MOST		RESPONSE CHOSEN MOST		RESPONSE CHOSEN MOST	
SECTION I: PROJECT FEASIBILITY						
I-1) Collaborate with Developers.....	*	5	* * *	5,6	* * *	6
I-2) Collaborate with Economists.....	*	2	* * *	0,1	* * **	5
I-3) Collaborate with Mar. Resrch Firm.....	*	2	* * *	1,3	* * *	5
Others			SEE WRITE-UP IN SUMMARY			
I-4) Collaborate with Dev./Golf Feasibility...	*	4,5	* * *	4,5,6	* * *	5
I-5) Collaborate with Econ./Golf Feasibility...	*	2	* * *	3	* * **	0
I-6) Collaborate with Golf Arch./Golf Feas....	**	6	* * *	0	* * **	2
Others			SEE WRITE-UP IN SUMMARY			
I-7) Determine Affected Market Area.....	*	2	* * *	3	* * *	5
I-8) Determine Market Share; Daily Fee Golf...	*	4,5	* * *	3	* * *	0
I-9) Determine Impact of Golf as an Aenity....	*	5	* * *	5	* * *	5
SECTION II: THE APPROVAL PROCESS						
Managing the Intervention of;						
II-1) State Agencies.....	*	5	* * *	3	* * *	4
II-2) County Agencies.....	*	5	* * *	3	* * *	5
II-3) Interacting w/ Local Planning Commission;	*	5	* * *	5	* * *	5
II-4) Interact w/ Local Board of Appeals.....	*	2,5	* * *	0	* * *	3
II-5) Public Review Process.....	*	5	* * *	0,5	* * *	3,6
SECTION III: PRELIMINARY DESIGN DEVELOPMENT						
Collaborate w/ the Following Professionals on More than 2 Occasions in Prelim. Des. Dev.						
III-1) Economists.....	*	1	* * *	0	* * *	5
III-2) Engineers.....	*	4,5	* * *	4	* * *	5,6
III-3) Golf Architects.....	**	0,6	* * **	6	* * *	5,6
III-4) Other Planners.....	*	4,5	* * *	3	* * *	0,1
III-5) Building Architects.....	*	3	* * *	3	* * *	4
III-6) Others.....			SEE WRITE-UP IN SUMMARY			
SECTION IV: FINANCIAL ANALYSIS/PROJECT FINANCING						
IV-1) Prepare Pro-Forma Statements.....	*	2	* * *	0,3	* * *	0,1,2,3
IV-2) Prepare Cash Flow Statements.....	*	3	* * *	0	* * *	1
IV-3) Assist in Securing Funds.....	*	2	* * *	0	* * *	0
IV-4) Determine Final Financing Tech.	*	0,2,3,5	* * *	0	* * *	0,1
IV-5) Determine Land Acquisition Costs.....	*	1	* * *	0	* * *	0,1
SECTION V & VI: PRELIMINARY PLAN/DETAIL DESIGN						
V-1) Routing Plan for Golf Course.....	**	6	* * *	6	* * *	6
VI-1) Layout Plans; Lots or Easements.....	*	4	* * **	5	* * *	5
VI-2) Layout Plans/Clubhouse or other Bldgs...	*	5	* * **	5	* * *	5
VI-3) Prelim./Final Grading Plans; Golf Course	**	6	* * *	6	* * *	5
VI-4) Reviewing "Design Voc." w/Mrktng. Spec.	*	3	* * **	5	* * *	1,4,5
SECTION VII & VIII: POST CONST. OPERATIONS						
VII-1) Project Brochure Design.....	*	4	* * *	2	* * *	3
VIII-1) Create a Homeowner Assoc.	**	0	* * *	0	* * *	2
VIII-2) Conduct Post Occupancy Evaluations....	*	0	* * *	0	* * *	1

CHAPTER 5

CONCLUSIONS

This chapter will outline and explain the major findings of the research and the implications it may have on the profession of landscape architecture. Major conclusions will be followed by minor conclusions. This will precede a section discussing the potential for further research.

MAJOR CONCLUSIONS AND IMPLICATIONS

Design and Production verses Management

From Table 4-4 on page 61, very few of the design professionals surveyed are involved in management oriented tasks. The majority of them, regardless of their years experience, spend most of their time in production oriented tasks. This is significant in that many of the professionals who have chosen to work in golf course community development may expect to prepare drawings and conduct other production oriented tasks for several years after the period of formal education. Other design professionals may expect to be managing other professionals on some level after a certain amount of experience. The data collected

from this study indicates that this situation may not necessarily be true.

Importance of Those Employed with Landscape Architecture Firms

The graphs from section I, project feasibility indicate that those professionals who are employed with landscape architecture firms experience a somewhat greater level of involvement in this phase and the "the approval process" of the golf course community development process than are professionals from other types of firms. This may imply that they have a greater responsibility in matters pertaining to collaboration as a part of project feasibility. If their level of involvement here appears to be higher than those professionals who belong to other types of firms, their responsibility as a design professional may include developing and utilizing different communicative skills than that of a professional belonging to multi-disciplinary firms or golf course design firms, primarily, oral and written skills. This may also involve a need to facilitate group management skills to a greater extent than design professionals in other types of firms. However, this is not to say that those designers in other firms should not acquire these same skills.

Design of the Golf Course

Upon examination of two tasks, VI-3, designing the golf course layout plan and VI-3, preparing the preliminary and/or final grading plans for the golf course as shown on page 86, significantly different levels of involvement were indicated by the participants between these two tasks. All participants (except those employed with a multi-

disciplinary firm) indicated a relatively high level of involvement (approx 5.0) in terms of routing golf course through a development. However, responses given by designers representing landscape architecture firms regarding the preparation of preliminary or final grading plans for the golf course is significantly lower than the mean response given by golf architects. Therefore, many landscape architecture firms appear to be allowing others (primarily golf architects) to complete the tasks necessary for golf course implementation. In many developments, golf course architects may be left to develop a golf course on land less suited for a course or on parcels that may require intensive earthwork and maintenance and thus, costly construction and management. The quality of play may be hampered as well. Further investigation into the effects of landscape architects routing golf courses through housing development may present the potential for an area of further study.

Involvement in Project Financing and Post Construction Operations

As predicted in the hypothesis, design professional involvement in the approval process is substantial. However, their involvement in project financing and in post occupancy evaluations is considerably lower. The issue of project financing does not appear to be a major responsibility of the design professionals who were surveyed as the data indicates. Design professionals are probably not properly trained in the areas of project financing: enough occupies their time as project designers. Post occupancy evaluation as a post construction task may be another matter.

As the responses indicate, participants are involved to a very

little extent in conducting post occupancy evaluations. This is not to say that professionals do not evaluate their work as designers. One can only imagine the evaluation performed by developers in terms of a master plan proposal. If his requirements, as calculated, are not met, the proposal is unsuccessful.

The data does not indicate that design professionals should not be conducting post occupancy evaluations nor does it indicate that they are not qualified. However, two questions remain. One, should formal post occupancy evaluations be conducted on projects such as these? Two, if so, who should conduct them?

The underlying reason why these evaluations are not performed by designers is probably due to either a lack of time or a lack of money allotted for such activities. If time is allotted in the creation of a design services proposal, other tasks may occupy that allotment such as design or production oriented tasks.

MINOR CONCLUSIONS

The Golf Course Design Firm

One minor or general conclusion from this research effort involves the function of the golf course planning firm. Six golf architects surveyed claimed to practice golf course design almost exclusively. However, they were shown to have been involved in preliminary design development nearly as much as those who practice a combination of golf course planning and land planning. In other words, golf course architects who claim to practice golf course design almost exclusively do not always practice golf course design almost exclusively. Although the characteristic of responses (from Fig. 4-18 on page 108) was highly

scattered between zero and six for these tasks (VI-1 and VI-2), some golf course architects indicated their involvement in these tasks to be quite high. This may imply that those employed with a golf course design firm will probably be involved with the design or layout of site elements not directly related to golf at some time in their professional careers.

The issue, however, may be one of detail. Golf course architects may locate major site elements but resolving the "details" of such elements will probably be left to other professionals. This is not to say that golf course architects cannot do community planning.

Related to this idea is the notion that a great number of golf course architecture firms have become involved in offering land planning services to clients in addition to performing the more typical golf-related tasks. This may be due to several reasons, one being the economical survival of the firm. The broader the range of services a firm has to offer, the greater the potential for a more diversified clientele that may appeal to design professionals.

The Importance of Engineering and Engineers

A second minor conclusion from this research involves the reliance of all design professionals on the profession of engineering and those who practice it. This is not to say that land architects ought to become engineers but that land development of this nature cannot take place without engineering. From the data collected, only in rare cases is a person licensed to practice both landscape architecture and engineering. Therefore, landscape architects who practice land use planning will continue to rely heavily on engineers to help implement

those plans, in particular, large scale developments.

Responses by "Type of Firm" verses "Type of Practice"

Through examining Figure 4-18, the characteristic of responses by "type of practice", the responses seem to be less representative in terms of a mean response than are responses categorized by the "type of firm". The immediate cause was due to a scattering of responses by the participants. The underlying cause for this scattering may have been due the wide range of services the various professionals may offer a client regardless of the design professional's typical orientation of practice. Therefore, an extensive body of knowledge is needed for any design professional to effectively operate as a designer for land developments of this nature. Apparently, only generalities may be made about the scope and type of services a person or firm may offer to their clientele. Those persons seeking design services from firms involved in developing golf course communities should exercise a certain level of care in choosing the proper firm for the proper task to be performed.

GENERAL OBSERVATIONS

This study helps to reinforce the need for a general verses specialized curricula in landscape architecture education. If students of landscape architecture are to someday become involved in complex projects of this type, the amount of knowledge they will need to effectively apply design decisions is enormous. Degree programs should incorporate a balance of core courses in landscape architecture design with construction and emphasize study in areas not directly related to the profession of landscape architecture. To be more specific, this

thesis demonstrates that business and engineering play an enormous role in contemporary land use planning and implementation.

Conversely, the inclusion of others from disciplines outside the immediate realm of landscape architecture, particularly from business, engineering, and regional planning might be an advantageous route for someone aspiring to become a large scale land developer. Individuals representing these professions might be a target population for graduate education to consider capturing.

POTENTIAL FOR FURTHER RESEARCH

Areas that could be investigated as a result of this research include:

- 1) studying the differences in the quality, playability, and character of golf courses that were routed through communities by landscape architects who do not typically practice golf course architecture. These courses could be compared to those routed by golf course architects.
- 2) analyzing and if necessary, making recommendations about the curriculums of the accredited schools of landscape architecture and their emphasis on business, finance, and engineering. This data could be compared to the current professional status of their former students (after a specified amount of time).
- 3) examining the various post occupancy evaluation techniques and determining a proper technique for post occupancy evaluation for golf course developments. Interviewing representatives from a homeownership association verses collecting site observation data may be two methods worth comparing.
- 4) collecting data on areas or regions of the country that may be in need of golf facilities. Population figures for an area could be combined with the number of public golf facilities for that area. This data would be helpful to those individuals seeking a potential market that may support golfing facilities.
- 5) examining in greater detail, the landscape architect's role in a single section of the golf course development process such as project implementation or the nature of professional collaboration in preliminary design.

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APPENDIX A: OPERATIONAL DEFINITIONS

The following list of operational definitions define the professionals who comprise development teams and the basic duties and responsibilities associated with their professional roles. Documentation of collaboration is mentioned as well. Other related terms are also listed and defined.

The **Developers/Owners** are the individual(s) that develops land on speculation who, many times, may or may not be the owner who makes all final design and managerial decisions concerning his project. The developer (or design team manager) can either be a single individual, a group of individuals, a corporation, or a consortium of investors that may include the developer. His primary function is to provide project coordination, organization, and management among members who comprise development teams. It is also the responsibility of the developer to insure good communication between the team members (U.L.I. 1981)

The **Landscape Architect/Land Planner** is a landscape architect who practices land planning design in a multi-disciplinary firm, a landscape architectural firm, or as a private practitioner. His background is normally in Landscape Architecture with professional experience in large-scale land planning. Other individuals who may work in conjunction with the land planner include civil engineers, architects, other landscape architects.

Golf Architecture is the art of design, layout, and placement of the elements pertaining to the game; tees, fairways, greens, hazards, etc. that have a direct effect on the game's strategy.

The Golf Course Architect (or "the Golf Architect" or simply, "the Architect") is the individual, either registered or not, who routes golf course holes and develops the detail design for tees, fairways, and greens through the principles of golf architecture. He may either be hired as a consultant by the land planner or who practices as an employee of the same firm. Within the past several years, his academic background has been Landscape Architecture as well.

Development Golf Course is the golf course that accompanies a larger land development project (Jones and Rando 1974).

The **Engineer** assists in calculating the mechanics of implementing the course, i.e., soil science implications, irrigation quantities/techniques, or any other technical aspect concerning construction of the course.

The **Golf Course Builder** is the person(s) who knows how to build what the designer intends, knows how to direct the operation, both equipment-wise and labor (Hurdzan 1981).

The **Golf Superintendent** is the most proficient in understanding the relationships and complexities of plant growth, and the result of environmental stresses on turfgrasses in order to achieve the best possible playing surface (Hurdzan, 1981).

The **Clubhouse Architect** designs the clubhouse structure and closely coordinates his efforts with the golf course architect to resolve the functional qualities of the clubhouse, the immediate area around the clubhouse and the course which it serves.

Land Development or A Golf Course Community refers to the physical project being designed by any of the individuals above of which a golf course is a part.

Project Management is a business procedure that utilizes planning and scheduling techniques, monitoring procedures and record keeping, control administration, project observation, effective communication, problem identification, leadership skills, and a host of other business practices necessary to coordinate and implement a project efficiently and successfully from inception to completion (Marshall, 1981).

The Land Design/Development Process is the methodical approach to determining and defining the essence of a problem, analyzing it, proposing solutions, and finally, to test viable solutions. In relation to land development, the design process is the planning effort that examines market and financial analysis, physical analysis, (site inventory and analysis), concept design, preliminary plan development, and finalization of a master plan to act as a guide for future development (Smart, 1981, Koberg and Bagnall, 1980).

"Concept" refers to a qualitative statement or statements that are used to define and to describe the anticipated land development.

"Concepts" are usually layout types on which the physical organization of housing, commercial, or industrial units occur in conjunction with a golf course.

APPENDIX B: GOLF COURSE COMMUNITY TYPES

If a golf course is deemed feasible within larger land development scheme, a "type" of development must then be chosen depending upon the desires and aspirations of the developer. Eleven different golf course types can be built within four major land developments.

Development Golf Courses

Five distinct layouts for land development exist; a single fairway width with a returning nine, a single fairway continuous, a double fairway width with returning nines, a double fairway width continuous, and a "core" 18-hole course (Jones and Rando, 1974). These are considered layout "concepts" for the development golf course.

Single width fairways refers to designing a golf course as single fairways in which development occurs to either side of fairways. Single width layouts usually allow the players to return to the clubhouse after nine holes are played. Double fairway width courses (either with or without returning "nines") have 2 fairways placed adjacent to one another. This arrangement is best suited for high density housing in which the width of two fairways tends to relieve congestion associated with high density housing better than a single fairway. with 200' as a desired distance (Jones and Rando 1974).

Community Types and Concepts

Four major types of communities exist that may encompass land development golf courses; the first-home community, the semi-retirement community, the second home community, and the resort community.

The first home community is characterized by multi-use

developments; densities vary from single family detached housing to retail and light commercial types. If lot sales predominate, a single fairway course layout is most appropriate because the length of frontage along fairways will be maximized. Lots adjacent to the course increase in cost between 20- 50% over those without frontage. Double fairway widths should be placed near multi-family lots to help relieve densities associated with those lots.

Semi-retirement communities are designed for people who have retired and for those who are planning to retire soon. The golf course designed for this type of user should be somewhat shorter in length than the normal 18-hole, par 72 course. Fairways tend to be wider than normal (approx. 180') and contain medium to large greens (7500-9000 sq. ft.) with a double fairway layout (Jones and Rando 1974).

The third type of community is the second-home type. Condominium units are the housing types normally found in such a development. Since the user is usually on vacation while spending time in his "second home", lots adjacent to the golf course should be available first (Jones and Rando 1974).

The last major type of community is the resort community. This development type attracts the widest variety of people with the greatest diversity of interests, this type of development is usually the most complex. A large hotel, retail areas, and numerous living quarters comprise this development type. The golf course in the resort should be a regulation 18-, 27-, or 36- hole course, which offer the greatest variety of play on each hole. A double fairway layout will enhance the spaciousness of the resort, and whenever possible, exhibit an element

of the spectacular. The course should take priority in design. If an exciting course is built, its reputation will help attract players to the resort and, thus, help contribute to the success of the resort. Most developments are combinations of these 4 types depending upon the community desired, existing developments, and the quality and quantity of land to be developed.

APPENDIX D: Thank you letter

The following letter was mailed to those design professionals who completed a survey.

----- - -----

Dear Mr. -----,

Thank you very much for completing the survey assessing your participation in the development process of a golf course community. I have received your survey and your responses are being recorded at this time. If I can be of further assistance, please let me know.

Sincerely,

John Petrushka, Graduate Student
Kansas State University

AN EVALUATION
OF
DESIGN PROFESSIONAL INVOLVEMENT
IN THE
DEVELOPMENT PROCESS
OF
GOLF COURSE COMMUNITIES

by

John Petrushka

B.S. Architecture, University of Texas at Arlington, 1983

AN ABSTRACT OF A THESIS
submitted in fulfillment for the partial
requirements of the degree

MASTER OF LANDSCAPE ARCHITECTURE

Department of Landscape Architecture

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1987

ABSTRACT

The professional involvement of the land planner, along with golf architects, as land use planners, was assessed in the golf course community development process. This assessment will help to demonstrate the need for land planners to understand all aspects of large scale community development if they are to continue to make optimum land use planning decisions.

It was discovered that the design professionals surveyed spend a considerable, if not the majority of professional time, on production oriented tasks. More importantly, the amount of time did not appear to be dependent upon the years experience the design professionals possess.

Those employed with landscape architectural firms appear to become involved to a greater extent than do professionals belonging to other types of firms during the project feasibility stage and the approval process stage. Those professionals belonging to landscape architecture firms are involved in routing the golf course through developments but do not become highly involved in more detail design of elements pertaining to the golf course.

The design professionals surveyed are involved the least in project financing and post construction operations of the development.

Golf course architects who claimed to practice golf course design almost exclusively seem to be significantly involved in performing tasks not directly associated with the golf course, particularly locating housing lots and roads.

As a secondary focus, the study also examined the extent of collaboration that a design professional may typically experience with other development team members involved in a large-scale project of this type. This collaboration was examined during the project feasibility stage and the preliminary design stage of the golf course community development process. The profession of engineering plays a significant role in the development of golf course communities in terms of design professional collaboration.

Conclusions were based on mean response to non-design related tasks and to differences in response as they relate to the type of firm to which the land planner is employed, and his type or orientation of professional practice.