Enhancing the Quality of Life

Through Recreation

Mark Foreman
Landscape Architecture Comprehensive Study
Ball State University
Instructor: Ron Spangler
Faculty Advisor: German Cruz
Spring 1999
Table of Contents

Abstract ....................................................................................................................... 3
Introduction .................................................................................................................. 3
Background .................................................................................................................. 4
Problem/Sub-Problems Hypotheses ........................................................................... 7
Goals/Objectives and Site Issues ................................................................................ 8
Context Site Setting .................................................................................................... 9
Client-User .................................................................................................................. 13
Program ...................................................................................................................... 14
Design Process ........................................................................................................... 16
Summary ...................................................................................................................... 53
Bibliography ................................................................................................................. 54
Abstract

This intent of this project is to develop an environmental and socially sensitive recreational plan for the River Terrace Estates senior housing retirement community. The project identifies problems that arise when people move to senior living communities and form solutions to solve problems associated with senior living communities. Research was conducted to gain understanding of senior lifestyles and needs. A survey was taken to identify the most popular activities that seniors enjoy participating in. A site was selected and an analysis was completed to identify opportunities and constraints of the site. This information was then used to develop goals and objectives and several concepts. Two preliminary concepts were assessed and combined to develop a master plan for the site. The master plan was then developed in detail to show how the exterior space could be develop to enhance the quality of life of the residents.

Introduction

The focus of this creative project is the site of the senior living community River Terrace Estates-located one mile west of Bluffton, Indiana. This new community will be situated on sixty acres of land along the Wabash River. Thirty of the sixty acres is suitable for residential development and the remaining thirty, located in the flood plain will be used for recreational opportunities. The finished campus will house 64 duplex units, 88 congregate living apartments, 60 assisted living units, and 60 health care beds. A site plan has been developed by Collins-Gorden-Bostwick Architectural Firm, however, the outdoor spaces have not been developed beyond a conceptual stage. Residents of retirement communities have many needs. Through critical analysis and research these needs were identified and then apply to the the River Terrace Estates Retirement Community. The recreational plan is a sensitive response to the residents and the environment. A master plan has been developed to provide an outdoor environment for social and recreational activities to occur. This project will propose a master plan using the conceptual plan as the basis for design.


Background

Housing for the older adult is becoming more popular due to a growing and changing elderly population. Today, we are seeing an increase in income levels, education levels and improved health. As these changes occur, the issues surrounding senior communities become increasingly complex (Castens, 1985). These changes will lead to a demand for more diverse and higher quality senior housing. Designing a successful housing community requires the designer to understand many complex issues such as the aging process, the mental and physical abilities of older adults, social, recreational and environmental issues, as well as, site planning.

Many of the problems we associate with aging is often merely a "by-product of inactivity and poor nutrition (National geographic 1996). However, there are some unavoidable factors and an increase in susceptibility we will experience in terms of health directly related to aging (Goodman and Smith, 1992). As we become frail our needs change and our senses dull. Designing for older adults requires knowledge of the physical changes we experience brought on by age. Having knowledge of these changes will enable one to address important issues related to physical abilities such as wayfinding, accessibility and independence (Castens, 1985).

Gerontologists realize that social and psychological factors contribute to our quality of life. There is also evidence that giving and sharing and good social health can have a positive influence on our physical health (National Geographic, 1996). Social opportunities can be promoted in a variety of ways. We need to design a variety of spaces that evoke a variety of emotions and encourage diverse levels of social stimulation. A small enclosed space may encourage an intimate conversation while a large common open space may evoke a sense of community.
Physical and recreational activities are key elements in maintaining health, independence and a high sense of well-being. Exercise is becoming increasingly popular and offers many benefits. Reduced stress and lowering the risk of diseases such as cancer, cataracts and heart disease are solid reasons to incorporate and promote exercise in retirement communities (National Geographic, 1996).

Recreation has long been identified with improving one's quality of life, however, as we age and our abilities change, we often become limited in the types of recreation we can participate in (Willhite, 1992). In a community predominantly occupied by older adults there will be a broad range of physical abilities that must be considered when designing recreational spaces. In some cases, older people can be reluctant to try new activities (Castens, 1985). It is the designers' responsibility to design in a way that encourages and challenges activities to stimulate and improve health.
Nature has powerful effects on people and a history of enhancing physical and mental wellness. Egyptian physicians prescribed long walks to patients suffering from mental problems. In Canada, many institutional facilities have installed green spaces specifically to promote good health and mental well-being. Studies have also shown that interaction with nature can reduce stress, hostility, and enhance overall sense of wellness (Driedger, 1996). Nature can be used to stimulate virtually all of our senses. Most people have a need to feel productive. Simple gardening is one way people can fulfill this need and improve self esteem. At a stage in life when older adults may feel that they are not needed gardening may also be the answer. Planting and caring for a garden instills a feeling of value.

The power of place should never be underestimated. By critically analyzing the literature one can prepare himself to address all of the issues that encompass a quality senior housing community. The exterior space is too often an afterthought that is not developed to its optimum potential. This study is an opportunity to inform people of the phenomenal benefits that can be gained from outdoor spaces when intelligent, sensitive, creative and critical landscape architecture is applied.
**Problem**

The primary problem this project will address is the lack of senior housing communities designed to provide opportunities for outdoor social and recreational activities. The outdoor space must be designed to accommodate the physical abilities of elderly people and provide access and opportunities to interact with nature. In the past, senior housing communities have also failed to design communities that foster independence among seniors.

**Hypotheses**

Sensitive design of the outdoor space to accommodate the physical abilities of seniors would enhance the quality of life of the residents. Designing outdoor spaces for physical and social recreational activities would improve the mental and physical health of residents. Designing spaces that provides access to nature would improve the well-being of residents. Designing spaces that enables senior residents to function independently will enhance their mental wellness.
Goals and Objectives

Develop an environmentally and socially sensitive recreation plan for the River Terrace Estates retirement community to enhance the quality of life of the residents.

Design an accessible nature trail system.

Create outdoor gathering spaces using plant material, hardscape and structures.

Design recreational spaces such as a swimming pool, shuffle board courts, tennis courts, biking, walking/jogging path, outdoor aerobics space, fishing and boating pond, vegetable and flower gardens.

Create an interpretive trail system.

Design a trail system which connects to the river green way and Parlor City golf course.

Use landscaping to connect the built structure and outdoor space.
Context

The site lies one mile northwest of Bluffton, Indiana in Wells County. The site is bordered to the west by the Wabash River, to the north and south by agricultural land and directly to the east by Highway 116 which has several homes situated along it.

Following the Wabash River upstream leads to Bluffton, a small town with a population of approximately 10,000. The city has a clean appearance and many amenities including parks and a river greenway. There is also a senior center, an outdoor amphitheater, a bank and several restaurants located in the heart of the city along the Wabash.

There are two golf courses in the area one located behind the homes on St. Rd. 116, is the Parlor City Country Club, an 18 hole golf course. Located one and a half miles south east is the Hickory Hills Golf Course.
Wabash River
Agriculture land - north of the site
Downtown Bluffton
Parlor City Golf Club
Site and Setting

This parcel of land was selected as the location of the River Terrace Estates Senior Living Community because of its proximity to Bluffton, the existing natural features, and the land was donated by Dr. Charles Caylor and Mr. Ware Baker to the Caylor-Nickel Medical Center.

The site consists of sixty acres of land. The land is presently densely wooded with a variety of native deciduous and coniferous trees and shrubs which include; Oaks, Maples, Dogwood, Hawthorns, Sycamores, White Pine and other species. The wide range of plant material and compositions of some of the species such as the White Pine makes this an attractive site to live.

The land is divided into parts, thirty acres in flood plain which will be used for recreation and thirty acres on higher ground which will be used for the housing development. The land is generally flat, but slopes gently towards the river. The land has more slope nearing the river particularly at the flood plain division and along the river bank.

The site also has an east west division formed by a creek which intersects the site about 1/3 of the way up from the southern boundary.

The Wabash River and forest is currently the habitat for several species of wildlife including deer, birds, raccoons and other species common to the area.

The climate is typical Indiana meaning summers are hot and winters are cold and wet. The design addresses this issue to make the site more livable. The spring and fall is the most pleasant time to spend outdoors.
Client-User

Primary Users

The primary users of the site will be the residents themselves. All residents will be fifty-five years of age or older. Even though they will all be older adults their physical and cognitive abilities will differ greatly. The populations will range from totally independent and fully functional adults to those who require assistance to complete basic tasks such as eating and bathing.

Secondary Users

The secondary users of the site will include people working at the retirement community including paid employees and volunteers. Visitors of the residents and users of the proposed river greenway. The site is currently the home of various plant and animal species.

The Concept of Life Care

- Independence
- Amenities
- Maintenance free
- Smaller homes
- Resources and support when desired or needed
Program

The trail system

The trail system serves as the backbone of the recreational plan. It organizes the site by connecting the elements of the site and creates physical and social connections. The trail system is accessible for walking, jogging, biking, and wheelchair use. It is a convenient way to move about the site and provides access to prominent nodes on the site.

Landmarks

Prominent features around the site help the residents navigate there way around the site and create a sense of predictability of space.

Outdoor Recreational Spaces

There is a variety of outdoor recreational spaces for active and passive activities located in both the flood plain area and on the higher land. These two distinct zones will allow the residents to access some activity sites even when flooding my occur in the flood plain area. Activities located close to the living facilities for convenience and year round accessibility include, and a multi-purpose recreational area used for activities such as senior aerobics, dancing and musical entertainment. A bird and butterfly garden will be located close to the housing units to bring nature closer to the residents.

Outdoor Gathering Spaces

These spaces range in size from small private gathering spaces to two large public gathering spaces designed to accommodate community activities.
Gardening Spaces

The site will include one community garden. Each duplex will also have a small garden space for small scale ornamental, vegetable or herb gardening.

Amenities Package

The amenities package includes benches, bridges, outdoor furniture, gas grills lighting, signage, and trash receptacles.

Landscaping

Hardscape and softscape are used to create a variety of functional spaces, create cohesiveness and enhance the aesthetic and environmental quality of the site.
Design Process

Design Intent
Site Analysis
Concepts
Master Plan
Details
Design Intent

When designing a senior living community it is important to create an environment that feels like home. Many residents have lived for most of their lives in the same home and have become accustomed to a certain type of environment. Though these environments may be different for each resident there are common characteristics that can be drawn from each to create a sense of place for the residents. By selecting common materials used locally for buildings and landscape treatments the residents will feel a connection to their previous homes.

Scale is important to this design because the massing of the built environments can seem overwhelming and sterile. Landscape plant materials and structures are used to soften the scale and create connections between the built and natural environments.

As we age and our physical and mental abilities decrease, as a result, special consideration must be given to accessibility, safety, and comfort. Many people later in life lose spouses and friends, and family often moves away. In order to help alleviate some problems associate with loneliness, the master plan includes spaces for social interaction, contemplation and stimulation.

It is also common among seniors to lose their feeling of independence due to declining health. Gardens, private spaces, and a variety of recreational spaces have been incorporated to enhance their sense of independence. Access to nature and exercise spaces have also been developed to maintain and enhance the residents mental and physical well being.

By addressing these issues the recreational plan will improve the quality of life for the residents and add value to the community.
Site Analysis

Vegetation

The vegetation on the site creates a natural atmosphere on the site and provides many opportunities to interact with and experience nature. Unfortunately, the vegetation also creates a natural barrier between the housing units and the river.

Topography

The existing topography is primarily flat so most of the site can be easily transformed into an accessible site. Gradual slopes offer some variety and will add interest to a walk and in some areas make for pleasant overlook areas. These areas can be for nature viewing, as well as gathering and recreational areas. The division of the site by the flood plain is beneficial because it limits the amount of buildings and roads that can be place on the site and creates opportunities for the development of passive and active recreation areas.

Wabash River

The river is one of the most interesting and dynamic features of the site. It may be used for a variety of activities such as fishing, nature watching, contemplation areas, boating and many other activities. Some areas are naturally more accessible than others and these areas should be used for the development of outdoor spaces. Areas where vegetation is more dense and serves to stabilize the bank should be avoided.

Creeks

The creeks bring water deeper into the site and can be used to enhance a trail system. Bridges will need to be constructed and native vegetation can be planted in these areas to further enhance these areas.

Roads

The roads connect the site and provide access to the buildings and parking lots, however, they create a dangerous situation to pedestrians. Separation between the pedestrians and autos is needed and as well as traffic calming techniques to make the site safer. Vegetation is needed around the roads and parking lots to break up the hardscape and cool the paved surfaces.
**Built Environment**

The housing on the site consists of a congregate living facility in the shape of an H and is surrounded by duplex units. This is an independent living facility and offers dining, recreational activities and other services. The assisted living facility and nursing beds are located to the south end of the site and will be the home for residents that need daily care. Special design consideration must be given to this area to ensure safety and access to the natural features of the site.

**Entrances**

Most of the entrances on the site are not well defined. Hardscape and softscape features need to be incorporated to identify these areas and welcome the residents and visitors.

**Spatial Relationships**

The built and natural space is not well connected and transitions need to be formed to add continuity to the site. The independent and assisted living facilities are currently divided by the vegetation and creeks and need to be connected. There is not adequate separation between the public and private space and some steps need to be taken to solve this problem. The outdoor space has not been developed and needs to be developed in a way that creates both active and passive areas of recreation. The core of the H-shaped congregate housing building houses the dining hall and activity areas. A connection and transition from the interior to exterior spaces also needs to be established.
The Flood Plain
Creek to the south
Vehicular Circulation

Roads

Parking
The Built Environment

Congregate apartments

Duplex Housing
Spatial Relationships

- Built space to natural space
- Independent housing to assisted living
- Public space to private space
- Active areas to passive areas
- Pedestrians to the Road
**Preliminary Concepts**

Both concepts incorporate the elements listed in the program but arrange them differently on the landscape. Both concepts provide access and connections around the site by developing a multi-use trail for pedestrians, wheelchairs, and bicycles. Areas developed are greenspaces, social areas, exercise areas, and overlook, a fishing pier, contemplation and nature viewing areas. Entrances are landscaped to welcome visitors. The location of each feature was chosen by analyzing the relationship to the existing features and compatibility between each use.

In concept one the path include both an upper and lower trail. The fishing pier was located on direct site-line with the congregate living facility to make it more visible and accessible to users. Bridges provide access across the creek in several spaces to connect the assisted living to the rest of the site and connect trails. The trail leading to the assisted living is direct line for fast access.

In concept two the upper trail around the perimeter of the site was eliminated because of the close relationship to highway 116. The fishing pier was relocated to a secluded location at the north end of the site which would get less pedestrian traffic. The trail system runs parallel to the creek to take advantage of this natural feature.

After assessing and comparing the preliminary concepts a master plan was developed.
**Master Plan**

The master plan is a hybrid of the first two plans. The site features and spaces were reorganized to improve the relationships between the uses, the residents, and the site. Several of the spaces are designed in more detail to show the character of the site and possibilities for which the site can become.

**Overview of the plan**

**Vegetation**

Vegetation on the site was added, relocated, and removed to enhance the site. Native vegetation was used to make natural transitions from natural areas of the site to the developed areas. Pines and deciduous plants small enough to move should be relocated in these areas to add continuity. Aristocrat Pears line the main roads to create rhythm and separation from pedestrians and cars on the site. Redbuds are located at the entrances to add color and interest to these areas.

**Entrance treatment**

A wrought iron fence is incorporated to separate the site from the road and create rhythm along the front of the site. Brick and limestone walls displaying the River Terrace logo frame the entrance and create a sense of identity. Native and ornamental plants such as perennials, ivy and annuals soften and enhance the entrances. A pavilion is also placed at the main entrance to give the feeling of a gatehouse and provide information to people interested in the community.

**Roads**

The roads, lined with trees, are intersected by structures and brick paved pedestrian paths to slow traffic and alert cars that pedestrians are present.

**Pedestrian Paths**

Many of the pedestrian paths are covered with arbors to create enclosure and shade. The main paths are of brick and secondary paths are composed of concrete. Changes in materials add interest and signify grade changes or traffic areas.

30
Trail System

The trail system links the housing types and various features on the site. It is ten feet wide to allow for comfortable mixed uses and access by emergency vehicles. The vegetation is cleared wider on both sides of the trail that connects the independent living to the assisted living facility. Benches, lighting and signage are located along the path for comfort and safety.

Recreational and Therapy Gardens

The gardens located outside of the assisted living facility create a pleasant environment for the residents, family and staff. Enclosed by a wrought iron fence, the safety of the site is enhanced. The space offers a variety of spaces from shady to sunny areas. A path runs through the site and weaves in and out of colorful and raised planting beds. Fountains provide water in the the space for residents who may not have the chance to experience the river. Native vegetation screens the fence so residents feel a sense of freedom and connection to the woods.

Bridges

Bridges are designed to get people across the creek. They are constructed of treated lumber, wrought iron and limestone to tie in with the natural surroundings. Native perennials create interest along the creek banks and lighting adds atmosphere and makes the bridges usable at night.

Rest Areas

Rest areas are place along the trail system to provide places to sit and give trails users a chance to catch their breath or just enjoy their surroundings.

Gathering Circle

A gathering circle is located at south end of the site for nature watching, picnics, or summer campfires.

Butterfly and Perennial Gardens

Perennial gardens to attract wildlife will bring nature into the site. These will be located at the rear of the housing units so residents will not have to go far to experience birds, butterflies, and plant life.
Nature Viewing

An area is developed along the river for residents to contemplate and be immersed in nature while viewing the river. Simple benches and nature define this space.

River Terrace Overlook

The overlook located in the court yard is a structure providing a view of the river. It also serves as a landmark for residents coming off the trail.

Fishing Pier

Fishing is a popular activity among seniors and the pier gives residents a chance to fish anytime of the day. Constructed of treated lumber the pier has steps the lead to the waters edge. Swivel fishing chairs and coolers make it a comfortable spot to spend an afternoon.

Residents Circle

This space celebrates the residents that live in the community. The circle is a place for social gathering and is constructed of limestone 2'x2' pavers with vegetation between each paver. An inner ring constructed of concrete pavers have names of residents etched into them. A fountain in the center of the inner circle brings water into the site. Benches and a seating wall provides places to sit beneath a canopy of River Birches. This circle provides the residents with a sense of ownership and belonging in the community.

Court Yard

The oval shaped court yard encompasses the entire outdoor living space on the west side of the congregate housing building. An arbor canopy covers most of the oval walk and creates a one eighth mile loop for walking close to the homes and out of the woods and floodplain. A rill of water which echoes the river runs through the site and empties into a fountain below the Overlook Pavilion.
Community Garden

The community garden is composed of several garden plots which are clustered around the main rose bed. Individuals may adopt a plot or families may share in the garden. Organizations from the surrounding community would be invited to garden in the community garden and socialize with the residents.

Open Greenspace

This area is an open lawn surrounded ornamental trees and a low brick and wrought iron wall to separate the active area from vehicular traffic. Grandparents could play catch have picnics or participate in other recreational activities with their grandchildren.
Master Plan

Main Entrance 1
Entrance to
Assisted
Living 2
Trail System 3
Recreational and
Therapy Gardens 4
Bridges 5
Rest spots 6
Gathering Circle 7
Butterfly
Perennial
Gardens 8
Nature Viewing 9
River Terrace Overlook 10
Fishing
Pier 11
Resident's
Circle 12
Court Yard 13
Duplexes 14
Congregate Living 15

Community Garden 16
Open Green Space 17


**Entrance Features**

- Pavilions
- Red Buds
- Aristocrat Pears
- Native Vegetation
- Fence
Roads

Typical Section of Street
Pedestrian Circulation
and Crossings
Moving through the space
Trails
Specifications
Total Length- 2 miles
Largest single loop- 1 mile
Steepest Slope- 8%
Most paths are 5% or less
Distance to assisted living- 1/8 mile
Distance to fishing pier- 1/8 mile
Trail Section to assisted living facility
Typical Trail Section
Sketches
Community Gardens
Court Yard
The Rill
Activity Area
Resident’s Circle
River Terrace Overlook
Bridges
Fishing Pier
Therapy Garden
Resident's Circle
Bridge and Creek Enhancements
Fishing Pier
Assisted Living Facility

Entrance Treatment

The entry is framed with Redbuds and a canopy extends over the entry drive. Trees line the entry drive and a wrought iron fence encloses the site to give a sense of safety and security.

Levels of Participation

There are three levels of participation to accommodate all the resident's abilities. Level one is primarily a viewing garden for those unable to go outside. Level two is a garden with raised planters, fountains and limited access so staff can be assured the residents are safe. Level three gardens are for residents who are still quite capable of functioning independently for short period of time. Trails and gardens are larger and give more freedom to the residents.

Water Features

Water features are abundant throughout the assisted living facility. Since residents may not be physically able to make it to the river themselves, the river is brought to them. Studies have shown that water can have a positive therapeutic affect on people and this element will help improve the sense of well being for the residents.
Cross Section of Assisted Living Garden
Assisted Living Therapy Garden
Summary

Today’s elderly population is soaring due to advances in technology and a maturing baby boomer generation. It is estimated that by the year 2030 there will be more than 70 million Americans age 65 and older which will more than double today’s number. At the same time, we are seeing a steady decrease in birth rates which means that there will be fewer middle aged and young adults to take care of our elderly. (National Geographic, 1997) It is inevitable that most of us will require some degree of assistance at some point in our lives to meet our daily needs.

Landscape architects must seek to understand the aging process so that we meet the changing needs and new challenges of today’s senior population as well as the future senior population. By doing this we can properly design spaces to enhance our senior’s quality of life.
Texts


University of New Mexico School of Architecture and Planning. *Visions for an Intergenerational Community*. University of New Mexico School of Architecture and Planning, 1997. A study of design alternatives for senior citizen residence center which focuses on meeting the changing needs of today’s rapidly growing senior population. In addition to many types of living options, this design emphasizes the benefits of linking the senior community to the University community which serves as a learning center and encourages continuing education.


**Periodicals**


Journals


Wilhite, Barbara. "In-home Alternatives for Community Recreation Participation by Older Adults." The Journal of Physical Education. Recreation and Dance 1992 Oct., v.63, n.8, p.44. Author examines recreational aspects for seniors and how they are provided in retirement facilities.

Internet Access References

http://www.national geographic.com.pg.31


http://www.geron.uga.edu/agesites.html

http://www.state.me.us/dhs/beas/legislat.htm