Living Environments For The Active Elderly

(A Mixed Age Condominium Community Focusing On the Considerations of the Present and Future Elderly Population and Its Housing Needs)

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Introduction

The dramatic increase in the elderly population, both in terms of sheer numbers and as a percentage of the nation's overall population, is one of the most important demographic changes taking place in our society today. The more than 30 million people who make up this segment of the population (55 years of age and older) form a diverse group representing a broad spectrum of income, preferences and capabilities. During the 1980's alone, the population of Americans over the age of 55 will increase by 7 million (U.S. Census Bureau, 1983). Currently, 80% of the members who make up this age group live independently, residing in their own homes or apartments.

According to a survey conducted by Wolfe Resources, Inc., 73% of the elderly population want to stay in their own home or apartment for as long as possible, moving only if they can no longer maintain the upkeep of their present home. This statistic, along with the tremendous increase in the senior population, points to an ever-increasing need for housing designed with the present and future needs of the elderly in mind. There has been much discussion on the need for good, quality senior housing, but very little action has been taken.

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![Graph: Elderly vs. Total U.S. Population]

**Elderly vs. Total U.S. Population**

Source: AIA/ACSA Council of Architectural Research, 1987
Intent

To create an environment for the elderly resident that will reinforce the positive aspects of living; an environment that will provide increased opportunities for individual choice, as well as minimizing dependence while at the same time encouraging independence; an environment that recognizes the probability of decreased mobility over time and can change and adapt to address that problem; an environment that is safe and enjoyable to live in and which encourages interaction between neighbors, the surroundings and the community; an environment where services and activities are accessible and where growth can be accommodated; an environment creating openness, friendliness and delight.

The goal of this project, and the challenge then becomes, to design a community of affordable housing units for our growing elderly population which can be implemented and sold now to the elderly and non-elderly alike (which can be adapted and changed as the needs of the individual resident change).

Target Group

The segment of society here termed "elderly" is used to describe any individual 55 years of age and older, although this is not a rigid age guideline. The target group consists of people considered "empty nesters" -- early retirees, married couples, along with single people who are either unmarried, widowed or divorced. Members of the target group expressed the wish for housing where they would not be burdened with maintenance and upkeep -- a habitat that retains residential scale and appearance, is close to all amenities (churches, shopping, banking, transportation, doctor's offices, etc.), is affordable, livable and imaginative.

Procedure of Evaluation

This Thesis represents the combination of over one year of continued research, investigation and inquiry into the housing needs of our ever-changing elderly population.
Beginning with Prof. Stan Mendelsohn's class, Arch 451 (Research), and continuing through Arch 403, 404 and 405, a large amount of information has been compiled and studied. Many different forms of inquiry have taken place. They include: Personal inspection of many senior living facilities; interviews with elderly persons regarding their preferences in housing; compilation of surveys with elderly residents relating to income levels, health, security and housing needs; countless hours spent at the library researching the present and past traditions of dealing with the elderly housing problem and the solutions to that problem. Many hours were also spent with members of the faculty in the College of Architecture, the School of Nursing and the Institute of Gerontology at Ball State University discussing the ever-changing needs of the elderly (from discussions regarding how high a kitchen cupboard should be to questions dealing with decreased mobility, eyesight, hearing, and even the loss of a spouse). Most of this information was compiled and evaluated in my Thesis Research Paper for Arch 403 of 30 October 1988, "The Integration of Senior Living Environments for the Active Aged into Existing or Planned Mixed Age Living Facilities."

**Design Concepts and Descriptions**

**Importance of Site Selection**

The concept of creating special environments for a group of people sharing common characteristics is not new. For hundreds of years we have had orphanages, poor houses, old folks homes and sanatoriums. One problem with these types of facilities is that they discriminate and segregate their members from the rest of society. This is not healthy for any segment of society, especially for the elderly. Changing society's view of, and responsibility toward, the aging has resulted in reforms that have greatly improved the physical environments of all types of facilities for this special population.

Social interaction is a key in any type of housing project, and it is especially important in senior housing. One of the criticisms of elderly housing is that they often are not part of the community at large. The elderly, like people of any other age group, enjoy the companionship of their peers. But, there is considerable evidence that there should be no isolation by age of any group. All persons, particularly the elderly, need to feel a part of the total community.
To encourage social interaction, site selection for this community becomes very important. Placing a person in an active environment will not only stimulate that person to become active and involved, but could possibly lengthen their life as well as strengthen the integrity of the complex and community as a whole, while instilling in the elderly resident a feeling of dignity and self-worth.

Site Considerations and Evaluation

As mentioned, site selection for elderly concerns is very important. The site chosen for this complex is 19.33 acres of land on the northern edge of Muncie, Indiana. This site is ideal for a condominium community focusing on the needs of the elderly for many reasons.

The site is located along Chadam Lane, just north of the intersection of Bethel and McGalliard roads, which makes it very easy to move to and from any point in town, while being only 6 miles from interstate 1-69. The site itself is tucked into an undeveloped area which is adjacent to Sugarbush Apartments, an existing 17-building rental community of all age groups. Across Chadam Lane to the west, the YMCA Tennis Club to the south, and open fields of scattered evergreen and deciduous trees to the north and east. Located within the 19.33-acre site is a small (1½-2 acres) man-made pond. Within walking distance of the site are the many amenities of McGalliard Road -- strip-malls for shopping and groceries, theatres, fast food restaurants, a med station, doctor's offices, car washes, motels and public transportation routes. (See Location Map and Site Evaluation, Pages 5-6)

By placing this community as proposed, many benefits arise. First, for the developer, is the fact that all services are provided to the site and only have to be extended. Phone, sewer/water, cable TV, gas and electric service are all underground to help provide an uncluttered, pleasant neighborhood. This site also allows for future expansion to the north and east, which would link it up with existing residential communities.
For the resident, the benefits are many. Being so close to shopping, doctor's offices, public transportation, restaurants located to the south, and the beautiful open fields to the east and north, encourages the resident to become active by going out and walking to the store or walking the trails and observing nature. The site provides many great views to be utilized by the residents and is far enough from McGalliard Road so noise is not a problem. Having Sugarbush Apartments to the west will provide some action as people of all ages come and go to the pond, which is located between the two complexes. It has the possibility of becoming a place for the two communities to merge into one, a shared space that bridges the gap not only between complexes, but the age gap as well.

**Design Development**

**Design Considerations and Issues**

Through the evaluation stages of this Thesis, many of the housing needs of the elderly have been brought to my attention, and I will attempt to address all of these issues in my design process.

The image of the family homestead headed by a patriarch, has long vanished. Large homes have been subdivided, deteriorated, or sold to those who have the money and energy to sustain them. The number of elderly residents are increasing -- increasingly on their own, many by preference.

Many of the elderly expressed the desire to remain in a residential setting. These people want to live in buildings that resemble the type of housing they are leaving. These individuals expressed concern that the cost of any housing they would consider would be between $60,000 to $80,000. For this dollar figure, most requests are for units consisting of two bedrooms with a third bedroom/studio option (2 or 2½ baths), or for 3 bedrooms with a studio option (2 or 2½ baths). The extra bedroom/studio option was desired because extra room and storage was needed, or because many individuals had friends or relatives who might stay overnight. Other requests from the target group consisted of having an attached garage, space for laundry hook-up, and lots of storage space. Units of two levels, or with basements, were considered alright as long as stairways were kept to a minimum,
had landings half-way up, and were open and non-confining. Large living/entertaining space was important, along with a kitchen with all the conveniences. (See Kitchen Considerations, Page 38). That will act as the hub of all activities in the unit.

With age comes increasing uncertainty about one’s health and the reliability of one’s abilities over time. Many of the individuals in the target group expressed the desire that their individual unit be able to change as their physical needs change. It was very important to these people to remain in their units and not be uprooted if they were ever confined to a wheelchair or had to use a walker or cane for assistance.

Security

At a time when one’s own life may be jeopardized by circumstances or capability, security becomes more important. Security was the one overriding issue most elderly residents brought up for discussion -- security not only for their individual living unit, but for their neighbor’s and the community as a whole. The people wanted to feel safe in their units without creating a “prison” effect. Close proximity to a neighbor is very important. Being able to see what is going on outside your unit and the surrounding yard and street was as important as knowing your neighbor can see you and assist you, should the need arise. This is important because the elderly feel vulnerable when strangers are approaching their unit or are in the complex. Knowing that others can observe what is going on is reassuring.

Privacy

Just as important as security, is privacy. Seniors want privacy from the street for certain areas of the yard and unit, so they can retain a sense of control over their surroundings and feel as if they are still in their own homes. Target group members expressed the desire for front and backyard porches or conversation areas where they could be alone with friends. Also desired was space for gardening and outdoor leisure activities. Large windows, placed so that people seated in wheelchairs as well as the non-wheelchair-bound could easily observe the front entrance and other vistas around the unit, were desirable.
Solar Considerations

Keeping with the idea of large windows for security, the elderly resident also expressed the need for an abundance of natural light throughout their units. Most elderly love to grow vegetables and plants. Large window sills are important to act as plant holders for those residents who do not wish to, or cannot, do their gardening outdoors. Also, the letting in of sunlight to the interior brightens up the unit and adds a cheery atmosphere. Greenhouses were considered ideal solutions to the above-mentioned issues and requests; the elderly would like them to be incorporated wherever possible.

Design Solutions

Concepts

Building on the above issues and considerations, it is my contention that a community of resident-owned condominiums consisting of one- and two-story structures, each of between one and four attached units, be adopted. The advantages of this type of unit/building arrangement are many, a few being: It will help maintain a residential look and feel to the community by having smaller individual buildings, rather than large scale, multi-floored buildings; it will facilitate greater flexibility in unit placement which will allow for more greenspaces and landscaping between and around buildings as well as keeping a lower density of units per acre, which will prevent a closed-in feeling and appearance. Buildings can also be arranged easier to take advantage of existing views and solar angles. If a low-density per acre is maintained, residents will retain a sense of privacy while still having a neighbor close at hand, if needed.

Individual Units

To facilitate the wishes of the target group, I have developed two basic unit types. These two basic units are two bedroom units: One level units with the option of being two levels; and three bedroom units with a loft (4 units total).
To begin with, I felt the need to retain an image that, to me and to the target group, said "home." After showing many different pictures of many different housing styles to my survey group, the ranch-style home was the most desirable; both in terms of elevations and in terms of the floor plan. Building on this overwhelming choice, I set out sketching countless floor plans, until I arrived at the ones I felt best suited my target group's desires.

Working with the program established and after submitting my sketches for review, I began to develop a hard line floor plan and elevations that were in line with the target group's wishes.
DESIGN CONCEPT SKETCH: DONE IN STUDIO WITH ALFREDO MISSAIRE.
DESIGN CONCEPT SKETCH
DONE IN STUDIO WITH
ALFREDO MISSAER
Addressing the Issues

The Kitchen as Unit Controller

My attempt to answer the issues revolved around the kitchen as the control center of the unit. From the kitchen, all areas of the house could be observed as well as the monitoring of the front entry, the garage and driveway, and the yard and street, and the area directly adjacent the unit. The division of the unit into its public/social areas and its private areas is an important issue. There had to be a definite break between these areas which I thought could be handled by positioning these areas off of a private hallway.

Private/Public Spaces

Large porch areas were added at the front of the unit and off the back side to form conversation areas and areas for private leisure activities. By placing the kitchen at the center of the unit, with all other areas radiating from it and the garage off from the kitchen, the units took on an L-shape form, creating a privacy zone in the front yard shielded by the garage and controlled by the kitchen.

In designing these units, the most modern, up-to-date methods, materials and expertise will be employed. Some of the considerations to be implemented will be: Maintenance-free exteriors (vinyl, natural wood); Polyseal Anti-Air Infiltration System; R-19 wall insulation; R-30 ceiling insulation; sound separation and insulation between adjoining units; high efficiency heating/air conditioning and water heating systems; thermal windows and doors; solar considerations (light and shading); greenhouse options; security; pre-wired cable TV and telephone jacks; easy care interior finishes; and low-maintenance bath, shower and kitchen fixtures, along with the special needs of physically-handicapped individuals incorporated or easily adapted to in selected units.
Solar Considerations

In an attempt to admit as much light into these units as possible, clere-story windows seemed the perfect solution and were in keeping with the ranch-style, residential feeling we were trying to establish.

By the use of the clere-story window with a sight overhang to shade them, natural light could flood the units' interiors and be directly reflected on the sloping ceilings. By positioning the windows on the four facades under roof overhangs of at least 2 feet, direct sunlight is not a problem for the interior areas.
Individual Units

Zoning -- Units 1A and 1B

As the diagram shows on the following page, Units 1A and 1B have been divided into four separate zones: Public, semi-private, private and utility areas. Control of these areas is maintained from the kitchen. All areas are within easy access. Each area of the unit is easily identified and separated.
Unit 1A

Unit 1A is a 2-bedroom, one-level unit. This unit is shown with the handicap options included. Access to the unit is from the main entry or directly from the garage into the kitchen area. This makes it easy to unload groceries or wheel in a wheelchair or disabled person. The open, flowing floor plan allows for easy access to all points of the unit and makes the unit feel and live larger than it is. This unit has a large shared bath off the master bedroom, which has a roll-in shower and a large, separate vanity area along with a toilet room/laundry room combination off the kitchen. Clerestory windows and roof windows bring light into the living/dining room areas and a greenhouse option is shown off the dining area.
Unit 1B

Unit 1B is a two-story, three-bedroom unit with a loft/work space. It has the basic first floor plan as Unit 1A, except that the shared bath has become smaller to facilitate the inclusion of stairs to the second floor master bedroom/loft area. The floor plans and sections shown here show Unit 1B without its greenhouse option. By not having the greenhouse, this allows for a large, private deck off the master bedroom. The second story is open to the living room below and also to the main entrance to see who is there if the resident is upstairs. The master bedroom has a separate vanity, his & her closets, a large walk-in closet, and high vaulted ceilings. This loft area can be used for entertaining or for a private study area.
Unit Grouping & Surrounding Environment

Units 1A and 1B can be joined to other units in any manner of ways, but the preferred way is to share a common two-hour fire rated garage wall. As the drawing indicates, this grouping sets up many areas of interaction and control from the kitchen area. Private spaces are established by the configuration of the unit and the way the site is landscaped, a fence between the units, a border hedge and the use of trees as separators, creates areas of public, semi-private and private spaces. In this diagram Unit 1B (Unit 1A similar) is joined to a Unit 2A (2B similar).
Units 2A and 2B

Zoning -- Units 2A and 2B

The zoning for Units 2A and 2B are basically the same as for Units 1A and 1B. Units 2A and 2B are larger units, having more square feet of living space. Unit 2A (Unit 2B similar) is organized around the kitchen control area, with all the spaces -- public, semi-private, private and utility -- radiating from it. Once again, the kitchen oversees the entry area, driveway and garage, the front yard as well as the living/dining areas and the backyard.
Unit 2A

Unit 2A is a one-story, two-bedroom unit, shown here with handicapped considerations. Entry is from the main entrance or directly through the garage to the kitchen/nook area. Unit 2A has more deck/porch area than do Units 1A and 1B. It also has the option of two greenhouse locations -- one off the dining area in the rear of the unit, the other to the side off the kitchen/nook area. This unit has a large master bedroom with its own bath and separate dressing area, and shares a private deck with the second bedroom. A second shared bath is located across the hall from bedroom #2. Clerestory windows and skylights bring in natural light to the interior and is reflected off the sloped ceiling surfaces.
Unit 2B

Unit 2B is a two-story, three-bedroom/loft similar in plan to Unit 2A, except the shared bath has been removed to accommodate the stairs to level two and the master bedroom/loft area above. The bath has been relocated to just off the kitchen/nook area. Like Unit 2A, Unit 2B has the option of two greenhouse placements, depending on the units solar orientation. Unit 2B has a loft/bridge area on level two that connects the stairs with the master bedroom. The large master bedroom has a separate vanity/bath area, a large walk-in closet along with regular closet space, a private deck overlooking the side and rear of the unit and windows to the front of the unit.
Unit 2A and 2B Grouping

Unit 2A (Unit 2B similar) can be joined to other units in any number of ways. Bedroom to bedroom, as shown, or garage to bedroom, or garage to garage, all separated by a two-hour fire wall. As shown, by grouping the units bedroom to bedroom, many areas of public, semi-private, and private spaces are created. Controlled by the kitchen zone, the front yard, driveway, garage, living and dining spaces are easily observed as well as the surrounding areas, such as the neighbor’s yard. Private spaces are created by fencing, a border hedge and the placement of trees and landscaping. The many decks and porches provide areas for conversation or private leisure.
VIEW FROM LOFT AREA
(UNITS 1B & 2B SIMILAR)

OPTIONAL GREENHOUSE
The Kitchen Control Center

As mentioned, the kitchen is the focal point and control center for all the housing units. When designing the kitchen, it is important to understand who will utilize it the most. In our society, women outlive men by an average of 8 to 10 years. To design with this in mind and also to provide a kitchen that can change as the tenant's physical condition changes, becomes a challenge. By having a kitchen (and the entire unit) adaptable to change, a tenant can remain in place longer; and it also will allow you to have facilities in place as the demand for elderly housing increases.

Kitchen Design Features

By designing for the elderly, we can also design for the handicapped individual and, for the most part, these differences from a "normal" kitchen are not even noticed. All the conveniences are included in these kitchens (double sink, garbage disposal, stove, refrigerator, dishwasher, lowered cupboards and counters, along with a lot of shelf space or a pantry). Along with the removal of the bottom cupboard next to the stove and one under a cutting surface, electrical receptacles are lowered and large loop handles are installed on the cupboard doors to help residents with arthritis or vision problems. (See Kitchen Layout Perspective)
TYPICAL KITCHEN WITH HANDICAP CONSIDERATIONS
Final Site Plan/Community Organization

Now that all the elements of the individual units have been discussed, it is time to look at the final make-up of the community and the finished site plan.

Site Considerations

The site has been laid out to encourage interaction, privacy, walking and experiencing nature, along with a feeling of togetherness with the existing Sugarbush Apartments and the surrounding community.

Vehicle access to the site is by means of a main entrance across from Sugarbush's entrance, and by a secondary entry at the end of Chadam Lane which has been extended to the north. Both entries encourage both pedestrians and vehicles to experience both complexes and to allow the residents to mingle as well.

Upon entering our site, you will find tree-lined streets with sidewalks on either side. These beautiful streets provide a nice relaxing avenue for residents to walk and socialize with their neighbors. The main drive is serpentine in plan and opens up to one of the two pedestrian islands located at the junction of two or more roads. These islands act as landmarks and resting spaces for the residents as they walk the community. One island is circular in shape, while the other is in the form of a diamond. This is to help orient residents and also to aide in giving directions or setting up meetings ("meet me at Diamond Island at 8:00 a.m.," for example). (See Perspective of Pedestrian Island, Page 44) The individual housing units are located off of these tree-lined streets and provide ample greenspace, front and backyards, privacy, and a sense of order. Around our pedestrian island, the units are grouped to enhance the circular feeling of the intersection, while along the straight streets they are a more formal and stable presence. Cul-de-sacs are provided for future community expansion to the north and east.

Landscaping is very important to this site. Not only does it present a more country atmosphere, but it helps cut down vehicle noise, it shades individual units, provides privacy and creates borders, enhances an
interaction with nature and provides screening between neighbors and the surrounding community. It helps define this area as someplace special.

The pond on the site is to remain, and has a very important role in the community. Not only does it act as a focal point, but it serves to bring members of the community together. The pond is situated in such a location as to attract residents from Sugarbush Apartments over to it. By crossing Chadam Lane, the wooded area along the lake is a perfect play/picnic area and a place to walk and interact. The pond also acts as a focal point for our community's club house, office and activities center. The center, located along the pond's eastern edge, has swimming facilities, tennis and shuffleboard courts and a sun/observation deck overhanging the pond where residents can converse, feed the ducks or just lounge in the sun. The activities center houses the maintenance shop, complex offices, library, changing rooms, meeting rooms and an adjacent playground area for residents who have grandchildren. (See Perspective, Page 49)