

A CONTINUING CARE RETIREMENT COMMUNITY

Patrice M. Anderson

Arch 556
Montana State University
Bozeman, Montana

March 1986

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A CONTINUING CARE RETIREMENT COMMUNITY

Patrice M. Anderson

A professional paper submitted in partial fulfillment
of the requirements for the degree

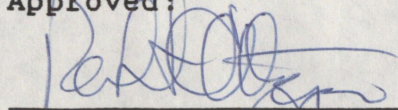
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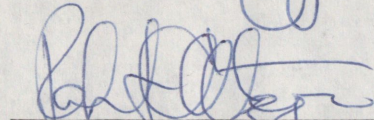
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Patrice M. Anderson
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for Bruce

CONTENTS

	Page
Introduction	1
The Aged	2
Design Goals	3
Facility Types	6
Continuum of Care	7
Economics and Financing	9
Regulations	9
Case Studies	10
Citrus Heights	21
Project Site	22
Programmatic Analysis	27
Design Guidelines	62
Program	69
Drawings and Model	72
List of References	78
Appendix A: The Effects of Aging	80
Appendix B: Organizations for the Aged	85
Appendix C: Demographic Information for Citrus Heights	87

A CONTINUING CARE RETIREMENT FACILITY

INTRODUCTION

Concern for the needs of the elderly has become an issue of great importance within the last decade. The reasons for this are many:

People in general are living longer, and are living into the age where physical and other problems become significant;

The social structure in the western nations is changing such that households are less often made up of multi-generational households;

The proportion of elderly people to the population as a whole is growing and will continue to grow for decades;

Poverty among the elderly has become a serious problem, particularly in urban areas;

The elderly and their advocates are beginning to speak out about poor conditions and the lack of facilities;

More public and non-profit funding is becoming available for development of facilities for the aged;

The financial position of some retired persons now enables them to afford to live separately from family and to choose their housing.

The aged is a segment of the population with very specific needs, some of which are quite different from the needs of the general population. It is in the area of housing, perhaps, that these needs are most acute; many aged persons spend the majority of their time at home.

The purpose of this thesis is to explore the ways in which the specific needs of the elderly can be met in a residential retirement facility. These needs include an independent and active lifestyle, a community atmosphere, a safe and comprehensible environment, privacy and individuality in living accommodations, and available social activities.

The facility under study is a continuing care retirement community incorporating independent and congregate apartments, nursing care, and a senior center. Only the congregate apartment facility and senior center are addressed in detail; the others in a planning capacity only.

THE AGED

The terms "aged," "elderly," and "old" are often used yet can differ greatly in their meaning. While many "retirement" facilities accept persons at the age of 55, few of these people would consider themselves "elderly."

Aging is a universal process that affects every person from birth until death. It is a process of adapting to changes in the physical body and in the social environment. Unfortunately, our youth-oriented society too often considers persons of retirement age as obsolete, infirm, dependent and contributing little. Aging, however, affects different people in different ways, and the population of persons over 55 is a very diverse group. Many persons of retirement age are as independent and productive as younger persons; others are disabled in some ways yet not in others.

Of the world's urbanized population, nearly 11 percent is over the age of 65. It is estimated that in the year 2030, Americans over 65 will account for 18.3 percent of the population. Average life expectancy at birth is approximately 70 years for males and 75 for females. At age 60 men are outnumbered 3 to 2 by women; at age 75 the figure is 2 to 1.¹ There is a higher proportion of one- and two-person families among the aged as a result of children leaving home and/or the death of a spouse. Older women are, in general, more likely to be widowed and living alone, while older men are more likely to be married and living with their spouse.²

While statistics tell about certain aspects of the elderly population as a group, they are not helpful in dealing with the aged individual.

¹Hoglund, J. David, Housing for the Elderly: Privacy and Independence in Environments for the Aging. New York: Van Nostrand Reinhold Company, 1985, p. 4.

²American Institute of Architects, Design for Aging: An Architect's Guide. Washington, D.C.: The AIA Press, 1985, p. 4.

DESIGN GOALS

The effects of the aging process are many and varied; there can be physical, psychological and social changes. While it is possible to list many of these changes (see Appendix A), no individual ages in the same manner, nor experiences the same effects.

Although the needs of the elderly vary greatly with the individuals, general design goals may be proposed. Design for any specific group, the aged, the handicapped, the very young, etc., can be easily overdone, resulting in an unsuitable, inappropriate, overly self-conscious or condescending environment. It is often best to provide a minimum of specialized features, with the possibility of adding features as required. Good design for the elderly is, in general, good design for anyone.

In the welfare state of Sweden, the government provides housing and medical services for elderly citizens. For this purpose, the Swedish government has established five guiding principles for the planning of services and facilities for the aged:

Normalization

To the greatest possible extent each individual should be given the opportunity to live and function in as normal a setting and under as normal conditions as feasible.

Viewing a person as a whole

The overall psychological, physical, and social welfare needs of a person are assessed and dealt with in a single context.

Self-determination

Personal integrity is respected. People should have the right to determine their own lives and make their own decisions. The right to personal security and the right to decide things for oneself must be combined in old-age care.

Influence and participation

Individuals should be able to influence not only their own environment but also society as a whole. Elderly people, too, want to assume responsibilities and feel they are needed.

Properly managed activation

Implies meaningful tasks carried out in close partnership with other people in a normal, stimulating environment.³

An American gerontological planning consultant and architect, Joe J. Jordan, has developed a set of "gerontological design goals," listed here.

Increase opportunities for individual choice.

Provide an environment that permits the widest possible range of personal choices to the individual consistent with the needs of the group.

Minimize dependence and encourage personal independence. Reinforce the individual's level of competence.

Design supports should be sufficient without excess and unobtrusive so that those who are more competent are not made to feel dependent.

Compensate for sensory and perception changes.

The aging process can bring about changes in the individual's sensory mechanisms, resulting in decreased perceptive ability. Such changes imply an increase in reaction time and sensitivity to other stimuli to compensate for losses.

Recognize some decrease in physical mobility.

Aging can bring with it a decrease of general mobility and behavior that is slower, less strong, accurate and confident than that exhibited at an earlier age.

Improve comprehension and orientation.

Spatial organization and circulation patterns should be simple and direct. Elements that confuse or produce conflicting information about the environment should be avoided.

Encourage social interaction.

Social contacts are particularly important, as they are often seriously reduced by retirement from work, loss of health, death of intimate friends, and the moving away of children and neighbors.

³J. David Hoglund, Housing for the Elderly: Privacy and Independence in Environments for the Aging. New York: Van Nostrand Reinhold Company, 1985, p. 31.

Stimulate participation.

It is sometimes necessary to stimulate and encourage the participation of individuals whose self-confidence may be reduced by retirement, reduction in income, and even aging in a youth-oriented society.

Provide individual privacy.

Design for variation in the desire for social contact.

Reduce distractions and conflicts.

Provide for various degrees of separation of simultaneous and/or conflicting activities.

Provide a safe environment.

The need for a safe environment is of particular importance to persons with reduced levels of physical and mental competence and other insecurities. Safety features should be easy to comprehend and use.

Make activities and services accessible.

The location and design of the facility should make it accessible to the largest number of older people regardless of their physical condition.

Improve the public image of the elderly.

The design should, by its character and aesthetic quality, improve the community's attitudes and concerns for its older population.

Plan for growth and change.

Gerontological facilities are new building types whose form is still evolving. Trends indicate that they will take on an expanded role as providers of services.*

*Joe J. Jordan, "Recognizing and Designing for the Special Needs of the Elderly." AIA Journal. v. 66, Sep. 1977, pp. 50-55.

FACILITY TYPES

Residential facilities for the aged vary greatly. Among the various types are independent housing, congregate housing, residential care and nursing care.

Independent housing

Housing for the independent elderly may be in the form of detached houses, townhouses, condominiums or apartments. Some very successful developments are in the form of shared housing or cooperatives. Kitchens are provided in this type of facility, as well as parking for cars. There is usually little provision for medical or residential services. The development may be maintained and supervised by the residents themselves, or by others. Organized social activities are common in this type of facility.

Congregate housing

Congregate facilities generally provide minimal services for the semi-independent. Individual apartments are equipped with a kitchen or kitchenette, but congregate dining is provided. Dining, at least once a day, is mandatory in some facilities. Common lounges, trash and laundry facilities, and outdoor recreation areas are included. Organized social events are standard, as is transportation to shopping and medical services. Some physical therapy, barber and beauty services, and retail shops may be provided.

Residential care

Facilities providing residential care for the older persons no longer able to live independently are similar to congregate apartments, with the added services of housekeeping, residential and personal grooming services provided. Provision for emergency, such as alarm pulls in the rooms, is standard. Residential care facilities do not normally provide nursing or medical care, and as such are usually licensed by the state department of social services; nursing homes are generally subject to the department of health and hygiene.

Nursing care

Low level nursing care is provided in this type of facility. Medical services may be minimal, or they may

be hospital level. Nursing care units are generally single-room, single or double occupancy. Dining is either in a congregate dining room or in one's unit. Lounges, game rooms, and other common spaces are of particular importance in a nursing facility, as the residents have little private space. The facility is staffed day and night.

CONTINUUM OF CARE

A sense of home is important to persons of any age. Home is often defined by one's possessions, familiar places, and neighbors. The aged in particular have often lived in their homes and neighborhoods for a long period of time and are attached to familiar objects, places and people. Many elderly spend a large amount of their time at home. As children and friends move away, the home can become an even more important element.

Moving can be a traumatic event, particularly for the aged. Not only is it taxing physically, but the feeling of being uprooted can be particularly stressful.

The aged most often move into a different residence as the result of a sudden, often temporary, disability or deterioration in physical condition. Unfortunately, during a physical trauma is a poor time to undergo a move. Consequently, many residential facilities for the aged are being designed to accommodate persons as physical and mental conditions change over time.

Continuing care retirement communities (CCRCs), as these are termed, offer a variety of care levels, from condominiums and apartments for the totally independent, to apartment complexes with congregate dining and recreational facilities, to residential care facilities offering housekeeping and personal care services, to nursing care, and sometimes offer full medical or hospital treatment.

Continuing care retirement communities emphasize a smooth transition between levels of care and flexibility in meeting the changing needs of the residents. By offering a residential facility that may accommodate persons from retirement on for a period of 20, 30 or 40 years, the CCRC provides a home, a social structure, and a sense of stability which is of vital importance to the aged.

Continuing care facilities account for approximately one third of all retirement communities. Although they vary greatly in size and number of services offered, a general guideline is to design the CCRC to house 300 to 500 residents. Providing complete services for less than 300 residents may not be financially feasible, and a

concentration of more than 500 elderly may segregate them from the community and cause unbalanced development.

Of greatest importance in a continuing care retirement community is that social support, residential care and long-term health care are available when needed and for the length of time needed. Because many of the initial residents may be in good health and require few services, the nursing care provided may be under utilized at first. Consequently, the facility must be flexible in its accommodation of residents' needs.

ECONOMICS AND FINANCING

As in any commercial development, financing the construction of a continuing care retirement facility may be done in several ways. In Denmark and Sweden, retirement facilities are developed and subsidized by the government and municipalities. The U.S. Department of Housing and Urban Development (HUD) provides information, guidelines, block grants and even blueprints for the development of housing facilities for the aged. The Federal Housing Administration (FHA) provides funding for such developments. There are many state, local and private organizations that are involved in the funding, construction and operation of elderly housing. The American Association of Homes for the Aging (AAHA) reports that 75 percent of its facilities are sponsored by religious organizations, and the other 25 percent are supported by private foundations, fraternal organizations, government agencies, unions and other community groups.

Whether a retirement facility is owned and administered by the residents, as in cooperatives and condominiums, or by a separate body, as in most group homes and apartments, economy is of major concern. A prime responsibility of the designer is to keep construction and operating costs, and consequently the cost to the residents, to a minimum. The size of the development also has a bearing on the affordability to its residents; too few or too many units may not be economically feasible.

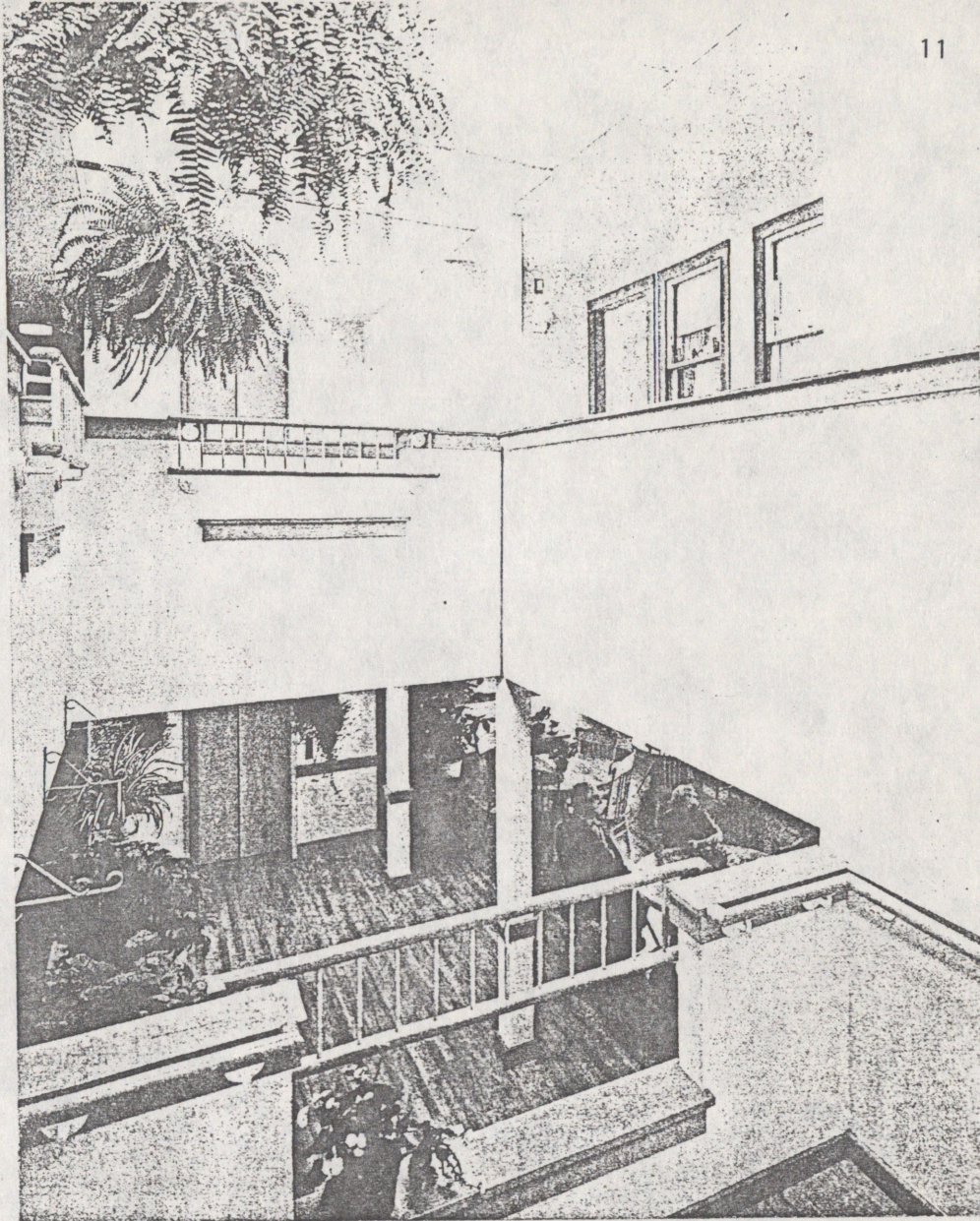
Good, accessible design does not by nature have to be expensive; flexibility and adaptability are major factors in creating an affordable, long-lived facility.

REGULATIONS

The design and construction of a continuing care facility in the state of California is subject to the requirements imposed by many different codes and agencies. Among these are California's Title 24, which has, among other things, specific regulations regarding accessibility by the handicapped and the conservation of energy.

CASE STUDIES

The following pages contain examples of residential facilities for the aged, with an outline of the major features of each. Features marked with an asterisk are of particular relevance to this project.



Captain Clarence Eldridge House
Hyannis, Massachusetts
Barry Korobkin

25,000 square foot site; suburban
8500 sq.ft. addition to existing
2000 sq.ft. house

Congregate housing for 20 residents

* Residential character

275 sq. ft. private rooms with
kitchenette, shared tubs and
showers

Dutch doors and interior windows
to corridor; entry alcoves

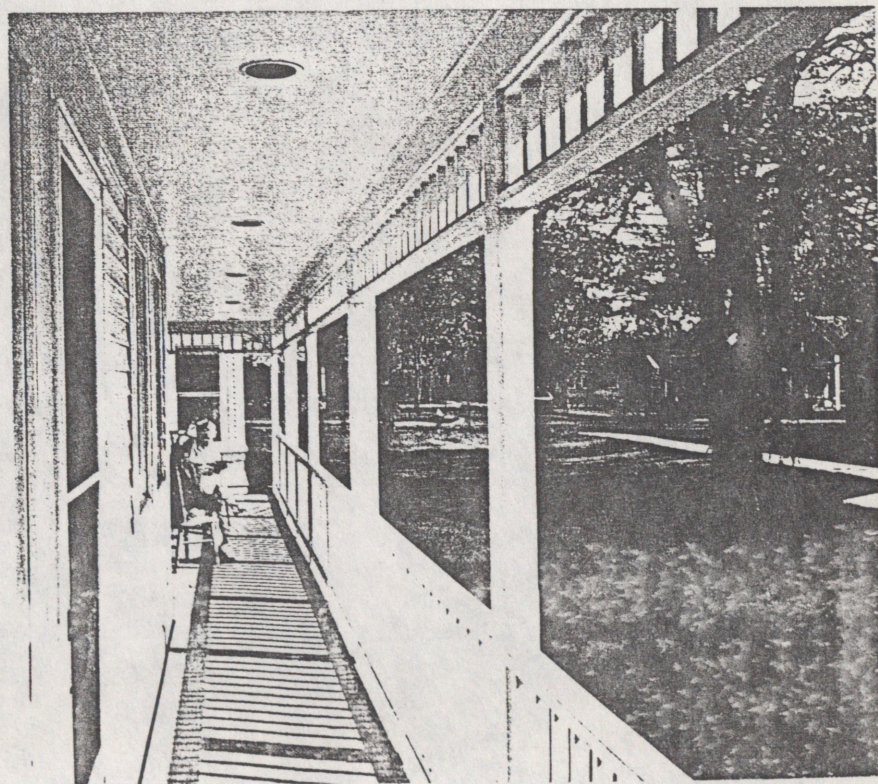
* Parlors, sitting room, dining room,
communal kitchen, front porch

* Central skylighted atrium

* Places to observe spaces before
entering

\$575,000 construction cost;

\$52.00/sq.ft.



(David Morton, "Congregate Living."

Progressive Architecture, v. 62,

Aug. 1981, pp. 64-68.)

ENVIRONMENTAL SUPPORT Having a private toilet for themselves will insure that older residents feel the environment supports them.

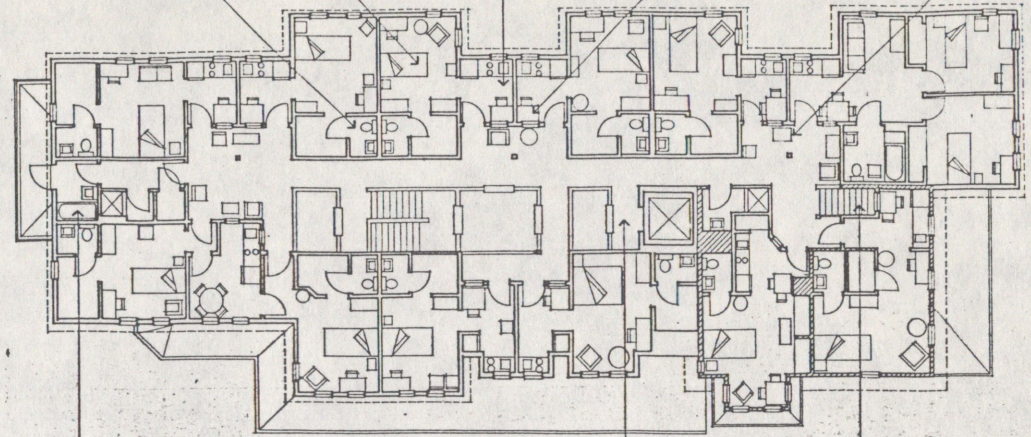
PRIVACY CONTROL The bedroom privacy the design provides will enable residents to "open" the kitchenette without feeling ill at ease.

INDEPENDENCE Being able to prepare small snacks and meals will help residents maintain a sense of independence.

INSIDE OUT Snack table in kitchen, Dutch doors, and interior window will allow residents to feel part of house life while remaining safe in their "home."

DISPLAY Residents will put furniture and paintings on their "front porches" to express who they are.

12



SHARING Residents will accept trade-off of sharing bathtub in exchange for congregating amenities.

SECOND FLOOR

PREVIEWING Residents will look down below from elevator landings to prepare themselves better for social encounters.

SOCIAL ESCAPE Residents will feel more comfortable using back stairs to get to Laundry and TV room, when in a dressing gown.

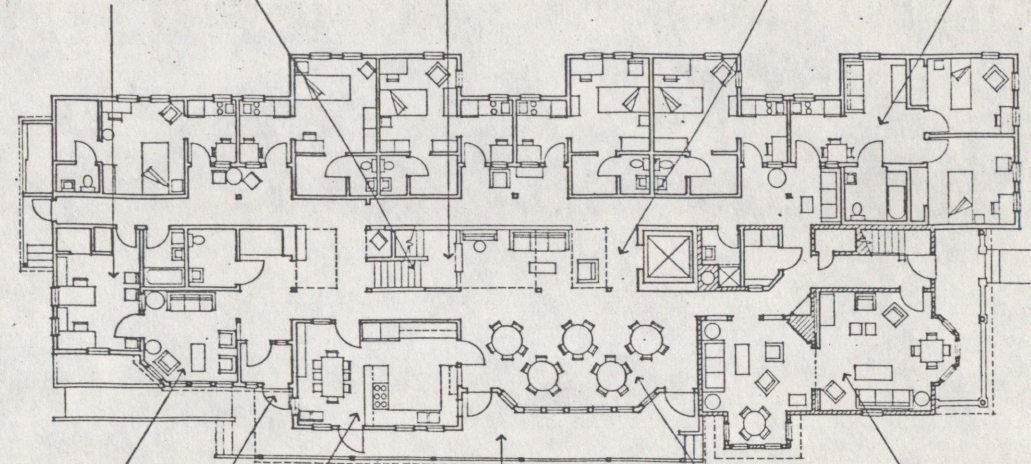
UNOBSTRUSIVE CARE Residents will not feel they are in a facility in which others are caring for them because the office is small and out of the way.

HEALTH Residents will frequently use main stairs near entry and it will be healthy for them.

PREVIEWING Residents will use the midway stair landing to decide if they want to join activity below.

SOCIAL EXCUSE Residents will wait for the elevator as an excuse to be part of the activity in the central hallway.

SOCIAL MIX Two-person units with bath will attract more active residents and couples.



DROP-OFF WAITING An overlook of the car drop-off from inside will help residents feel at ease waiting in-doors to be picked up.

PROXIMITY Because the entry is visible nearly from Main Street, residents walking home will not feel it is a long walk.

HOMEYNESS Having an eat-in kitchen for group coffee will be an integral part of residents seeing the whole house as "home."

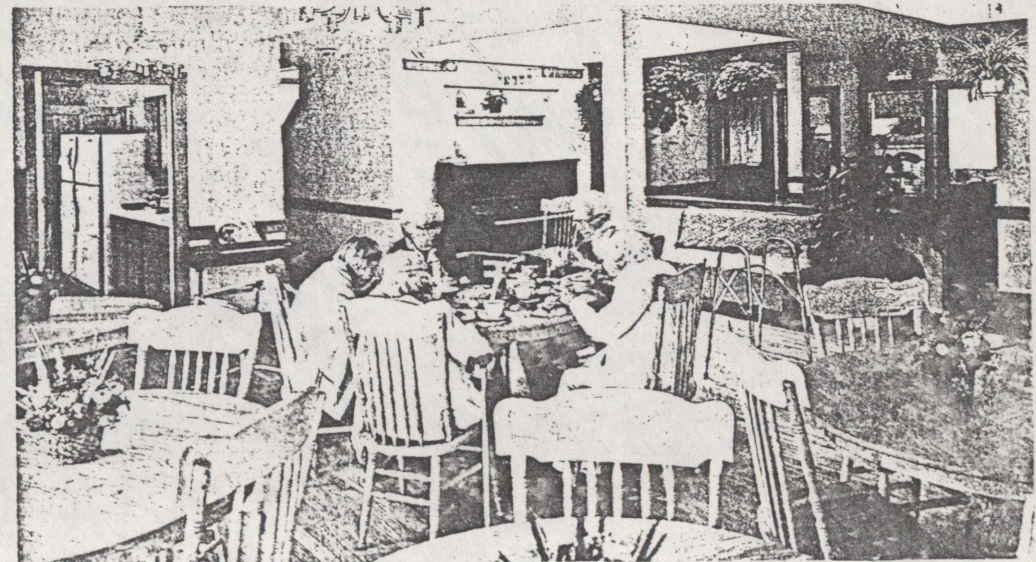
IDENTITY The house "front porch" will be central to residents' image of the building and will be used to describe it to others.

SUPPORT One hot meal a day in a common dining room will enable residents to be independent the rest of the time with minimal help.

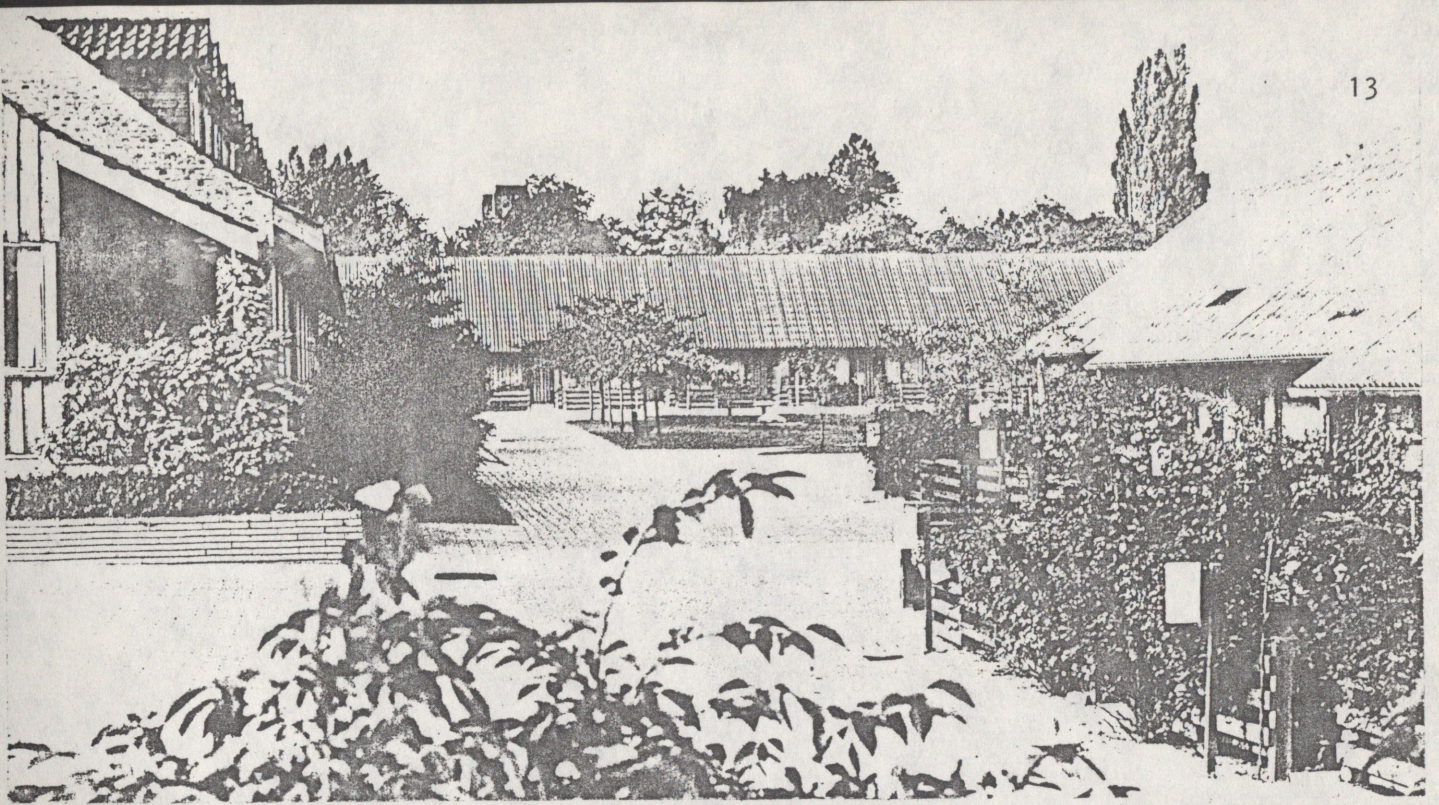
SHARED BACKSTAGE Residents will use the living rooms of the old house extremely informally like their own apartment to wait for laundry to dry and to watch TV.

FIRST FLOOR

20' / 6m



Captain Clarence Eldridge House
Hyannis, Massachusetts
Barry Korobkin



Ordrup Vaenge
Gentofte, Copenhagen, Denmark
Ejlers and Graversen

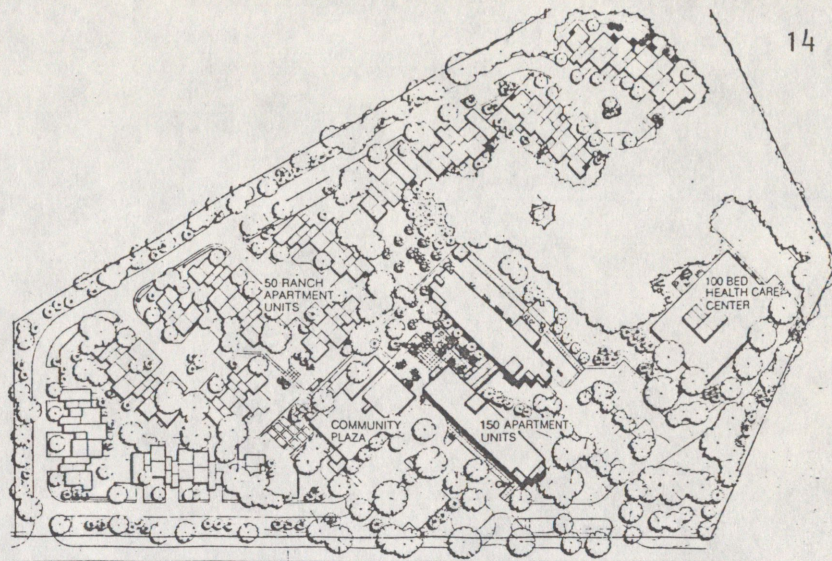
- Independent apartments
- 68 efficiency apartments at 450 sq.ft.
- * Campus organization
- * Garden court at each unit

(J. David Hoglund, Housing for the Elderly: Privacy and Independence in Environments for the Aging, New York: Van Nostrand Reinhold Company, 1985, pp. 82-87.)

Ohio Presbyterian Homes
Willoughby, Ohio
Hoffman Partnership, Inc.

Life care retirement community
50 one-story ranch apartments; 132,530 sq. ft.
150 congregate apartments; 66,000 sq. ft.
100 bed health care center
Recessed balconies

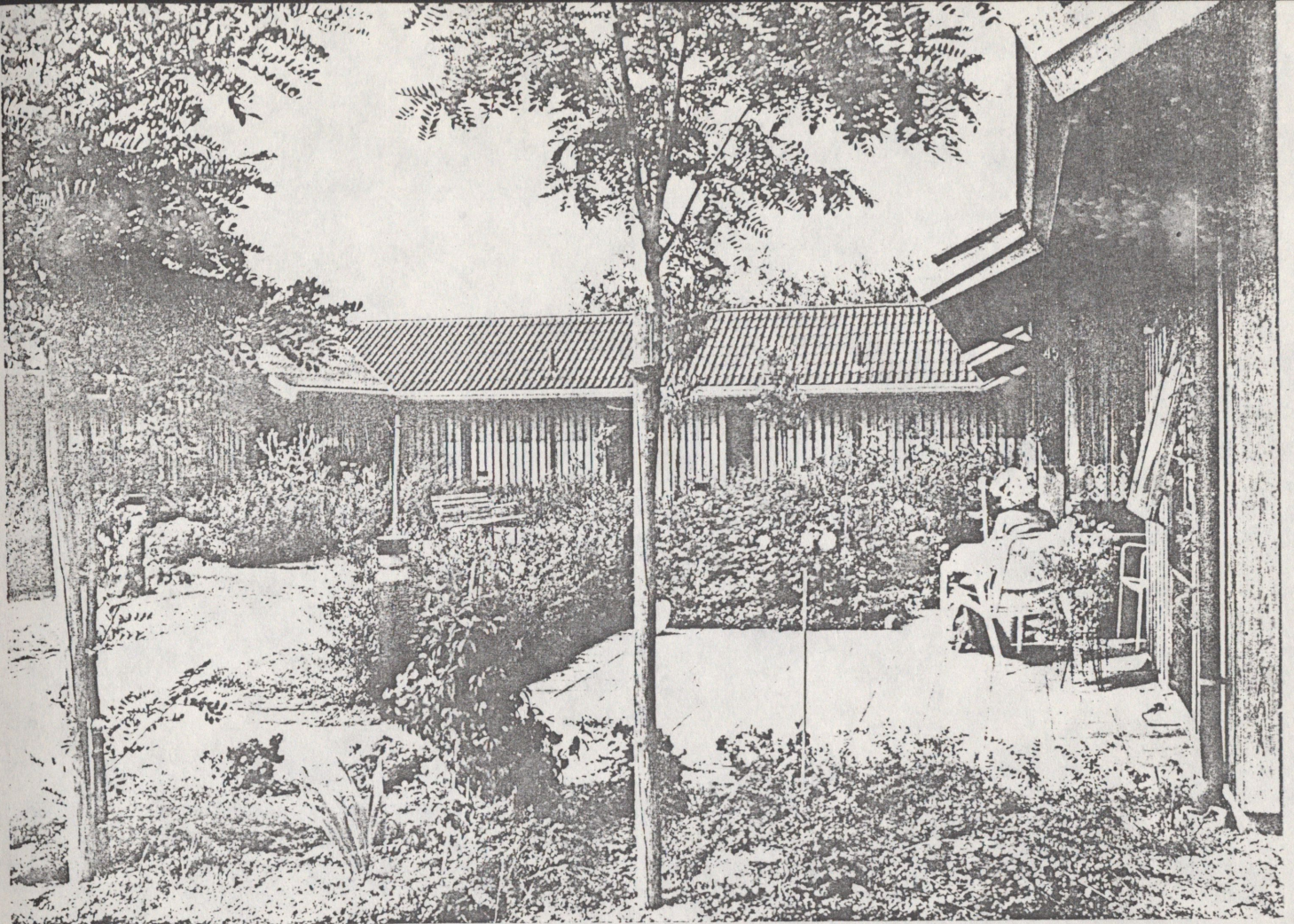
(Rush, Richard. "The Age of the Aging."
Progressive Architecture. v. 62, Aug. 1981,
p. 6.)



Legion Village
Hanover, Massachusetts
Hammer Keifer & Todd

- 12 acre site; suburban
- * 60 units in three two-story clusters of 20
- 3 large two-bedroom units for disabled
- Shared entrance, patios & walkways
- * Residential scale and village atmosphere
- * Community building: office, board room, kitchen, community room, maintenance garage
- Financed under HUD 202

(Michael Crosbie, "Handsome Village of Housing for the Elderly." AIA Journal. v. 71, Dec. 1982, pp. 54-55.)



Mollegården Care Center
Gladsaxe, Copenhagen, Denmark
Ejlers and Graversen

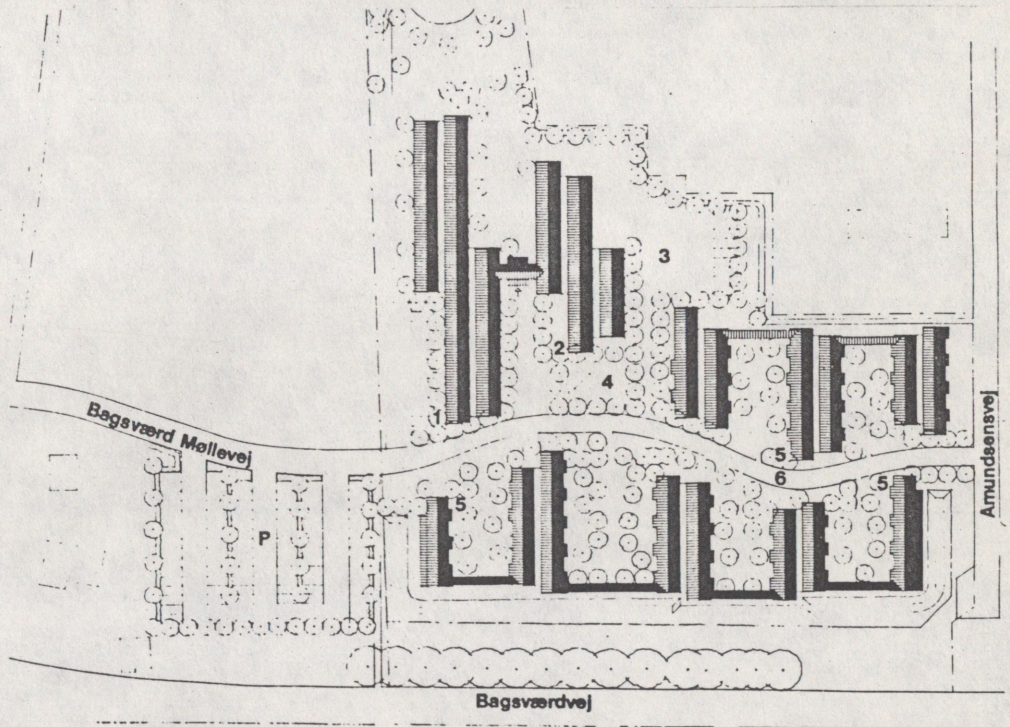
Nursing home, congregate
apartments and day center

56 private nursing rooms

50 one-bedroom apartments with
corridor on one side,
courtyard on other side

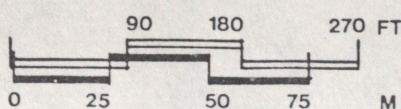
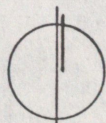
* Day center: restaurant-style
dining room, stage, meeting
rooms, physical and
occupational therapy

(J. David Hoglund, Housing for
the Elderly: Privacy and
Independence in Environments for
the Aging, New York: Van Nostrand
Reinhold Company, 1985, pp.98-105.)



Site plan of Møllegården Center

1. Nursing home
 2. Day center
 3. Courtyard
 4. Plaza
 5. Sheltered dwellings
 6. Pedestrian street
- (COURTESY OF EILERS AND GRAVERSEN)





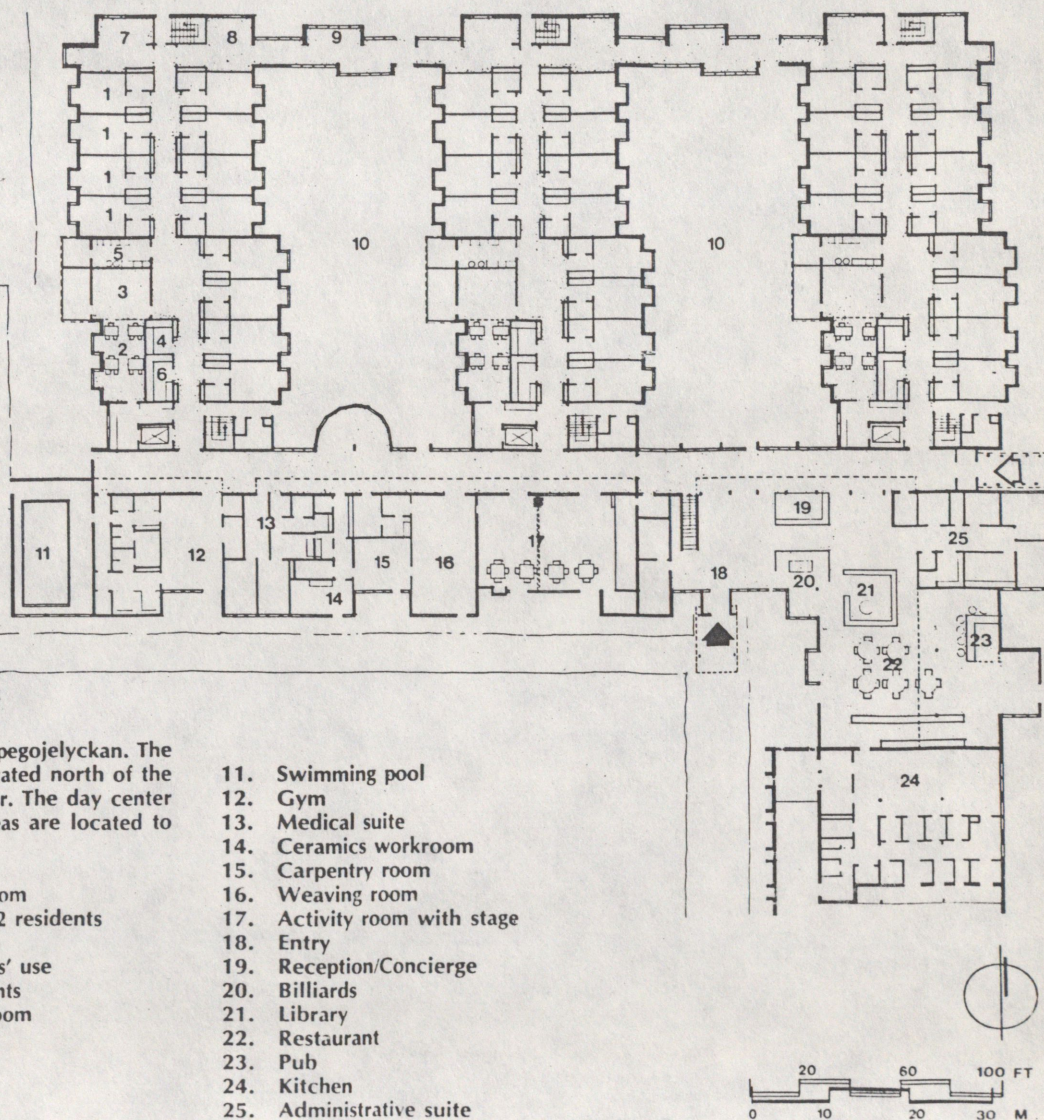
Home for the Aged in Papegojelyckan
Lund, Sweden
Sten Samuelson

Nursing/residential care facility
68 single rooms of 160 sq.ft.; 2
double rooms

2 stories

- * Organized around courtyards
- * Resident kitchen and dining at each wing
- * Communal restaurant, pub
- Swimming pool, gym, various craft rooms

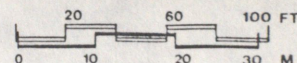
(J. David Hoglund, Housing for the Elderly: Privacy and Independence in Environments for the Aging, New York: Van Nostrand Reinhold Company, 1985, pp. 36-41.)

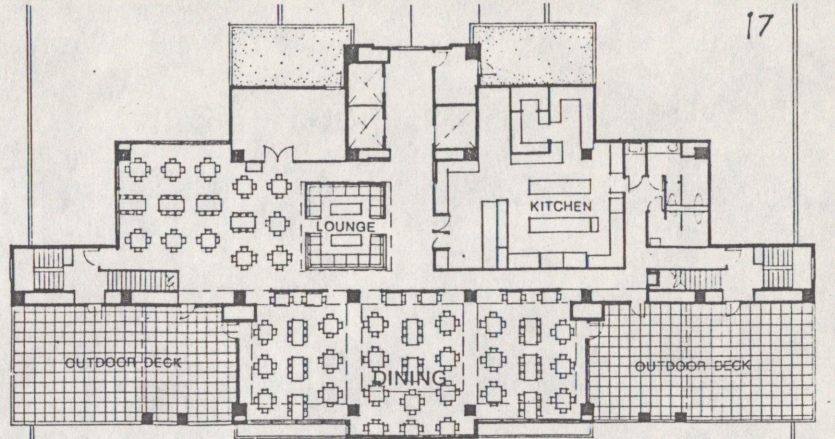
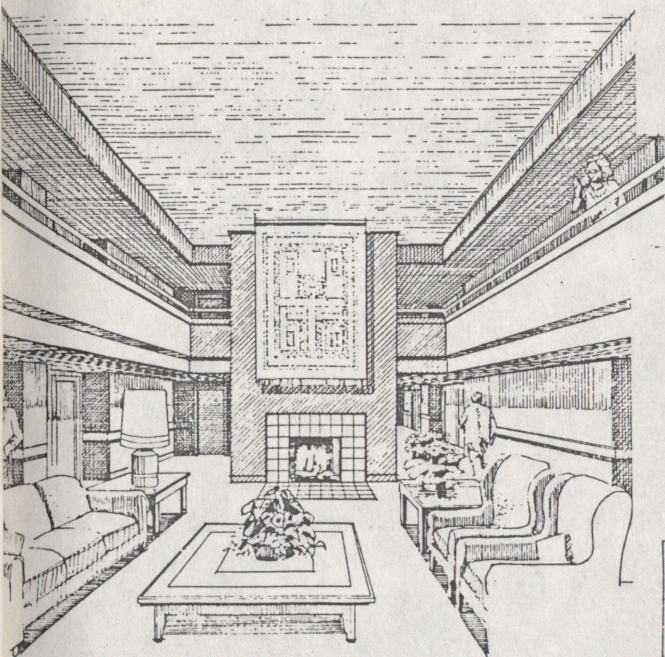


Ground floor plan of Papegojelyckan. The residential wings are located north of the main circulation corridor. The day center activities and public areas are located to the south.

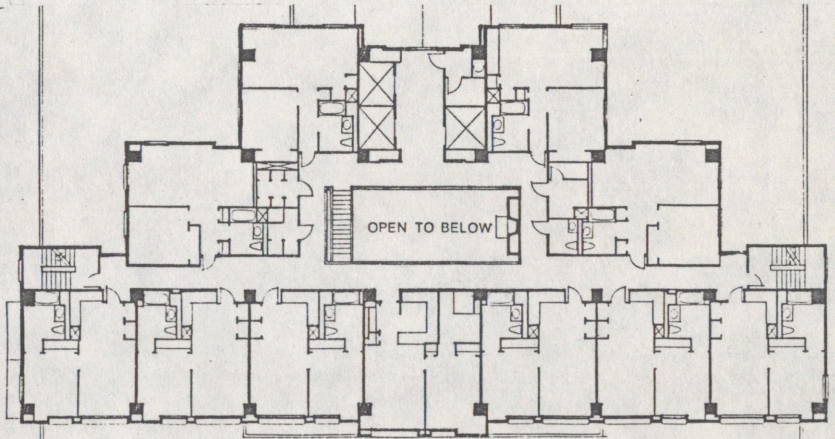
1. Typical resident room
2. Dining room for 12 residents
3. Shared living room
4. Pantry for residents' use
5. Laundry for residents
6. Resident storage room
7. Sitting room
8. Smoking room
9. Sitting area
10. Garden courtyards

11. Swimming pool
12. Gym
13. Medical suite
14. Ceramics workshop
15. Carpentry room
16. Weaving room
17. Activity room with stage
18. Entry
19. Reception/Concierge
20. Billiards
21. Library
22. Restaurant
23. Pub
24. Kitchen
25. Administrative suite

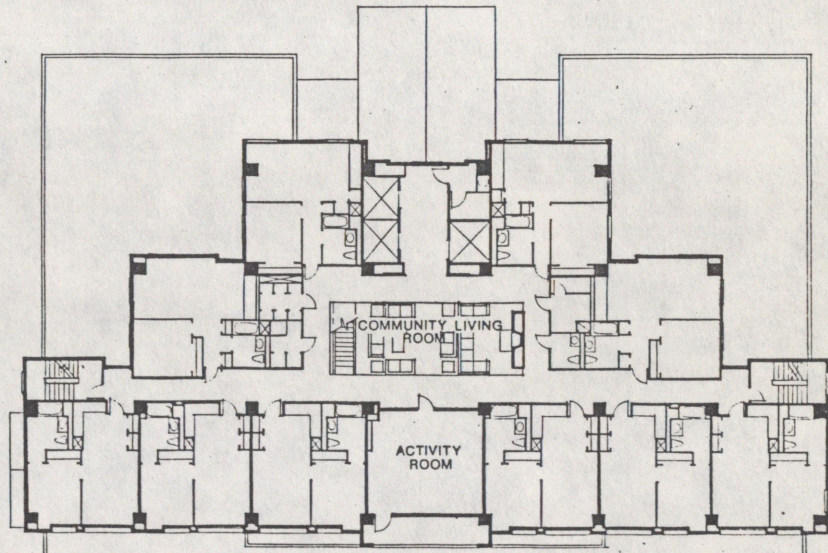




FIFTEENTH FLOOR



EVEN FLOORS 4-14



ODD FLOORS 3-13

Riverview Plaza
Sacramento, California
Raymond Vail and Associates

- Congregate apartment facility
- 126 one-bedroom units
- Urban site
- 16 stories
- Retail and office units on first two levels
- Different activity space on every floor to encourage interaction
- Exercise room and lap pool on top floor
- Two story living areas serving two floors



Maple Knoll Village
Springdale, Ohio (suburban Cincinnati)
Gruzen & Partners

32 acre site; suburban
315 residents with plans for expansion to 700
290,000 square feet; 2-4 stories
\$12,500,000 construction cost
Provides continuous physical care at all levels
of need

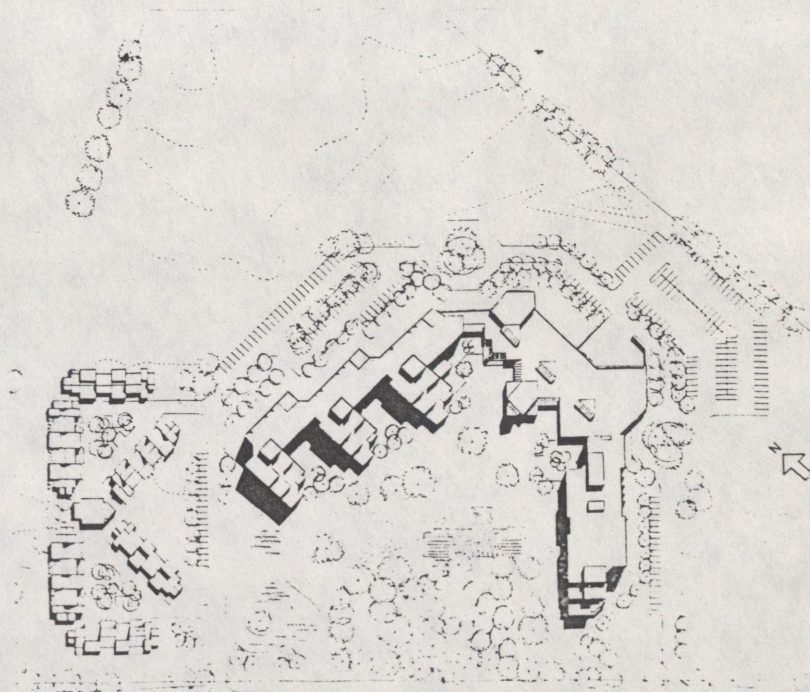
One- and two-bedroom townhouses with garages
150 one-bedroom and efficiency apartments
165 bed nursing care

*Blocks clustered around village green and
interior "street"

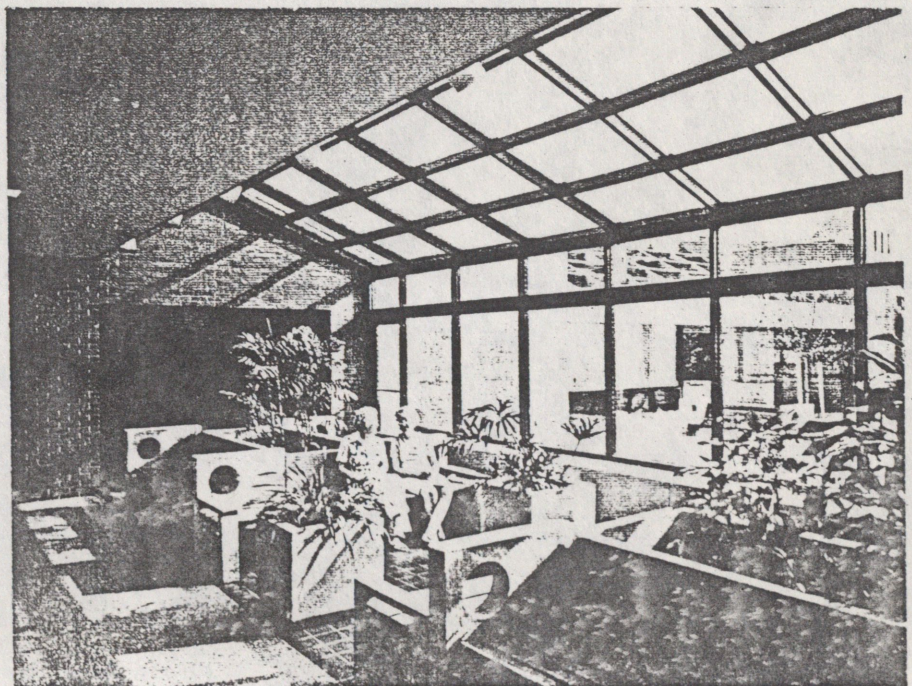
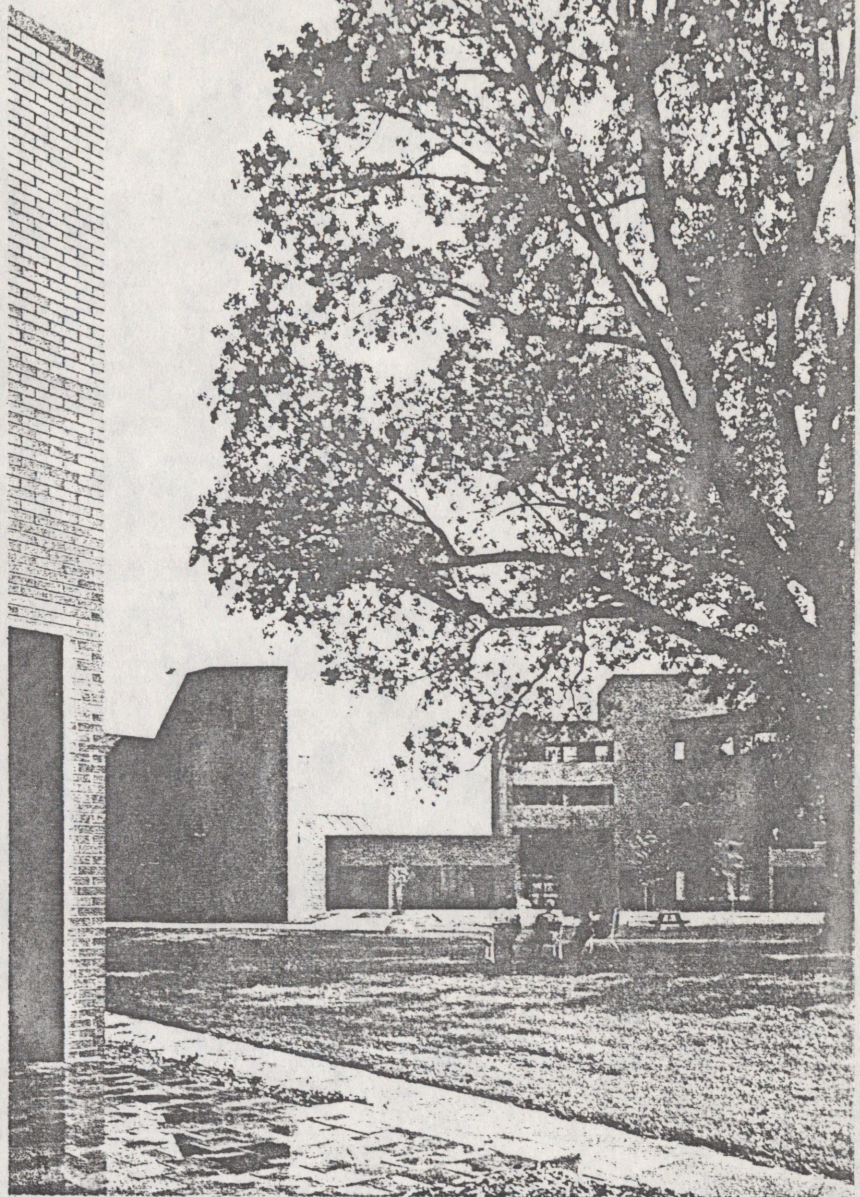
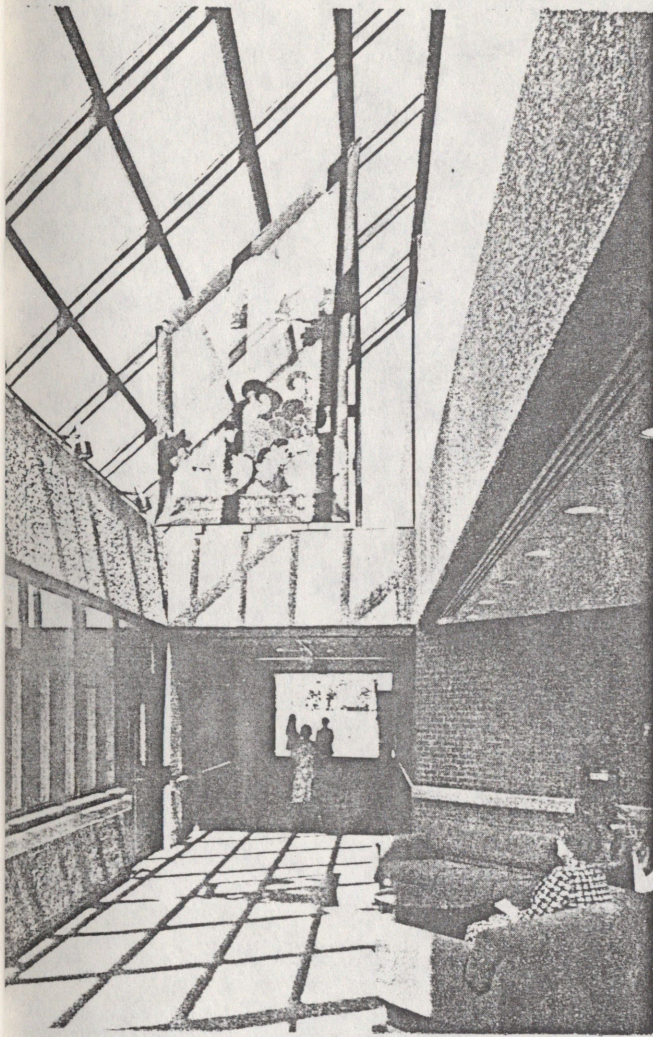
Preschool and daycare on site - residents can
work there

*Gift shop selling residents' craft items

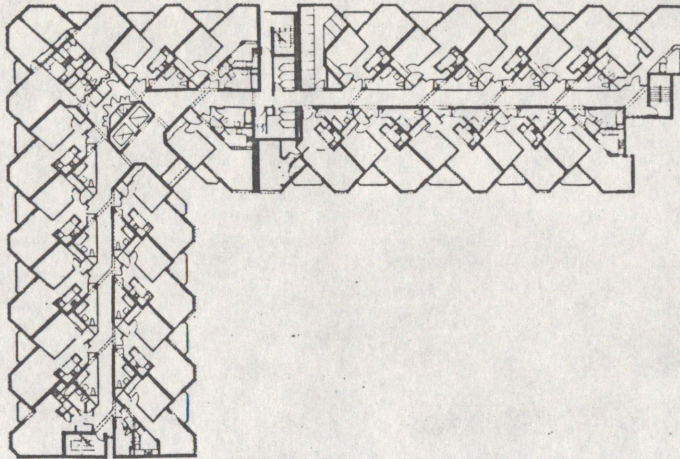
*Craft rooms, machine shop, therapy room, beauty
shop, snack bar, library, gift shop, chapel



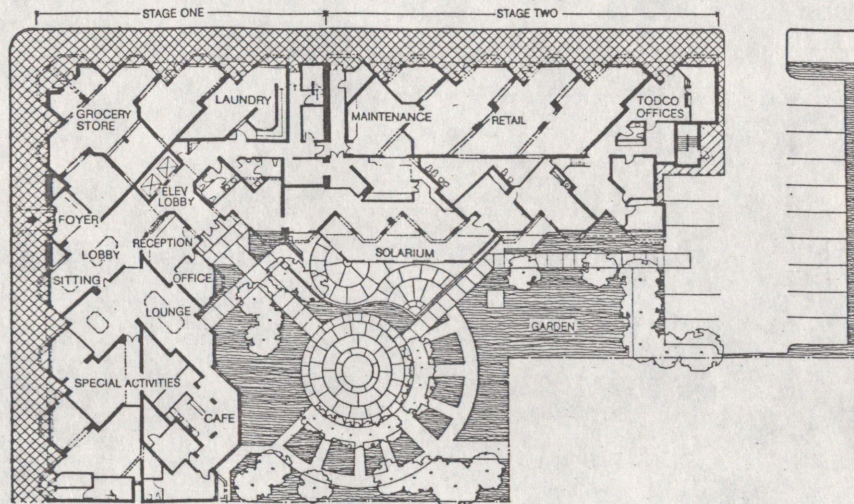
(Charles K. Hoyt, "Better Answers in Housing
the Elderly with Care: Maple Knott Village,"
Architectural Record. v. 163, Mar. 1978,
pp. 95-100.)



Maple Knoll Village
Springdale, Ohio (suburban Cincinnati)
Gruzen & Partners



SECOND FLOOR PLAN



FIRST FLOOR PLAN

N

20' / 6m

Woolf House
San Francisco, California
Robert Herman Associates

Low income elderly housing; urban
35,250 square feet; 9 stories
182 units of 575 square feet
\$4,450,000 construction cost; \$48.00/square foot
Bay windows and recessed balconies
Elegant decor: muted colors, soft lighting, natural materials

* Common garden, game areas, sitting rooms, cafe, subsidized supermarket, solarium

45 degree rotated plan: views in two directions, cross ventilation, protected balconies

Financed by the California Housing Finance Agency, City of San Francisco, HUD Section 8

(Suzanne Stephens, "The New Gray Neighbor." Progressive Architecture, v. 62, Aug. 1981, pp. 72-75.)

CITRUS HEIGHTS

Citrus Heights is a suburb of Sacramento, the capital of the state of California. With two Air Force bases, several colleges, including a large state university, a growing heavy commercial and high tech industry, and the state governmental agencies, Sacramento is a rapidly growing city. Close to Lake Tahoe in the Sierra Nevada mountains, a number of the historical gold mining areas, and the San Francisco Bay area, Sacramento is in a central location in California's central valley.

Transportation is very good in the greater Sacramento area. Two interstate freeways cross through, traffic has not yet overburdened the street systems, and the metropolitan bus system is extensive, efficient, and affordable. The Sacramento and American rivers pass through the county, and a riverside park and well maintained bicycle path follows the American River from Folsom to downtown Sacramento, a distance of 30 miles. Housing in the greater Sacramento area is in a price range well below the national average.

The climate is mild; summers are dry with warm days and cool nights, and winters are characterized by a short "rainy season" (December, January and February). Annual precipitation is about 17 inches. Average minimum temperature in January is 37.4 degrees; the temperature seldom drops below 25 degrees. Average maximum temperature in July is 92.3 degrees; and average of 11 summer days reach 100 degrees. High temperatures are accompanied by low humidity, generally around 25%. The prevailing wind is southwesterly with an average speed of 8 mph. In general, weather in the Sacramento area is pleasant and sunny, and people spend much time outdoors.

The Sacramento area is pleasant and green. According to the Sacramento Chamber of Commerce, Sacramento is second only to Paris in the number of trees per capita.

History of Citrus Heights

Originally known as Sylvan, the community began as a stage stop on the road to the mining town of Auburn. In 1852 Sylvan had a population of 100, mostly farmers from the Midwest and South. Citrus Heights remained largely rural through the early 1960's, when developments of homes and a regional shopping center were built.

Since that time, Citrus Heights has grown rapidly. Construction began in 1970 on Sunrise Mall, which has since expanded to incorporate 1.25 million square feet of retail shopping area. This and the surrounding diversified

developments have helped establish a commercial base for the town, which is currently attempting to incorporate as a city. Further economic growth is anticipated with the construction of a proposed 190-acre light industrial and business park. This is expected to provide a jobs-housing link previously lacking and to help shed the town's image as a bedroom community for Sacramento.

THE SITE

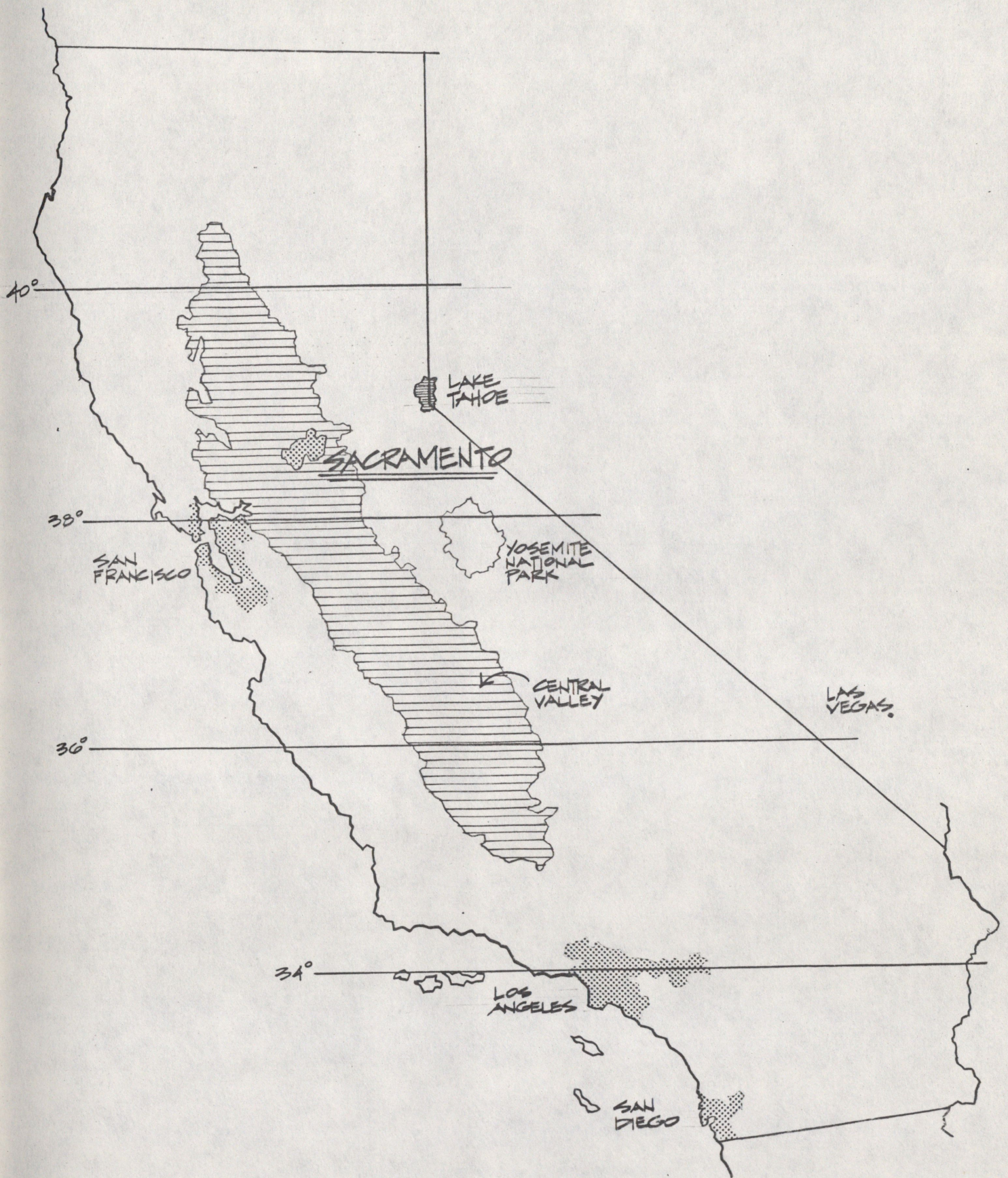
The site chosen for the project is comprised of two parcels, a 5.1 acre parcel and a 10.7 acre parcel separated by a street. Part of an existing, recently built medium density residential development in a largely residential area, the smaller site contains an existing congregate apartment complex for the elderly, and the larger has independent elderly apartments. For the purpose of this thesis, it is presumed that these two developments, both built within the last five years, were not constructed and this project would be built in their place.

Although one side of both parcels is adjacent to a four lane, busy traffic artery, the street is lined on both sides with trees, and three other sides face stands of mature oaks. Immediately adjacent is a wooded park through which runs a small creek and which has meeting facilities, a playground, and public tennis courts. Also adjacent is a large county library. Across the street and one block away is a shopping center with grocery store, hardware store, drugstore, and miscellaneous shops.

The site is located 12 miles from downtown Sacramento; 10 miles from Cal Expo, the site of the annual California state fair; 2.8 miles from Sunrise Mall, a large development of retail malls and shopping centers; and 1.5 miles from a regional hospital. Two major routes of the municipal bus system stop on the site, providing direct service to both downtown Sacramento and Sunrise Mall.

Zoned R-2A - Multiple family, the 5.1 acre parcel is limited to a density of 25 units per acre. The 10.7 acre parcel is zoned RD-20 - Multiple family, and has a maximum density of 20 units per acre. Permitted uses on both parcels include townhouses, rowhouses, cluster developments and apartments, and rest homes and group care facilities are permitted with a use permit.

Building height in these zones is limited to one story, or 20 feet; up to three stories, or 40 feet, may be approved by the Planning Commission. Building setbacks are 25 feet from all streets, with some exceptions. Site coverage, including building and paving, may not exceed 75% of the site.



CALIFORNIA

Map of CITRUS HEIGHTS And Vicinity

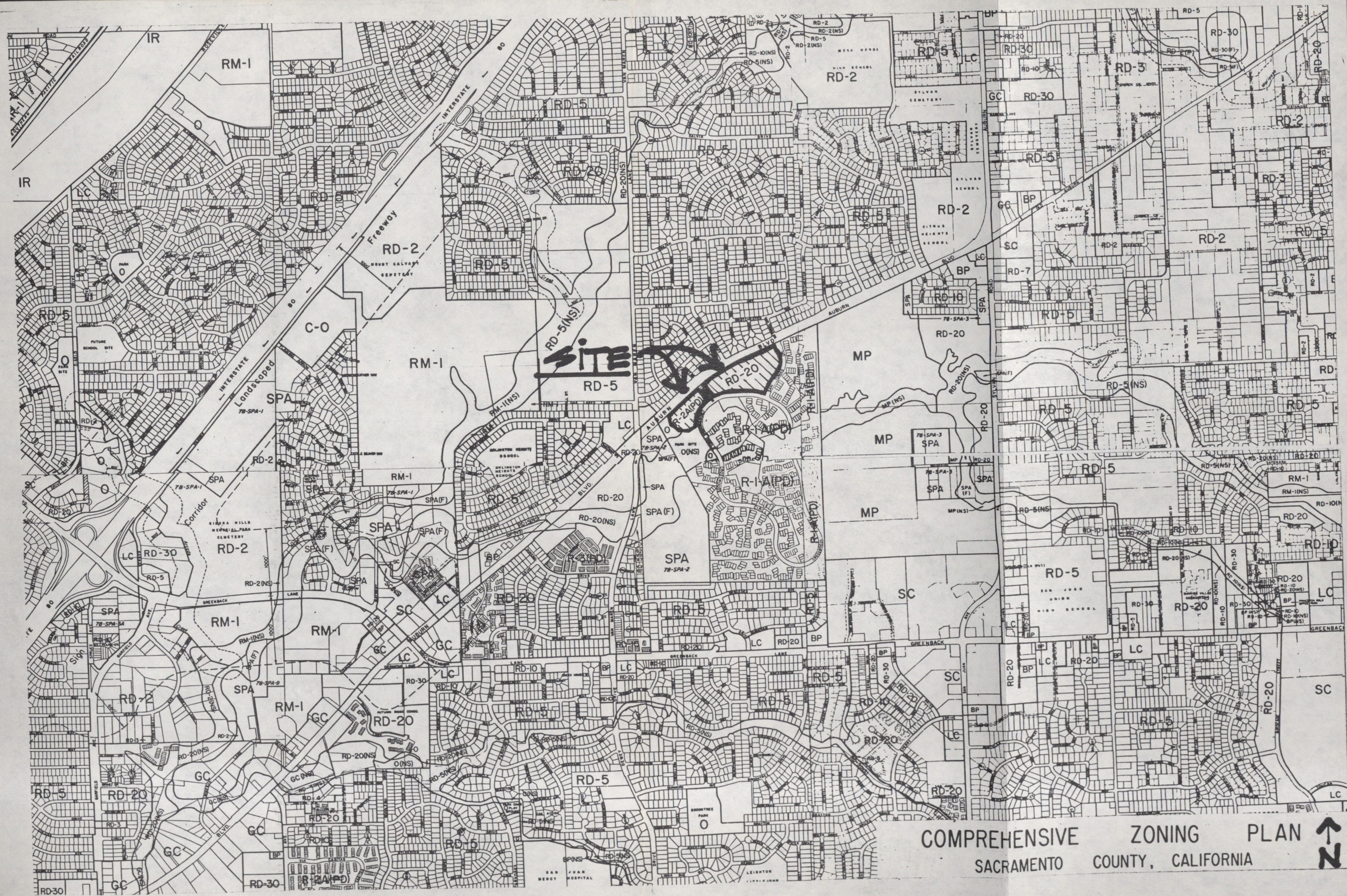


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LEGEND

- FREEWAY
- STATE/FEDERAL
- INTERSTATE
- OTHER
- MAIN THRU ROUTES
- ARTERIALS
- CITY LIMITS
- BOUNDARIES
- GOLF COURSES
- PARKS

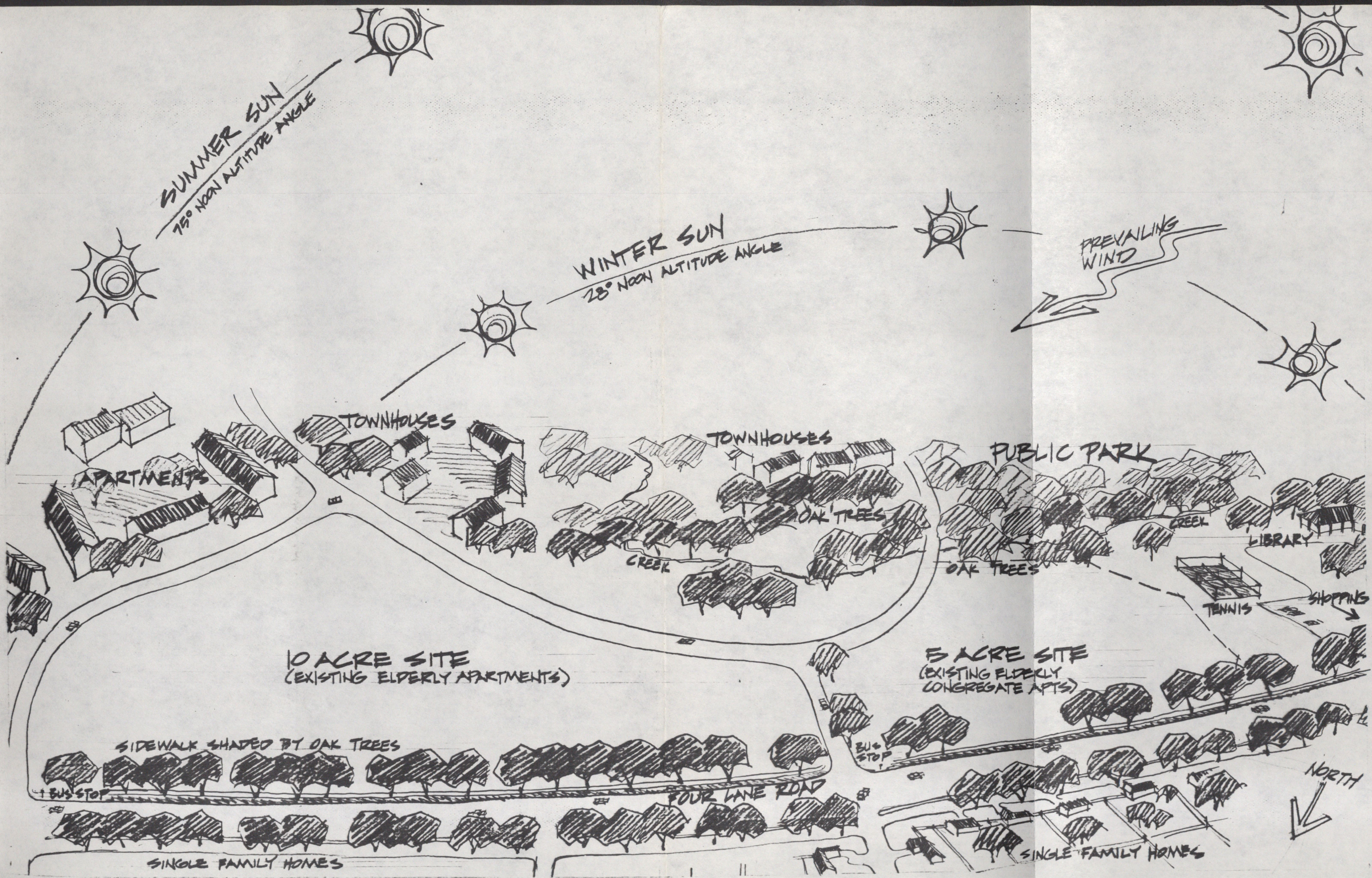
FEET 0 500 1000
MILES 0 1 2



SUMMER SUN
75° NOON ALTITUDE ANGLE

WINTER SUN
28° NOON ALTITUDE ANGLE

PREVAILING WIND



SITE ANALYSIS

PROGRAMMATIC ANALYSIS

The following section consists of programmatic analyses of the major spaces of a congregate apartment facility for the aged. The program is based on the assumption of a single, self-contained structure; the spaces, however, could as easily be organized into several building clusters, or split into a congregate apartment facility and a separate senior center nearby.

For preliminary analysis, the program assumes a tentative size of 120-150 congregate apartment units. Also within the project, but not analyzed programatically, are 50-75 apartments for the independent elderly, and a nursing care facility for 60 residents.

The program is split into five "zones" by privacy level:

Private

Those areas within the resident's own unit

Semi-private

Spaces generally for the use of the residents only and their invited guests

Semi-public

Gathering spaces and other areas that may be used by visitors and large numbers of people

Public

Spaces accessible for use by the casual visitor and the general public

Support

Administrative, maintenance and other support services

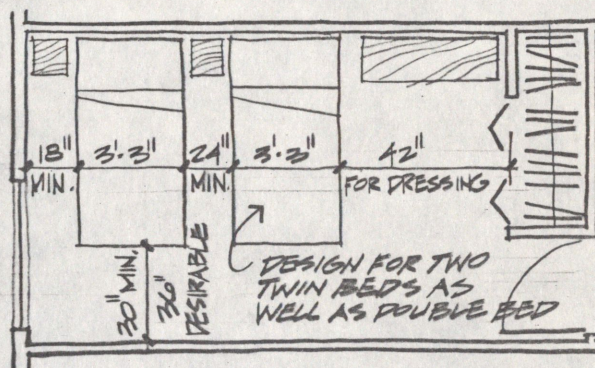
Within each of the privacy zones, the spaces are analyzed by activity group.

ZONE	Private
ACTIVITY SET	Living room
PRIMARY ACTIVITIES	Reading, looking out of window, visiting, quiet activities, TV watching, working on hobbies, entertaining
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, guests, health aide
SCHEDULE	Intermittent daytime
ADJACENCY	Near entry, balcony, toward view
FURNISHING & EQUIPMENT	Sofa, bookcases, coffeetable, end table, coat closet
FINISHES	Soft, warm finishes and colors: carpet, fabric
VISUAL	Daylighting, good view, adjustable task and ambient lighting
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical privacy from adjacent units
SAFETY	
DIMENSIONS	
REMARKS	One of the most used spaces; flexibility in furniture arrangement is important; keep windows away from corners to allow corner furniture arrangement, especially TV location. There may be a lot of furniture, much of which is large. Windows should be large and low enough to see out from a seated position.

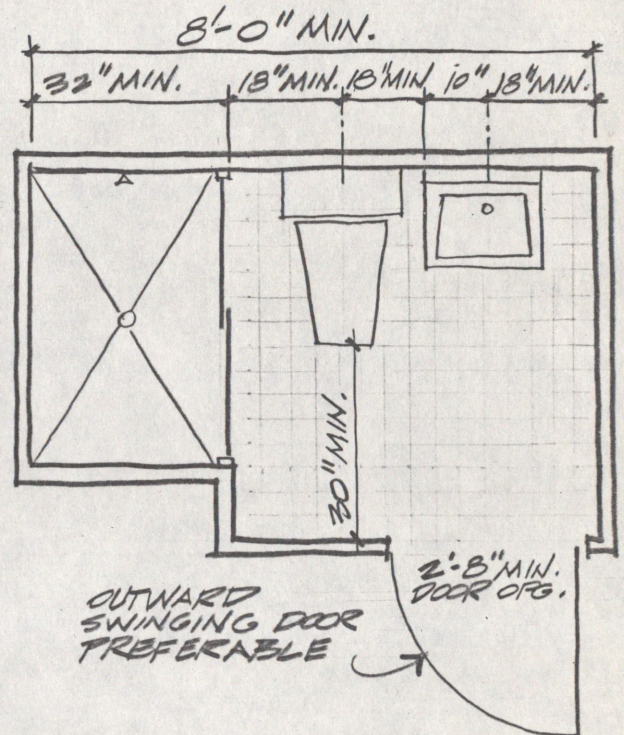
ZONE	Private
ACTIVITY SET	Dining
PRIMARY ACTIVITIES	Eating, reading, cleaning, visiting, doing projects
SUPPORTIVE ACTIVITIES	
USERS	Residents, visitors, health aide
SCHEDULE	Mealtimes, intermittent during day
ADJACENCY	Adjacent to kitchen
FURNISHING & EQUIPMENT	Table, chairs, dish storage
FINISHES	Cleanable: linoleum, tile, enamel paint, wood, plastic laminate
VISUAL	View fairly important, adjustable lighting
HVAC	Adjustable heating, cooling
ACOUSTICAL	Good acoustics, privacy from adjacent units
SAFETY	Non slip surfaces
DIMENSIONS	
REMARKS	In small units dining room may be a part of kitchen or living room.

ZONE	Private
ACTIVITY SET	Kitchenette
PRIMARY ACTIVITIES	Fixing coffee/tea, making snacks, cooking meals, storing food and kitchen ware, washing dishes
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, guests, health aide
SCHEDULE	Intermittent
ADJACENCY	Near food storage, adjacent to dining
FURNISHING & EQUIPMENT	Stove, range, refrigerator, sink, dishwasher (?), cabinets, shelves, countertops
FINISHES	Easy to clean: linoleum, tile, latex enamel, plastic laminate
VISUAL	Window desirable but not imperative, good lighting. Separate visually from living area.
HVAC	Adjustable heating and cooling, good ventilation, exhaust fan
ACOUSTICAL	
SAFETY	Handicapped accessible, non slip surfaces, electric appliances, smoke alarm
DIMENSIONS	
REMARKS	

ZONE	Private
ACTIVITY SET	Bedroom
PRIMARY ACTIVITIES	Sleeping, reading, relaxing, hobbies, dressing, watching television
SUPPORTIVE ACTIVITIES	Cleaning, aiding another
USERS	Residents, health aides
SCHEDULE	Constant 8 pm - 7 am, intermittent during day
ADJACENCY	Near bathroom
FURNISHING & EQUIPMENT	Bed(s), dresser(s), nightstand, closet, television stand, chair, storage
FINISHES	Warm, soft materials finishes: carpet, fabric, visually interesting ceiling material
VISUAL	Large, operable window with a view, abundant natural light, adjustable lighting, incandescent fixtures. Visual privacy from living area.
HVAC	Adjustable heating and cooling, good ventilation, operable window
ACOUSTICAL	Acoustical privacy from adjacent units
SAFETY	Emergency bell near bed. Rounded corners on beds and furniture
DIMENSIONS	Space for two single beds
REMARKS	Flexible furniture arrangement important. Windows to be low enough to provide views from bed.

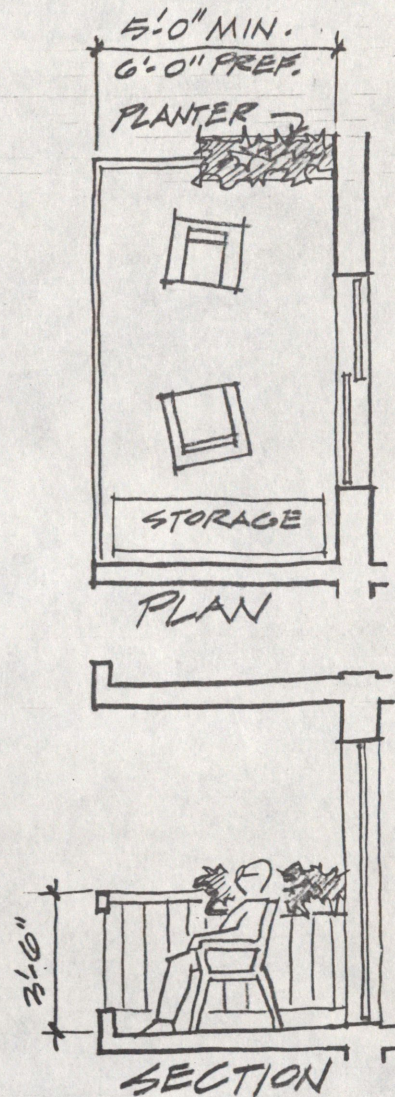


ZONE	Private
ACTIVITY SET	Bathroom activities
PRIMARY ACTIVITIES	Bathing, dressing, toilet activities
SUPPORTIVE ACTIVITIES	Cleaning, assisting
USERS	Aged residents, guests, health aide
SCHEDULE	Intermittent
ADJACENCY	Adjacent to bedrooms
FURNISHING & EQUIPMENT	Toilet (15" high), lavatory, shower with adjustable head and/or tub, storage, grab bars, shower seat, towel bars, mirror, storage
FINISHES	Cleanable, moisture resistant materials: tile, linoleum, latex enamel; non slip flooring
VISUAL	Good lighting, preferably incandescent, window if possible. No view into bathroom from living space of unit
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical privacy from adjacent spaces
SAFETY	Grab bars in shower/tub and toilet, future grab bars at lavatory, non slip surfaces, emergency bell at shower and toilet, outswinging door, shower controls accessible from inside or outside the shower
DIMENSIONS	
REMARKS	The bathroom is a common place for people to need assistance; accomodation for emergency help as well as routine assistance is important. Adaptability is also important; provide for future installation of grab bars, lower lavatory surfaces, etc. If only shower is provided, consider providing common bathtub at each floor/wing.



ZONE	Private
ACTIVITY SET	Adult Day Care/ Medical
PRIMARY ACTIVITIES	First aid, medical examination, consultation, resting, waiting
SUPPORTIVE ACTIVITIES	Cleaning, administrative activities
USERS	Residents, adult day care users from the community, nurse, visiting doctor, administration, cleaning staff
SCHEDULE	Intermittent to constant daytime use, evening emergencies
ADJACENCY	Near administration, public lounge, rest room
FURNISHING & EQUIPMENT	Examination room, bed and equipment, beds, nurses station, lounge furniture
FINISHES	Soft, warm materials in rooms, lounge, cleanable materials in exam room
VISUAL	View from rooms to exterior, visual privacy from public lounge
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical privacy from adjacent spaces
SAFETY	Non slip surfaces, emergency calls
DIMENSIONS	
REMARKS	This area can serve both the community residents by providing first aid and intermittent doctor visits, as well as the nonresidents who require personal or medical aid during the day.

ZONE	Semi Private
ACTIVITY SET	Outdoor space (deck)
PRIMARY ACTIVITIES	Watching people, sitting, gardening
SUPPORTIVE ACTIVITIES	Groundskeeping
USERS	Residents, guests, health aide
SCHEDULE	Intermittent daytime
ADJACENCY	Adjacent to living area and/or bedroom, possibly near complex activity area
FURNISHING & EQUIPMENT	Planters or small gardening space, outdoor furniture, storage
FINISHES	Cleanable, outdoor surfaces: tile, concrete, grass
VISUAL	Visual privacy yet view of site activity; night lighting
HVAC	
ACOUSTICAL	Acoustical privacy yet contact with site activity
SAFETY	Non slip surfaces, 42" railings on upper floor balconies
DIMENSIONS	50 square feet minimum; enough to accommodate two chairs and a table; 5'-0" minimum dimension
REMARKS	Some privacy should be obtained. Feeling of safety important; while railings should be fairly transparent, they should also look strong.



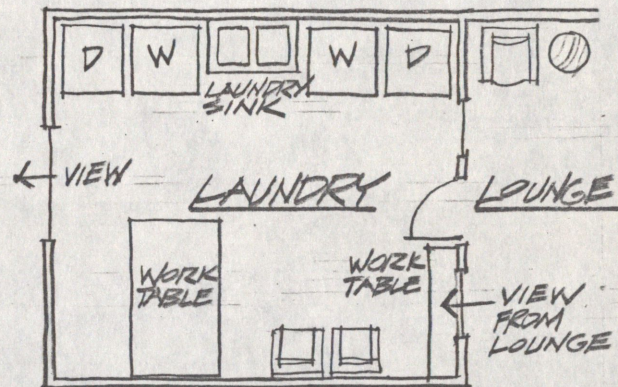
ZONE	Semi Private
ACTIVITY SET	Dining Room
PRIMARY ACTIVITIES	Dining, visiting, relaxing, serving, returning dishes
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, staff, kitchen personnel, visitors
SCHEDULE	Three meals a day primarily, otherwise intermittent
ADJACENCY	Adjacent to kitchen, dish return; near to janitor facility, resident lounge or waiting area, restrooms; centralized location for all units
FURNISHING & EQUIPMENT	Dining tables, chairs, serving window and dish return (if cafeteria style), condiment and silverware tables
FINISHES	Easy to clean surfaces: linoleum, tile, wood, plastic laminate, metal, glass
VISUAL	Daylighting to greatest extent possible, adjustable lighting, good light level, pleasant colors, good view desirable
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical treatment important!
SAFETY	Non slip flooring, handicapped accessible, fire safety, exits
DIMENSIONS	General guideline: 20 square feet per seat
REMARKS	Dining is one of the most important activities in a person's day. Residents may spend quite a bit of their time in this space; should be a pleasant atmosphere where one would not feel rushed. A goal should be to help them feel as much at home as possible.

ZONE	Semi Private
ACTIVITY SET	Group Kitchen
PRIMARY ACTIVITIES	Cooking, serving
SUPPORTIVE ACTIVITIES	Cleaning, storage
USERS	Residents, staff, visitors
SCHEDULE	Intermittent daytime and evening
ADJACENCY	Near large lounge or meeting area, near dining room
FURNISHING & EQUIPMENT	Residential kitchen appliances: range, oven, sink, dishwasher, storage, countertops, refrigerator
FINISHES	Cleanable materials: tile, linoleum, metal, wood, plastic laminate, enamel paint
VISUAL	Good lighting important; task lighting
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical treatment
SAFETY	Non slip flooring, fire extinguishers, emergency bell (?)
DIMENSIONS	
REMARKS	Residents' kitchen could serve as coffeshop run by residents.

ZONE	Semi Private
ACTIVITY SET	Library
PRIMARY ACTIVITIES	Reading, browsing for books, quiet visiting
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, staff
SCHEDULE	Intermittent daytime, evening
ADJACENCY	Central location
FURNISHING & EQUIPMENT	Chairs, lounge chairs, tables, bookshelves, magazine racks, coffeetables
FINISHES	Soft, warm materials: carpet, wood, plastic laminate, fabric
VISUAL	Daylighting and good task lighting important; higher level of illumination. View desirable but not imperative
HVAC	Adjustable heating and cooling
ACOUSTICAL	Acoustical treatment important; privacy from adjacent spaces
SAFETY	Good lighting, non slip surfaces
DIMENSIONS	
REMARKS	Should be a flexible space.

ZONE	Semi Private
ACTIVITY SET	Chapel
PRIMARY ACTIVITIES	Religious services and activities, individual religious activities, meditation
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, staff, religious practitioners, visitors
SCHEDULE	Scheduled regularly, intermittent daytime and evening
ADJACENCY	Central location
FURNISHING & EQUIPMENT	Adjustable seating, lectern, tables, religious items
FINISHES	Soft, warm materials: carpet, fabric, acoustical treatment, wood
VISUAL	Adjustable lighting, task and spot lighting
HVAC	Adjustable heating and cooling
ACOUSTICAL	Acoustics very important; acoustical privacy from adjacent areas
SAFETY	Handicapped accessibility, exits
DIMENSIONS	
REMARKS	May be most practical to design for use by individuals and groups of 4- 6 rather than for organized worship

ZONE	Semi Private
ACTIVITY SET	Laundry
PRIMARY ACTIVITIES	Using washer and dryer, washing by hand, visiting, obtaining change and soap, folding, ironing, reading
SUPPORTIVE ACTIVITIES	Cleaning, repairing machines
USERS	Residents, staff, cleaning staff, health aides
SCHEDULE	Intermittent morning to early evening
ADJACENCY	Accessible to all units, adjacent to lounge or alcove for waiting
FURNISHING & EQUIPMENT	Commercial washers, dryers, tables, baskets, chairs, magazine tables, front loading washers and dryers for wheelchair use
FINISHES	Cleanable materials: linoleum, tile, enamel paint, plastic laminate
VISUAL	Bright, cheery materials and colors, good ambient and task lighting. Visual contact from lounge into laundry.
HVAC	Adjustable heating and cooling; cooling and ventilation of particular importance
ACOUSTICAL	Acoustical treatment important; separate laundry acoustically from adjacent spaces
SAFETY	Non slip floors of particular importance
DIMENSIONS	
REMARKS	Encourage laundry to serve as a social activity. General guideline: one washer/dryer per 20 units



ZONE	Semi Private
ACTIVITY SET	Recreation
PRIMARY ACTIVITIES	Visiting, cards, games, bingo, reading
SUPPORTIVE ACTIVITIES	Cleaning, meeting, setting up activities
USERS	Residents, staff, visitors
SCHEDULE	Intermittent daytime, evening
ADJACENCY	Near restrooms, central location
FURNISHING & EQUIPMENT	Tables, chairs, bulletin board, storage
FINISHES	Warm, soft materials: carpet, fabric, acoustical treatment, wood; bright, cheery colors
VISUAL	Daylighting, good ambient and task lighting, adjustable. View desirable
HVAC	Adjustable heating and cooling
ACOUSTICAL	Acoustical treatment important; acoustical privacy from adjacent spaces
SAFETY	Non slip flooring, handicapped accessible
DIMENSIONS	
REMARKS	May be used by aged in neighborhood.

ZONE	Semi Private
ACTIVITY SET	Crafts
PRIMARY ACTIVITIES	Sewing, leather work, painting, ceramics, miscellaneous craft activities, cleaning
SUPPORTIVE ACTIVITIES	Displaying and storing crafts
USERS	Residents, staff, visitors
SCHEDULE	Intermittent in daytime
ADJACENCY	Near restroom, semi public area
FURNISHING & EQUIPMENT	Craft tables, chairs, benches, storage drawers and cabinets, storage lockers, cubicles, kiln (?)
FINISHES	Cleanable surfaces, bright colors: plastic laminate, linoleum, carpet, wood, metal, enamel paint
VISUAL	Daylighting important, high general light level, possible view from public space into crafts
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical treatment important
SAFETY	Non slip floors, good lighting
DIMENSIONS	
REMARKS	Variation in activity, furniture layout important; consider using moveable storage system as space divider.

ZONE	Semi Private
ACTIVITY SET	Shop
PRIMARY ACTIVITIES	Woodworking, metal working, repair
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, staff
SCHEDULE	Intermittent daytime
ADJACENCY	Accessible from exterior
FURNISHING & EQUIPMENT	Workbenches, some wood and metalworking equipment, storage, seating
FINISHES	Wood, resilient flooring
VISUAL	Good ambient and task lighting, daylighting
HVAC	Adjustable heating and cooling, good ventilation, operable windows
ACOUSTICAL	Acoustical treatment
SAFETY	Non slip flooring, emergency bell, first aid kit
DIMENSIONS	
REMARKS	

ZONE	Semi Private
ACTIVITY SET	Physical Therapy
PRIMARY ACTIVITIES	Massage, exercises, swimming, stretching
SUPPORTIVE ACTIVITIES	Dressing, showering, cleaning
USERS	Residents, health aides, staff, physical therapist
SCHEDULE	Intermittent daytime, early evening
ADJACENCY	Central location in high use area, outside access
FURNISHING & EQUIPMENT	Massage table, exercise bicycles, exercise equipment, jacuzzi, swimming pool, showers, dressing room, clothing storage, exercise mats, music system
FINISHES	Cleanable materials: tile, metal, enamel paint; soft materials in exercise room: carpet, fabric, acoustical treatment, bright colors
VISUAL	Good lighting, adjustable light levels
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical treatment important; acoustical privacy from adjacent spaces
SAFETY	Non slip flooring important! Handicapped accessibility, grab bars at showers, jacuzzi, emergency bell at pool, jacuzzi, showers
DIMENSIONS	
REMARKS	Allow for viewing of room before entering. Group exercise equipment conversationally

ZONE	Semi Private
ACTIVITY SET	Outdoor Recreation
PRIMARY ACTIVITIES	Sitting, visiting, sunbathing, walking, barbequeing, gardening, games
SUPPORTIVE ACTIVITIES	Groundskeeping
USERS	Residents, health aides, staff, visitors
SCHEDULE	Intermittent daytime, evening
ADJACENCY	Accessible from all major parts of complex, near restrooms
FURNISHING & EQUIPMENT	Moveable and fixed seats, lights, planters, reflective ponds, barbeques, shading devices, game equipment (especially horseshoes) and storage, picnic tables, garden plots, greenhouse
FINISHES	Concrete, plant materials, brick, tile, wood
VISUAL	Visual access from units, yet visual privacy where desired. View of activity areas. Good lighting at night.
HVAC	Sun and wind protection
ACOUSTICAL	
SAFETY	Non slip surfaces, good lighting, handicapped accessibility. If brick or tile is used, must be very even with flush joints.
DIMENSIONS	
REMARKS	Great variety in privacy, activity, and size of spaces; create a sense of neighborhood. Clearly differentiate communal outdoor space from residents' private outdoor space. Locate seating with view of circulation paths. Provide a place for pets.

ZONE	Semi Public
ACTIVITY SET	Lounge
PRIMARY ACTIVITIES	Relaxing, visiting, talking, watching people, greeting visitors, reading, watching television, playing games, parties
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, health aides, visitors, staff
SCHEDULE	Constant daytime, evening
ADJACENCY	Near restrooms, circulation paths, administrative area, activity areas
FURNISHING & EQUIPMENT	Chairs, couches, coffeetables, lamps. Cluster furniture.
FINISHES	Soft, warm materials: carpet, fabric, wood, acoustical treatment, tile
VISUAL	Adjustable task and ambient lighting, daylighting important, good view of exterior and activity areas
HVAC	Adjustable heating and cooling
ACOUSTICAL	Acoustical treatment important
SAFETY	Non slip flooring, handicapped accessible
DIMENSIONS	General guideline: 35 square feet per unit for total community areas
REMARKS	This is likely to be a center of social activity and one of the most used spaces; should be inviting, with variation in space type and privacy level. Residents should be able to survey room before deciding whether to enter. Acoustically and physically isolate television viewing space from lounge if possible. Consider outdoor patio with seating.

ZONE	Semi Public
ACTIVITY SET	Meeting
PRIMARY ACTIVITIES	Meeting, talking, attending small shows, visiting with guests
SUPPORTIVE ACTIVITIES	Cleaning, serving food, setting up furniture
USERS	Residents, guests, speakers, relatives, staff, cleaning staff
SCHEDULE	Intermittent daytime and evening
ADJACENCY	Near public entrance, central location, near public restrooms
FURNISHING & EQUIPMENT	Conference table and chairs, chalkboard, lectern
FINISHES	Soft, warm materials: carpet, fabric, wood, acoustic treatment
VISUAL	Flexible lighting, good light level; view not imperative
HVAC	Flexible heating and cooling, good ventilation
ACOUSTICAL	Acoustical treatment important
SAFETY	Non slip flooring, handicapped accessibility, exit signage
DIMENSIONS	
REMARKS	Flexibility important in furnishings, lighting, use. Consider several meeting spaces. Can share space with another activity such as church services.

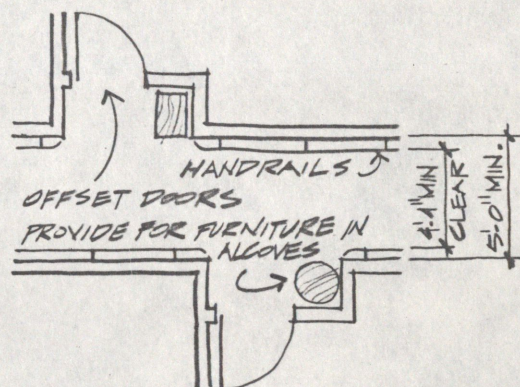
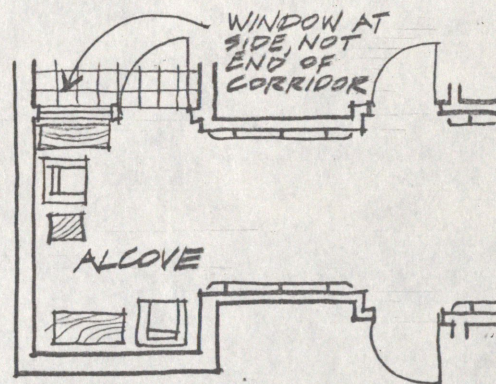
ZONE	Semi public
ACTIVITY SET	Multipurpose Room
PRIMARY ACTIVITIES	Films, theatrical or musical productions, lectures, large meetings, dances, parties
SUPPORTIVE ACTIVITIES	Storing and setting up furniture and equipment, cleaning
USERS	Residents, staff, visitors, public
SCHEDULE	Scheduled events, intermittent otherwise
ADJACENCY	Near public restrooms, furniture and equipment storage, dressing room, lobby
FURNISHING & EQUIPMENT	Moveable chairs, lighting public address/music system, lectern, tables, moveable partitions, film screen, film projector, storage
FINISHES	Soft, warm materials: carpet, fabric, wood, acoustical treatment
VISUAL	Adjustable lighting, spotlighting
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical quality important! Isolate acoustically from adjacent spaces
SAFETY	May be required to comply with codes for assembly areas. Handicapped accessibility, exit signage
DIMENSIONS	
REMARKS	Flexibility is probably the most important quality; allow for variation in space size, furniture arrangement, lighting, sound. Multipurpose room may share activities, such as dining.

ZONE	Semi Public
ACTIVITY SET	Resident Mailboxes
PRIMARY ACTIVITIES	Receiving and sending mail, purchasing stamps, talking, putting up notices
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, staff, postal personnel
SCHEDULE	Intermittent daytime
ADJACENCY	Central location, near community space
FURNISHING & EQUIPMENT	Mailboxes (preferably rear accessed), shelves, parcel storage, table and chairs, bulletin board
FINISHES	Warm, cleanable materials: carpet, plastic laminate, wood, tile, bright colors
VISUAL	Good overall lighting, daylighting if possible, visual privacy from public areas
HVAC	Adjustable heating and cooling, ventilation
ACOUSTICAL	Acoustical treatment
SAFETY	Non slip floors, handicapped accessible
DIMENSIONS	
REMARKS	Mailbox locks should open with apartment key if feasible

ZONE	Semi Public
ACTIVITY SET	Bar & Coffeeshop
PRIMARY ACTIVITIES	Drinking coffee and drinks, visiting, happy hour activities, snacks
SUPPORTIVE ACTIVITIES	Serving coffee and drinks, collecting money, cleaning
USERS	Residents, visitors, staff
SCHEDULE	Intermittent daytime, evening
ADJACENCY	Adjacent to lounge, resident kitchen, near to restrooms, centrally located
FURNISHING & EQUIPMENT	Bar, tables, seating, cash register (?), refrigerator, sink, food and beverage storage, coffeemaker, toaster oven or microwave, countertop
FINISHES	Soft, warm but cleanable materials: carpet, fabric, wood, tile, metal, plastic laminate
VISUAL	Adjustable task and ambient lighting
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustic treatment important
SAFETY	Non slip flooring, obvious exits
DIMENSIONS	
REMARKS	Design for use and operation by residents

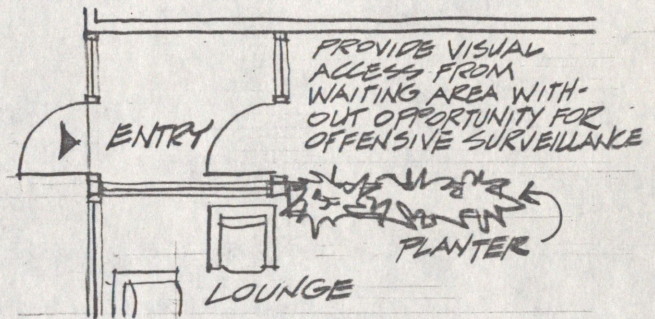
ZONE	Semi Public
ACTIVITY SET	Barber/Beauty Shop
PRIMARY ACTIVITIES	Cutting and styling hair, shaving, manicuring, socializing, waiting
SUPPORTIVE ACTIVITIES	Cleaning, stocking supplies
USERS	Residents, health aides, staff, barber/beauty technician
SCHEDULE	By appointment, daytime
ADJACENCY	Public areas
FURNISHING & EQUIPMENT	Barber chair, counters, storage, chairs, coffeetables
FINISHES	Cleanable materials: tile, linoleum, plastic laminate, metal, wood, carpet
VISUAL	Task and ambient lighting, daylighting if possible
THERMAL	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustic treatment
SAFETY	Non slip flooring
DIMENSIONS	
REMARKS	

ZONE	Semi Public
ACTIVITY SET	Corridors
PRIMARY ACTIVITIES	Access and egress, visiting
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, staff, visitors
SCHEDULE	Frequent, mostly daytime, evening
ADJACENCY	
FURNISHING & EQUIPMENT	Handrailings both sides, ash trays, trash cans, signage, seating, plants, artwork
FINISHES	Warm, inviting materials: carpet, fabric, acoustical treatment, bright colors
VISUAL	Good, non glare indirect lighting. No windows at end of corridors; cross-lighting at ends works well. Light alcoves at unit entrances.
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical treatment important. Acoustical separation from adjacent private spaces
SAFETY	Handrailings at 33-36" both sides continuous, fire and smoke separations where required, clear exit signage
DIMENSIONS	5'-0" minimum width
REMARKS	Orientation is critical; avoid long, repetitious corridors, change direction, recess doorways, vary lighting, color, texture, ceiling height etc. Color coding of corridors may be helpful. Create residential feeling and scale. Signage of high contrast with large legible type. Residents' artwork, personal belongings may serve to orient. Allow for furniture in alcove at unit entries for placing items while unlocking door.



ZONE	Semi Public
ACTIVITY SET	Gardens
PRIMARY ACTIVITIES	Gardening
SUPPORTIVE ACTIVITIES	
USERS	Residents
SCHEDULE	Daytime
ADJACENCY	Greenhouses
FURNISHING & EQUIPMENT	Plots for individual gardens, tool storage
FINISHES	
VISUAL	
HVAC	
ACOUSTICAL	
SAFETY	
DIMENSIONS	
REMARKS	This is one area where individuality and responsibility can be promoted. Residents should be encouraged to utilize their plots as they choose.

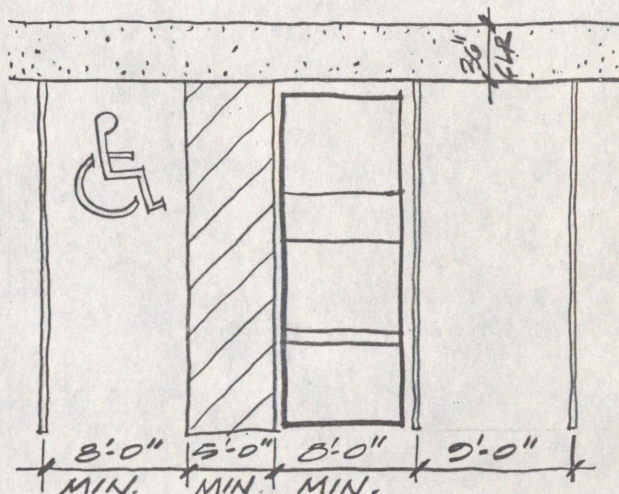
ZONE	Public
ACTIVITY SET	Entry Lobby
PRIMARY ACTIVITIES	Asking for information, greeting relatives, talking, visiting, waiting
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Visitors, residents, staff, general public
SCHEDULE	Intermittent daytime, evening
ADJACENCY	Adjacent to information desk, manager's office, front door; close to public restroom. Adjacent to auto drop off and pick up
FURNISHING & EQUIPMENT	Seating: single chairs and couches, information desk, directory, public telephone, drinking fountain
FINISHES	Warm, durable materials: carpet, fabric, acoustical treatment, tile, wood, bright colors
VISUAL	Daylighting and view of exterior; medium level lighting
HVAC	Utilize vestibule to reduce fluctuation of temperature when entry doors are opened
ACOUSTICAL	Good acoustics are important, although relatively high noise levels are acceptable
SAFETY	Non slip floor surface, totally handicapped accessible, exit doors
DIMENSIONS	
REMARKS	Entry lobby is an important space for residents as it provides a connection to external world and is a center of activity. Alcoves are desirable to afford a view of activities without being in the circulation patterns. Consider secondary entrance for residents who do not wish to be watched by those in lobby.



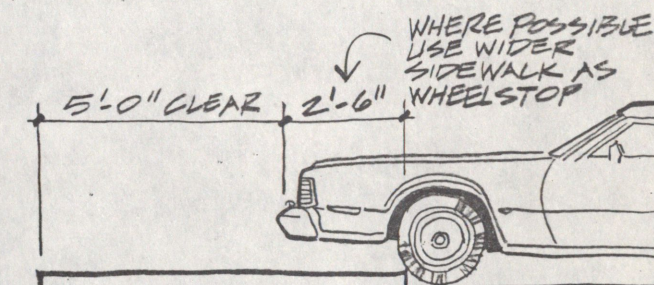
ZONE	Public
ACTIVITY SET	Reception
PRIMARY ACTIVITIES	Requesting and receiving information, communicating with the public and residents, greeting visitors
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Staff, visitors, public, residents
SCHEDULE	Intermittent
ADJACENCY	Adjacent to public entry, obvious location
FURNISHING & EQUIPMENT	Information desk, chairs, storage
FINISHES	Warm, soft materials: carpet, fabric, acoustical treatment, plastic laminate, wood
VISUAL	Ambient and task lighting, view of public entry
HVAC	Adjustable heating and cooling
ACOUSTICAL	Acoustical treatment
SAFETY	
DIMENSIONS	
REMARKS	

ZONE	Public
ACTIVITY SET	Public restrooms
PRIMARY ACTIVITIES	Bathroom activities
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Visitors, residents, staff
SCHEDULE	Intermittent daytime
ADJACENCY	Adjacent to entry lounge, information area, public spaces
FURNISHING & EQUIPMENT	Handicapped accessible toilets, urinals, lavatories, coat hooks, shelf, paper towel dispenser
FINISHES	Bright, cleanable materials: tile, plastic laminate, metal, enamel
VISUAL	Good lighting
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Good acoustical treatment; acoustical privacy from adjacent spaces
SAFETY	Handicapped accessories, non slip floors, grab bars, emergency bell
DIMENSIONS	
REMARKS	

ZONE	Public
ACTIVITY SET	Parking
PRIMARY ACTIVITIES	Parking car, driving
SUPPORTIVE ACTIVITIES	Groundskeeping
USERS	Residents, staff, public, visitors
SCHEDULE	Intermittent
ADJACENCY	Near to front entry; no farther than 200 feet
FURNISHING & EQUIPMENT	Parking spaces, lights, planters, walks
FINISHES	Asphalt, concrete, plant materials
VISUAL	Good lighting at night, visually separated from units
HVAC	
ACOUSTICAL	Acoustically separated from units
SAFETY	Handicapped accessible, good night lighting, no hiding places for intruders
DIMENSIONS	Number of spaces: can be as few as 1/4 per dwelling unit. Loading area of 5' x 30'
REMARKS	Differentiate resident, staff and visitor spaces. Design for minimum of confusion



HANDICAPPED PARKING



PARKING AT WALKWAYS

ZONE ACTIVITY SET	Support Administration
PRIMARY ACTIVITIES	Doing paperwork, meeting, telephoning, coordination, interaction with residents and visitors, accounting, general administration
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Staff
SCHEDULE	Constant day and night
ADJACENCY	Near entrance lobby, major activity areas and lounges
FURNISHING & EQUIPMENT	Desk, chairs, filing cabinets, countertops, storage, public address system, emergency signals
FINISHES	Warm, comfortable materials: carpet, fabric, wood, plastic laminate, acoustic treatment
VISUAL	Adjustable ambient and task lighting, view of critical areas
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Acoustical treatment
SAFETY	
DIMENSIONS	
REMARKS	Access to and from building should be monitored by staff

ZONE ACTIVITY SET	Support Kitchen
PRIMARY ACTIVITIES	Cooking, taking delivery, cleaning
SUPPORTIVE ACTIVITIES	Serving, storing
USERS	Food service staff, servers
SCHEDULE	A few hours before each meal
ADJACENCY	Adjacent to dining, food storage, loading dock; near to trash
FURNISHING & EQUIPMENT	Commercial kitchen equipment, serving counter
FINISHES	Cleanable materials: steel, enamel, commercial flooring
VISUAL	Good task lighting
HVAC	Adjustable heating and cooling, good ventilation
ACOUSTICAL	Good acoustical separation from adjacent spaces
SAFETY	Non slip floors, fire protection
DIMENSIONS	
REMARKS	

ZONE	Support
ACTIVITY SET	Bulk Storage
PRIMARY ACTIVITIES	Storing and retrieving residents' possessions
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Staff, residents
SCHEDULE	Infrequent
ADJACENCY	
FURNISHING & EQUIPMENT	Storage containers or lockers
FINISHES	Utilitarian
VISUAL	Good lighting, no view in
HVAC	Ventilation
ACOUSTICAL	
SAFETY	Security locks
DIMENSIONS	12 square feet of floor storage area or 100 cubic feet of storage volume for each dwelling unit
REMARKS	Avoid stacked storage that requires stooping or reaching

ZONE	Support
ACTIVITY SET	Janitor
PRIMARY ACTIVITIES	Cleaning, washing equipment, washing hands
SUPPORTIVE ACTIVITIES	
USERS	Cleaning staff
SCHEDULE	Intermittent daytime, evenings
ADJACENCY	
FURNISHING & EQUIPMENT	Service sink, sink, trash cans, storage, tool storage
FINISHES	Cleanable surfaces: concrete, tile, enamel paint, metal
VISUAL	Good lighting
HVAC	Good ventilation
ACOUSTICAL	
SAFETY	
DIMENSIONS	
REMARKS	

ZONE	Support
ACTIVITY SET	Trash
PRIMARY ACTIVITIES	Depositing and picking up trash
SUPPORTIVE ACTIVITIES	Cleaning
USERS	Residents, staff, cleaning staff, sanitation engineer
SCHEDULE	Intermittent daytime, evening
ADJACENCY	Near janitor, kitchen, central location
FURNISHING & EQUIPMENT	Trash cans, chute or dumpster
FINISHES	Cleanable materials: concrete, enamel paint, metal
VISUAL	Good lighting
HVAC	Good ventilation imperative
ACOUSTICAL	Acoustical privacy from adjacent spaces
SAFETY	Non slip flooring
DIMENSIONS	
REMARKS	Trash receptacles for units should be located within reasonable distance; consider several locations. Complex and kitchen trash receptacle should probably be separate from residents'.

DESIGN GUIDELINES

The following is a set of design guidelines for specific spaces, elements, equipment and topics. These are not intended as a set of hard rules; rather, a partial listing of issues and suggestions.

CIRCULATION

Elevators

- Handrails on 3 sides at 32"
- Intercom recommended
- Allow extra time for entering, selecting floor
- Controls accessible to handicapped
- One elevator with 5'-7" minimum dimension for furniture and stretcher, possibly with separate service entrance
- Seating and table adjacent

Ramps

- Avoid as much as possible
- Can act as a barrier to those with little strength or stamina, off-balance or shuffling gait
- Pair ramps with stairs to give a choice
- Maximum gradient recommended: 1:20; 1:12 acceptable
- Level landings at top and bottom and every 40 feet
- Ramps 6 feet long and 5 feet wide minimum
- Smooth, non slip surface
- Handrails on both sides extending one foot beyond ramp
- Benches at landings desirable for ambulatory people

Stairs

- Avoid as much as possible
- Potential hazard for the visually or physically impaired
- Contrast tread edges with color and texture
- Contrast color of treads and risers
- Side curbs
- No nosing
- Handrails
- Minimum of three and maximum of ten risers per flight
- Higher intensity of lighting
- Seating at landings desirable

Exterior Walkways

- Major walkways: 6 feet wide
- Common area walkways: 5 feet
- Concrete with broom finish
- Variety of stimuli along path
- Plan intersections to promote social interaction

Handrails

- Diameter of 1-1/4" to 1-1/2"
- 1-1/2" space between wall and handrail
- Minimum edge radius of 1/8 inch
- Mount 33-36" from floor
- Return all handrails to wall
- Change in surface of handrail to signify beginning or end of stair or ramp
- Avoid institutional look in handrail material and construction

ALCOVES

- Locate in activity areas, corridors, lobby/reception areas, lounges
- Provides semiprivate area to meet and visit
- Divides larger spaces into smaller ones that facilitate small group activities
- Be careful not to break up the continuity of corridor handrails with too many alcoves

DOORS AND HARDWARE

- Minimum clear opening of 32"
- Threshold flush with door
- Lever handles, not knobs
- Push plates
- U shaped pulls
- Security peepholes in unit entry doors at 56"
- Pulls and handles mounted between 15" and 48" high
- Pressure required to open doors and door closer pressure: 3-5 foot-pounds
- Check action delay of 4-6 seconds before starting to close

WINDOWS

- Minimize glare with light colors around windows
- Provide blinds, shades or curtains
- Avoid windows at ends of corridors
- 15-20" sills at living, dining and bedroom
- Install sturdy mullions or guardrails at low windows
 - Safety and sense of security
- Wide interior sills to accommodate plants
- Minimum window area of 15% of room floor area
- Operable window area for natural ventilation: 5%
- Avoid drafts
- Easy to operate mechanisms: casement
- Mount operable parts 30-48" from floor

SEATING

Elderly often sit for extended periods
 Have poor blood circulation
 Have difficulty transferring in and out of seats

Chairs

Major functional considerations:
 ease of getting into the chair
 comfort or support while sitting or reclining in a dignified position
 ease of getting out of the chair
 Use chairs that can be moved by the user

Outdoor seating

Should be located every 200 feet
 Locate benches within 20 feet of pathways
 Take into account trees and sun
 Provide seating with backs

FINISHES

Floors

Carpeting in lounges and corridors
 pleasant walking surface, reduces glare and noise
 Level loop carpet, direct glue, no pad
 Patterned, cleanable carpet in dining
 Sheet vinyl or tile should be non slip and non reflective
 Change floor type, texture or color at corridor intersections

Walls

Corridor wall finishes must withstand traffic, including wheelchairs and walkers
 Brick, concrete block and tile - must be smooth
 No rough-texture paint
 Avoid slick, reflective surfaces

Ceilings

Textured, patterned or fabric covered to provide visual relief and orientation

LIGHTING

Lighting is of particular importance when there is a greater likelihood of vision impairment
 Lighting requirements depend specifically upon task
 Higher level of lighting required with age
 Twice the level of illumination as for 20-year olds
 60 fc Reading printed material
 140 fc Reading pencil writing

Control the range of brightness

Keep brightness of surfaces in a space within 3:1 ratio

Ceiling	70-90% reflectance
	Brightness similar to light fixtures
Walls	40-60% reflectance
Floors	30-50% reflectance
Furniture	35-50% reflectance desk & tabletops
	light wood is acceptable

Take into account sensitivity to glare

Avoid highly reflective surfaces

Avoid windows at the end of corridors

Increase illumination at important points

Intersection of hallways

Take into account slower adaptation to light levels

Change illumination level gradually

Use highly contrasting colors to mark changes in plane

Use indirect lighting where possible

Provide task lighting - adjustable

Fixtures accessible if residents change bulbs

Design lighting from wheelchair height as well

Allow residents to control lighting levels where possible

HVAC

Older people less active and more susceptible to respiratory ailments

Have narrower range of comfort

Susceptible to loss of body heat; have little tolerance for swings in temperature

Exhaust systems, filtration and air recirculation particularly important

Heating and Cooling

design for a temperature of 75 degrees

provide user operated thermostats

consider auxiliary heating in bathrooms

Ventilation

combination of natural and mechanical ventilation

user control of supply and return air

minimum of two air changes of outdoor air per hour

in bathrooms provide minimum of 10 air changes per hour

SAFETY AND SECURITY

Elderly especially vulnerable to assault, robbery and burglary

Some will limit activities out of fear

Illuminate well

Provide no hiding places

Provide means to survey space before entering

Increase observation

- Limit access
- Facilitate communication
- Provide viewing peepholes
- Provide security locks on unit doors
- Alarm, communications systems increase cost but also increase perceived security

COMMUNICATION SYSTEMS

Alarm Systems

- Need to warn of an emergency AND stimulate a response
- Use redundant cueing
 - Usually visual and aural
 - Strobe lights and red flashing lights
- Consider using different alarms for different types/levels of emergency

Call Systems

- For sickness, accident or other emergency
- Types:
 - flags on mailboxes turned each day
 - to radio transmitter carried at all times
- Alarm in staff facility, voice communication system, or light in corridor outside unit
- Telephone-based system to ring preset numbers
- Locate call system in bathroom, accessible from toilet, shower and floor, and in bedroom, accessible from bed
- Locate 30"-36" above floor with wood or plastic rod hanging to within 4" of floor
- Locate where won't be activated accidentally

Telephones

- Locate private phone near bed, in bathroom and kitchen
- Public phones near waiting and activity areas
 - Provide seating
 - Task lighting
- Touch tone dialing
- Amplifiers for hearing impaired
- Automatic dialing of preset numbers

CONTROL

- Sense of control over surroundings, activities and relationships
- Many elderly find it difficult to achieve a sense of control
- Minimize dependency and sense of helplessness
- Two areas:
 - Ability to operate and use the built environment
 - Ability to control interactions with others

Equipment under occupant control as much as possible
 HVAC
 Windows
 Lights
 Window treatment
 Equipment controls can be overridden by management if required
 Space hierarchy to control interactions with others
 Security locks
 Peepholes in doors
 Design residential units so that each major piece of furniture can be located in more than one location

ADAPTABILITY

Due to the variety in physical and mental state of the elderly, adaptability is important
 Adaptability to address individual differences and individual changes in capability over time
 ANSI A117.1 definition:
 the ability of certain building elements, such as kitchen counters, sinks, and grab bars, to be added to, raised, lowered, or otherwise altered so as to accommodate the needs of either the disabled or nondisabled, or to accommodate the needs of persons with different types or degrees of disability.

Adaptable units:

- wheelchair accessible
- lever handles on doors
- larger bathrooms
- flexible shower hoses
- grounds for future grab bars
- antiscald shower controls
- 24" high electrical outlets
- 48" high light switches
- front loading washers and dryers
- side by side refrigerator/freezers
- front range controls
- sliding or casement windows
- loop cabinet hardware

Cost of adding above items is less than \$700 (1985)

Later additions:

- grab bars
- strobe light doorbell
- flashing smoke alarm

Cost of above additions is approximately \$500.

These costs are substantially less than relocation

PRIVACY

Privacy is a basic human need

Privacy is reduced by smaller living quarters, dependence on help for personal activities

Institutions, by nature, reduce level of privacy

Privacy and aloneness is not the same as loneliness

Personal hygiene is the most private of activities, yet is often where the elderly require assistance

Privacy is spatial, visual, auditory, olfactory and procedural

Create levels and layers of privacy

Studio apartments and two-bed nursing care rooms are more economical but are not preferable

INDEPENDENCE

Barriers to independence are physical, social and psychological

The aged often have particular physical needs not considered by accessibility standards; regulations often assume full upper body mobility and strength, etc.

Independence and dependence go together; excessive independence may take too much energy; design for adaptation

PROGRAM

INDEPENDENT APARTMENTS - 57 units

Building Area	64,980 SF
Building Coverage	34,884 SF
Parking	86 spaces

CONGREGATE APARTMENTS - 80 units

Building Area	101,800 SF
Building Coverage	51,100 SF
Parking	68 spaces

NURSING CARE - 59 beds

Building Area	29,400 SF
Building Coverage	29,400 SF
Parking	36 spaces

SENIOR CENTER

Building Area	28,869 SF
Building Coverage	20,220 SF
Parking	40 spaces

Site Area (15.1 acres)	688,260 SF
Building Coverage	135,600 SF
Parking	67,800 SF
Open Space	484,850 SF
Coverage	29 %

The following is a breakdown by space of the congregate apartments and the senior center. The nursing care facility and the independent apartments have been designed in a planning sense only.

CONGREGATE APARTMENTS

Typical Dining Building		17,800 SF
One Bedroom Apartments	9 @ 576 SF	5,184 SF
Two Bedroom Apartments	4 @ 864 SF	3,456 SF
Lounges	3 @ 480 SF	1,440 SF
Dining		1,344 SF
Kitchen		480 SF
Breakfast		384 SF
Laundry		192 SF
Administration		768 SF
Rest Rooms	2 @ 126 SF	252 SF
Typical Apartment Building		11,520 SF
One Bedroom Apartments	6 @ 576 SF	3,456 SF
Two Bedroom Apartments	3 @ 864 SF	2,592 SF
Lounge		864 SF
Kitchen		260 SF
Breakfast		384 SF
Laundry		192 SF
Rest Rooms	2 @ 126 SF	252 SF
Total Building Area		101,800 SF

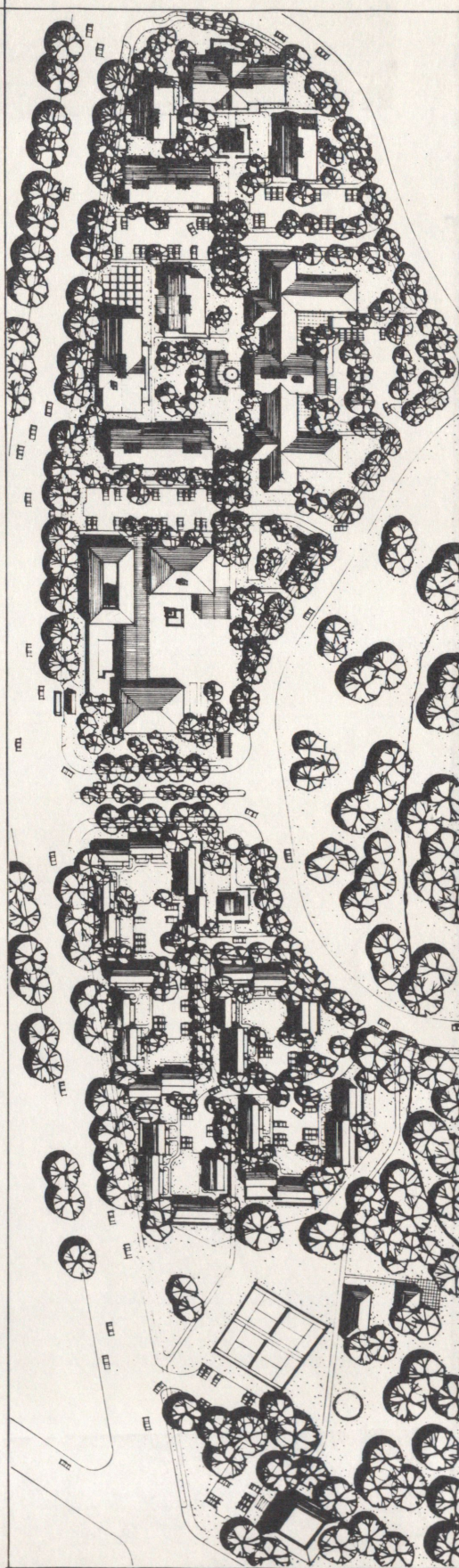
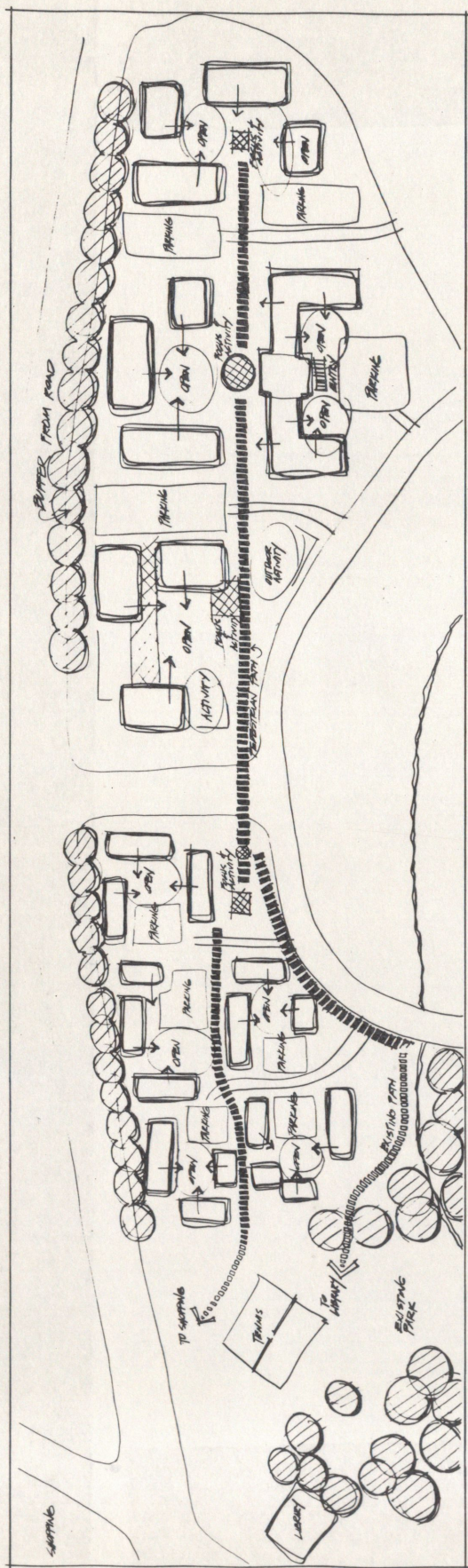
SENIOR CENTER

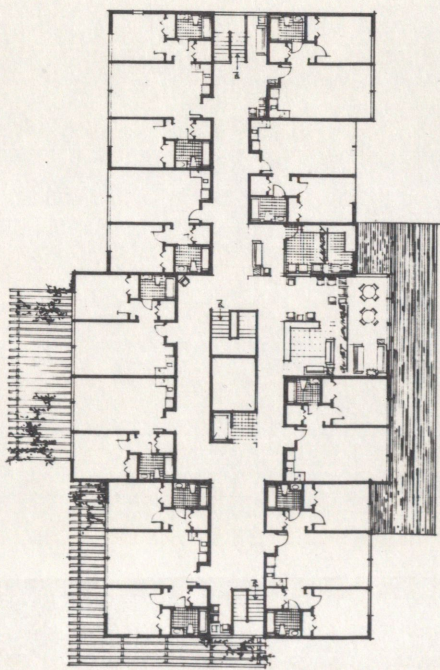
Dining Building		5,760 SF
Dining Room		2,880 SF
Kitchen		936 SF
Coffeeshop		360 SF
Lounge		1,152 SF
Rest Rooms	2 @ 144 SF	288 SF

Recreation Building		17,280 SF
Multipurpose/Meeting Room		3,456 SF
Lounge		2,304 SF
Administration		1,010 SF
Adult Day Care/Medical		864 SF
Barber/Beauty Shop		144 SF
Craft/Occupational Therapy		1,730 SF
Recreation		1,440 SF
Rest Rooms	2 @ 168 SF	336 SF

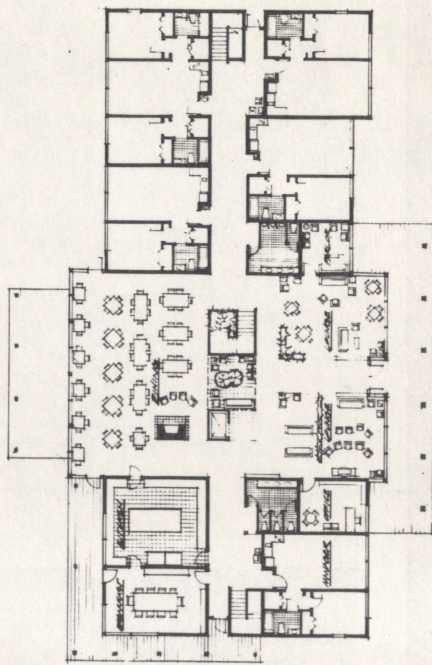
Athletic Building		5,820 SF
Exercise		3,360 SF
Lockers/Dressing	2 @ 720 SF	1,440 SF
Jacuzzi		168 SF
Sauna		72 SF
Physical Therapy		440 SF

Total Building Area		28,860 SF
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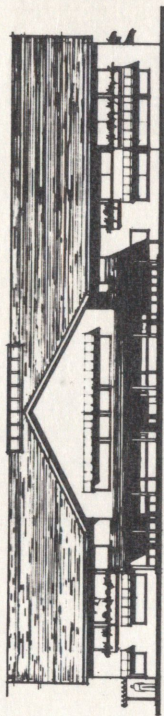




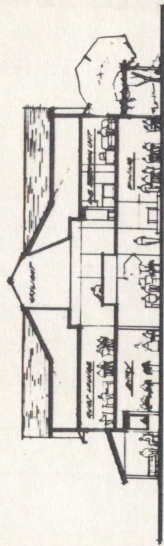
Upper Level



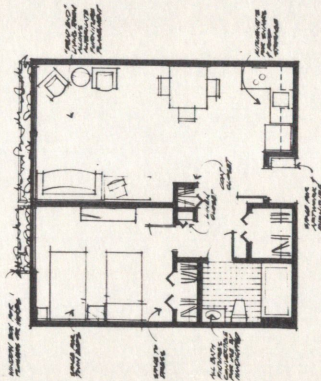
Ground Level



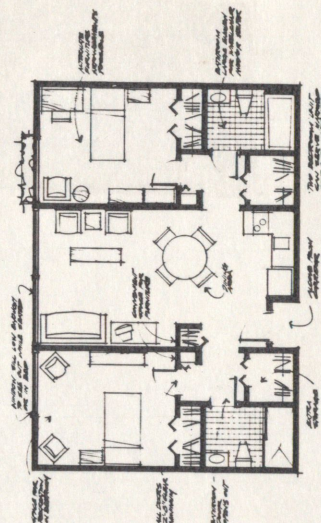
Elevation



Section



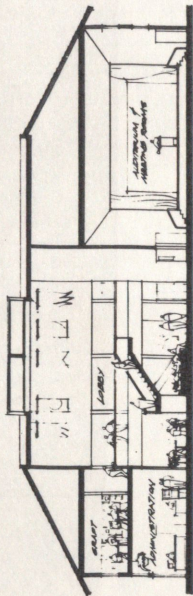
One Bedroom Unit



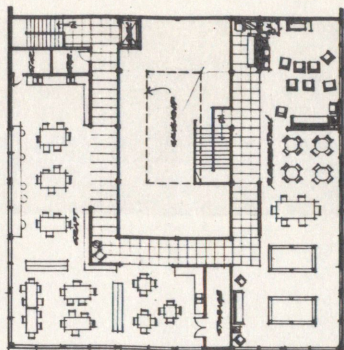
Two Bedroom Unit

CONGREGATE APARTMENTS

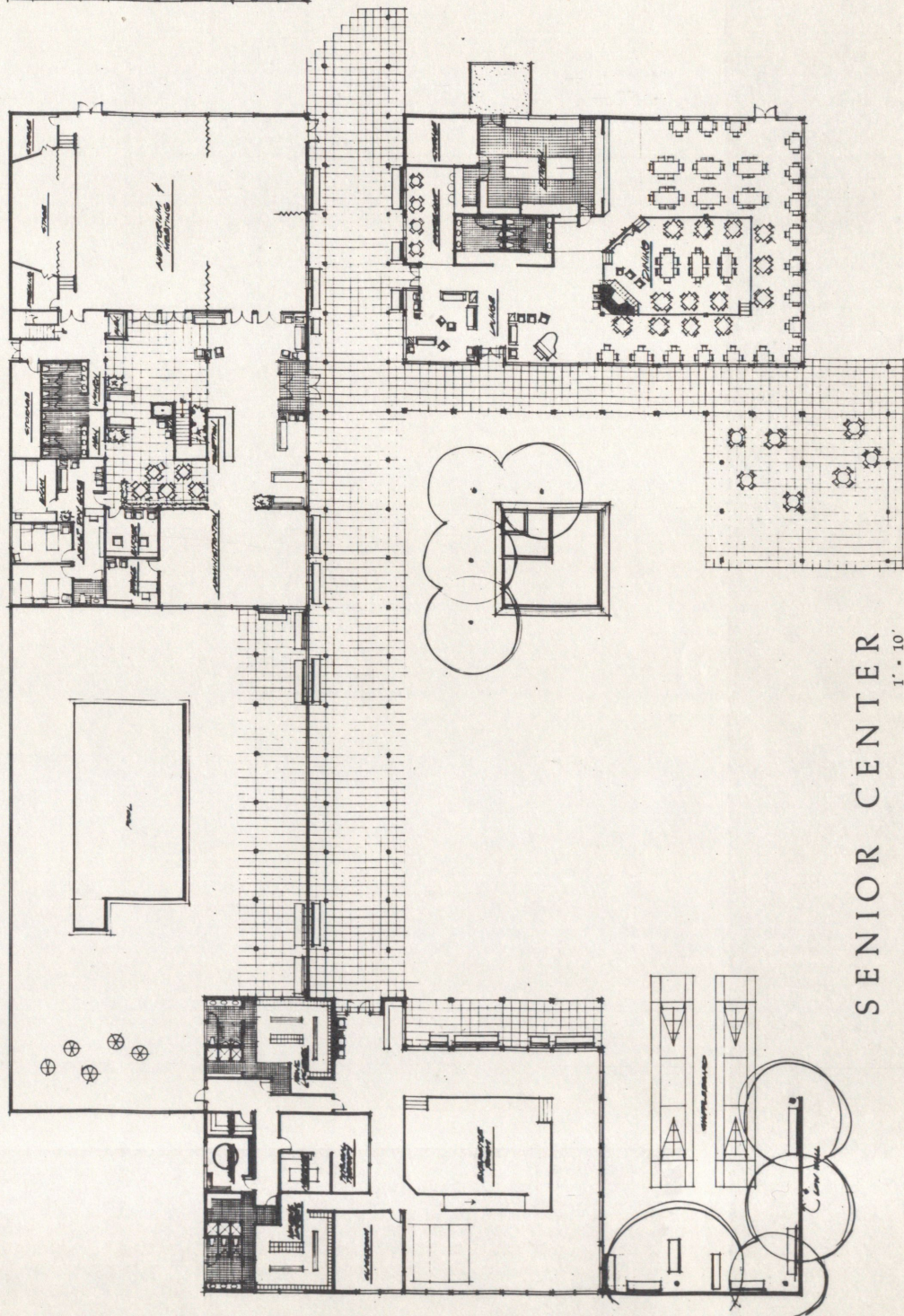
1"=10'



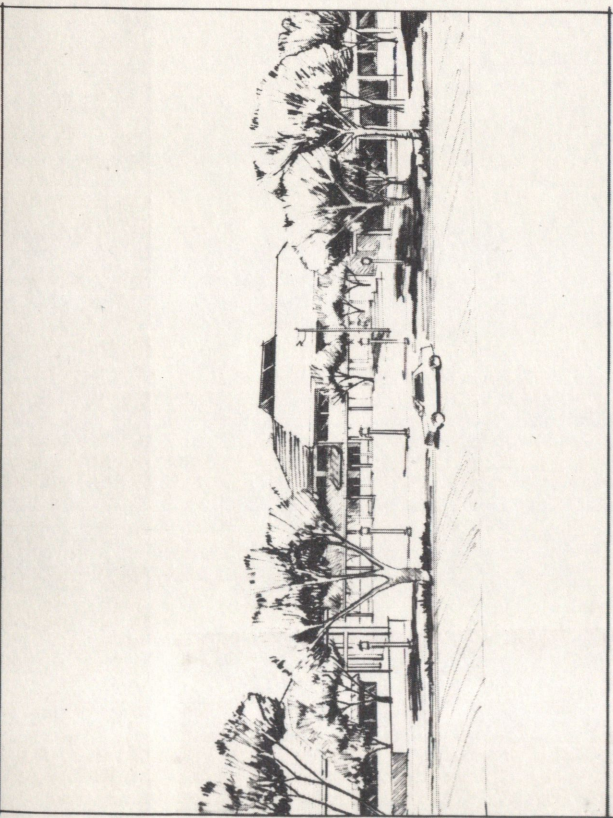
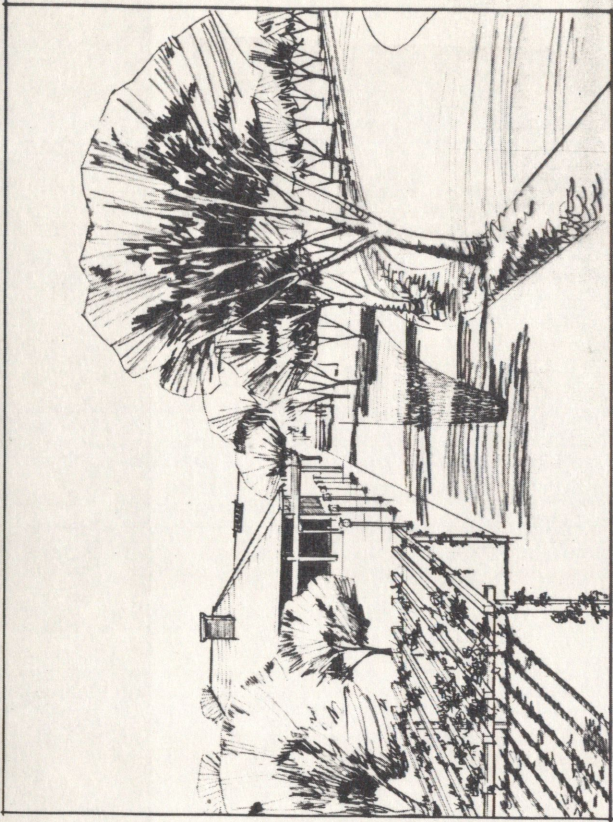
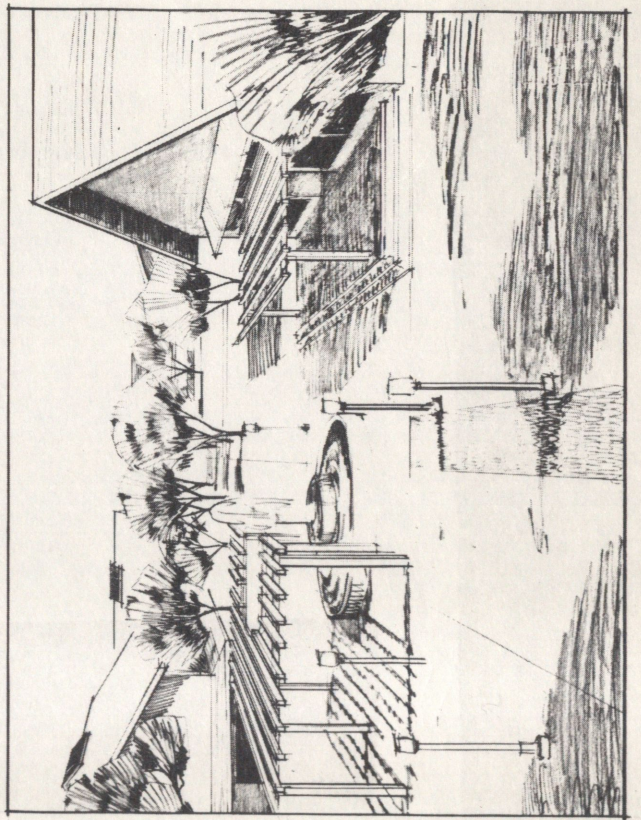
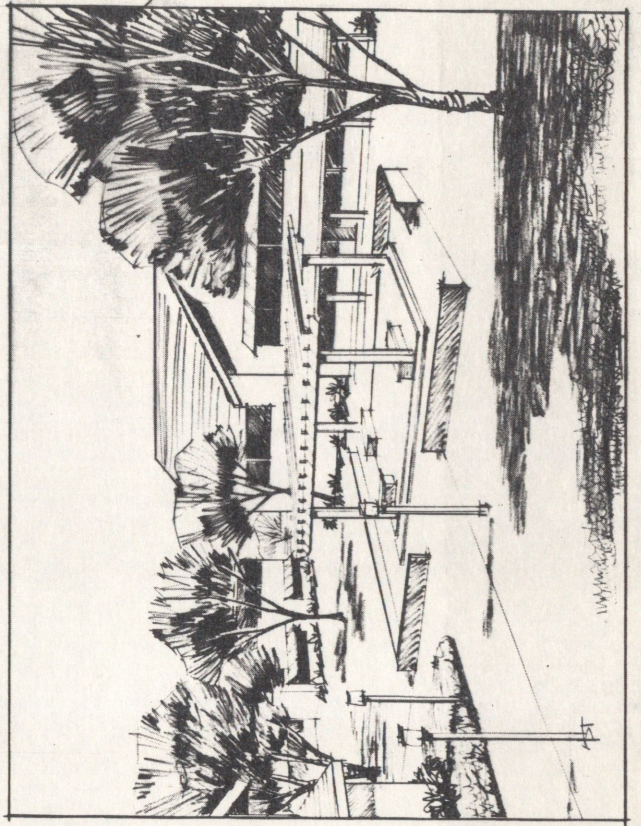
Section



Upper Level



SENIOR CENTER
1" = 10'



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APPENDIX A - THE EFFECTS OF AGING

Aging affects people in many ways; in addition to physical changes, there are psychological and social changes. Many of these effects are not immediately apparent, yet they may be as limiting as obvious physical disability. Design for the aged or the "handicapped" is often limited to providing accessibility to persons in wheelchairs. This may be in part because such standards are easily set down and enforced. They do not, however, necessarily make the environment accessible to those who do not have complete upper body flexibility or strength, or to those who have limitations of other types.

The following is a list of some of the effects of aging, with accompanying design recommendations.^{1,2} This is intended as a general guideline or checklist, but is not necessarily complete. It would be a mistake to assume that all persons age in the same manner or at the same rate, or that any one person would be affected by all of these changes. However, in designing a facility for the aged one must take into consideration the extremes of condition in limiting physical, psychological and social barriers.

MECHANICAL SYSTEMS

Muscular System

Reduction of muscle strength and bulk
Tendons and joints less flexible
Weakened muscles may require canes, walkers, wheelchairs
Diminished muscle control, motor ability, coordination
Tremors possible, making precise activities difficult
Balance affected
Speed of motion reduced
Lifestyle is often more sedentary, with less exercise

¹Hoglund, J. David. Housing for the Elderly: Privacy and Independence in Environments for the Aging. New York: Van Nostrand Reinhold Company, 1985, pp. 4-14.

²American Institute of Architects. Design for Aging: An Architect's Guide. Washington, D.C.: The AIA Press, 1985, pp.

Skeletal System

Bones become more brittle; healing takes longer
Change in height and posture; may be difficult to stand erect

Reduced flexibility and range of movement

Arthritis a common affliction, affecting grasp and movement

Bending, rising, twisting may become difficult

Design Recommendations

Walking surface is very important; avoid slippery surfaces, loose rugs and raised projections

Take into consideration the fact that most data on wheelchairs make the assumption that the user has full arm and torso strength and flexibility; this is not true of many elderly in wheelchairs

Low and high items, such as shelves and outlets, may be difficult to reach

All chairs should be provided with arms

Limit devices that require grasping, twisting or precise action, such as doorknobs, faucets, and button-activated devices

Provide ample space for personal care and bathroom activities

Provide and encourage physical activity and exercise

DETECTION SENSES

Sight

The structure of the eye changes with age, affecting visual acuity, depth perception, and color intensity

Focusing between near and far objects takes longer

Adjusting to changes in light level takes longer; glare is a particular problem

Higher levels of illumination are required

Lens of eye yellows and thickens with age, causing change in color perception and difficulty in distinguishing hues; blues, greens and purples are particularly difficult

Depth perception may be affected

Edges of stairs and change in floor level may not be perceived

Tunnel vision, or blurring around the periphery of vision, may be a problem

Hearing and Equilibrium

Loss of hearing is common with age

Difficulty of distinguishing speech from background noise

Hearing loss may occur at specific frequencies; this may make speech difficult to understand. Increased volume does not help with this disorder

Ear and hearing disorders may disrupt balance

Taste, Smell and Touch

Smell and taste senses decline with age; food may not be enjoyable

Sense of pain and pressure on the skin declines with age

Sensitivity to temperature may be reduced, increasing chance of burning or scalding injuries

Subtle changes in textures may not be discernible

The aged often operate in a narrower thermal comfort zone and have an increased susceptibility to hypothermia and frostbite. They are particularly uncomfortable in a draft

Design Recommendations

Architectural design focuses on the sense of sight

Sight and hearing are important for interpreting the environment and warning of danger; other senses add to information about the environment

Use redundant cuing to compensate for loss in one or more of the senses; for example, use audible and visual alarms

Make sure sensory clues are clear and obvious

Distant objects may not be perceived clearly; try not to rely on distant details as clues

Reduce glare; use indirect lighting where possible, do not put windows at the end of corridors, limit use of reflective or polished surfaces

Signage should be large enough to read with blurred vision

Provide gradual change in lighting levels

Audible information should be clear

Limit background and mechanical noise

Tactile clues may be helpful on walking surfaces, handrails and wall surfaces

Pay particular attention to thermal control and drafts

CONTROL SYSTEMS

Digestive System

Digestive disorders and constipation may be a problem

Poor bladder control and incontinence require frequent trips to the bathroom

Improper diet is a common problem, particularly among elderly men. Reasons may include financial problems, lack of companionship, change in the senses of smell and taste, lack of cooking facilities, and low energy levels

Respiratory System

Breathing efficiency diminishes with age

Respiratory diseases may occur

Elderly may become winded with activity

Cardiovascular System

Efficiency of circulatory system declines with age

Reduced blood supply to the brain may cause dizziness, blackouts or blurred vision

Design Recommendations

Respiratory and cardiovascular disorders are often overlooked in design and handicapped standards
 Provide elevators in addition to stairs
 Provide easily accessible bathrooms at frequent locations
 The sound of cascading water, as in fountains, may cause accidents in persons with bladder control problems
 Dining should be an opportunity for socialization; dining rooms and eat-in kitchens should be pleasant and light, and not institutional

COMMUNICATING SYSTEMS

Endocrine Systems

Endocrine system produces hormones controlling a variety of functions
 Reduced adrenal activity limits body's ability to cope with stress, to react quickly, and to sustain physical activity
 Reproductive system hormones change with age, although this does not necessarily restrict sexual activity

Nervous System

Changes in the nervous system affect movement, reflexes and reaction time
 Stereotypical changes of the nervous system include senility, loss of memory, and the inability to develop new skills
 Disease and change with age may affect motor abilities by reducing coordination
 Rate of memory retrieval declines with age; long-term memory is especially affected
 Poor feedback about position of body limbs may be a problem

Design Recommendations

Quick reactions, strength and agility are taken for granted in the built environment. Many mechanical devices, such as elevator doors, are time-operated. Allow for greater reaction time and slower speeds
 Provide places for those who require frequent rests
 Avoid confusing circulation routes and poor graphics
 Symmetrical or repetitive buildings can cause disorientation
 Provide landmarks, simple coding or color systems
 Reduced efficiency in memory requires repetitive cuing
 Avoid self-locking doors
 Provide lights or other cues on stoves, etc.

PSYCHOLOGICAL CHANGES

speed with which we process, store, summon and
express information may decline
physical changes can have depressing and
debilitating psychological effect
generalized sense of insecurity and loss of
control
limited activity can result in reduced stimulation
difficulty in creating cognitive maps of
unfamiliar settings and understanding new
environments

SOCIAL CHANGES

loss of spouse
family roles altered
retirement - no longer earning money
 - man hanging around the house
 - man finding himself in womens world
limitations in mobility in larger world
separation from family and friends
Child-rearing energies put elsewhere
peer group no longer workers; different
 conversation
social attitudes
 segregation to elderly facilities

APPENDIX B ORGANIZATIONS FOR THE AGED**Administration on Aging**

Department of Health, Education and Welfare
Washington DC 20201

American Association of Homes for the Aging

1050 17th Street, NW Suite 770
Washington, DC 20036
(202) 296-5960

American Association for International Aging

1511 K Street NW Suite 1028
Washington DC 20005
(202) 638-6815

American Association of Retired Persons

1909 K Street NW
Washington, DC 20049
(202) 872-4700

American Geriatrics Society, Inc.

10 Columbus Circle
New York, New York 10019

American Institute of Architects

AIA Database on Designing for Aging
1735 New York Avenue NW
Washington DC 20006
(202) 626-7300

American Society on Aging

833 Market Street, Room 516
San Francisco, California 94103
(415) 543-2617

Concerned Seniors for Better Government

1300 Connecticut Avenue NW
Washington DC 20036
(202) 857-5200

**Department of Housing and Urban Development
Information Center**

451 Seventh Street SW
Washington DC 20410
(202) 755-6420

Gerontological Society of America

1411 K Street NW Suite 300
Washington DC 20005
(202) 393-1411

Gray Panthers

311 South Juniper Street Suite 601
Philadelphia, Pennsylvania 19107
(202) 438-0276

National Association of Area Agencies on Aging

600 Maryland Avenue SW Suite 208
Washington DC 20024
(202) 484-7520

National Association of Mature People

2000 N Street NW Apt. 8
Washington DC 20036
(202) 293-6418

National Caucus/Center on Black Aged, Inc.

1424 K Street NW Suite 500
Washington DC 20005
(202) 637-8400

National Center for a Barrier Free Environment

1015 15th Street NW Suite 700
Washington DC 20005
(202) 466-6896

National Council on the Aging

600 Maryland Avenue SW
Washington DC 20024
(202) 479-1200

National Council of Senior Citizens

925 15th Street NW
Washington DC 20005
(202) 347-8800

Older Women's League

c/o New York Center for Policy on Aging
New York Community Trust
415 Madison Avenue
New York, New York 10017
(212) 758-0100

APPENDIX C DEMOGRAPHIC INFORMATION FOR CITRUS HEIGHTS

The following is a selection of demographic statistics on Citrus Heights taken from the 1980 census.

Population	85,911
Median Age	28.4 years
Age by Group:	
0-4 years	8.7%
5-17	21.6%
18-64	63.2%
65+	6.6%
Median Income	\$20,306
Race-Ethnicity:	
White	90.0%
Black	1.6%
Asian	2.4%
Spanish	5.7%
Other	.4%
Mean Household Size	2.77 persons
Household Composition:	
One Person	17.6%
Two+ Persons:	
Married Couple	63.8%
Male, No Wife	2.9%
Female, No Husband	9.9%
Non Family	5.9%
Total Housing Units	35,575 Units
Houses	88.2%
Mobile Homes	4.5%
Condominiums	6.0%
Group Quarters	1.3%
Median Housing	
Unit Value	\$69,000
Median Contract Rent	\$ 271/month
Median Gross Rent	
(Contract Rent + Utilities)	\$ 307/month
Householders Living in their	
Unit 10 years or more	13.2%
Persons 65 Years and Older:	
In Family Household	68.1%
In Nonfamily Household	27.0%
In Group Quarters	4.9%
Persons 65 Years and Older	
Below Poverty Threshold	6.4%

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