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A Retirement Home

A RETIREMENT HOME FOR HELENA, MONTANA

by George H. Nachtsheim
Architecture 490

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PREFACE

"Today man is living in an affluent society which has come in an era of technological and scientific developments. Because of these achievements people live longer and have healthier minds and bodies; as a result, a large segment of our population find themselves classified as senior citizens. The daily routine involved in earning a living, paying for educations, purchasing a home, paying taxes, and other responsibilities attached to life before retirement have ceased. With retirement comes abundant leisure time posing new and entirely different problems." - WHITE HOUSE CONFERENCE ON AGING -

Historically there has always been old age, but only for a priveleged few. Long life has been universally sought from time immemorial. Only in recent years, however, and only in highly developed civilizations has it become an expectation of the many. Problems have been introduced along with the new expectation of life.

The United States Census Bureau forecasts indicate that the proportion of senior citizens (persons 65 years of age and over) in our population will continue to increase for many years to come. In 1900 the ratio of persons 65 years of age in the population was 1 in 25; today it is 1 in 11 and increasing steadily. There are now more than 16 million persons, 65 years of age or over, in this country; by 1975 we can expect to have 22 million Americans over the age of 65. Estimating from 1957, this amounts to a 49 per cent increase in the number of our senior citizens, while the rest of the population will have increased by not more than 35 per cent.

The role of our older population in society has been greatly disturbed by the transition from a rural to an urban economy. In 1850, 16 per cent of the population 65 or over lived in communities of 2,500

or more. In 1950 this number increased to 60 per cent. A more difficult adjustment is necessary for retirement in urban life than in rural. In urban living there is a tendency to reward youth and penalize old age.

The aging population does not desire to be a burden on society. Better health and better financial state have made them more vigorous and less dependent on other people. Social security, industrial pensions, and other retirement benefits have made more funds available to them, while advanced medical and scientific knowledge has given them longer life expectancy and kept them in better health. The government, both state and federal, has recognized the necessity of better care for the aged and low cost loans have been made available for new construction in this field. Montana, at present, does not have a strong housing program for the aged.

It has been estimated that 3 million people in the U. S., 65 and over, need and prefer some type of retirement home arrangement. Not more than 5 per cent of this number are now being cared for in housing of this type. Senior citizens are a valuable human resource and should not be wasted. By providing them with a good shelter and environment we can instill in them a new feeling of belonging and can give them a new meaning to themselves and to others.

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PART I:

The retirement home is a relatively new area of design and little information is available to serve as a guide to the planner. In order to set up standards for a program, it is necessary to study the basic problems or needs which prompted the program. Part I is concerned with the basic problems and needs of the aging.

ECONOMIC ASPECT:

One of the basic problems facing the nation's aged population is its generally poor economic position. The majority of this segment of the population has retired from active occupation. Social security, pensions, old age assistance, insurance annuities, and various other sources make up the cash income of this group. The income obtained from these sources is usually quite small. According to a report by the Housing Research Center at Cornell University, in 1954 the median income for families with a head of 65 years of age or older was under 2,300 dollars a year. Approximately one third had incomes below 1,500 dollars. The median income for an elderly, single person living alone was under 800 dollars per year. The income levels of these people place a severe limitation on the availability and quality of housing accommodations.

There are two aspects to the economic problem of housing for the aged; one concerns the aged persons who own their own homes and, the other, those who rent or who do not maintain their own household. In 1950, more than two thirds of the families with a head of 65 years of age or older, lived in their own households. More than 4 out of 5 households in this group lived in homes where there were less than 0.75 persons per room. This represents an underconsumption of housing by normal standards. This evolves from the continuance of a family to inhabit the same quarters even though the size of the family is reduced. The homes, although they are often mortgage-free, are generally too large for the needs of the occupants. Often the houses are old and in need of repair. A problem of difficult and expensive maintenance is

found here, and as a result, the market is not especially good for these homes.[1]

The other aspect of the problem, those who rent or who do not maintain their own households, is largely one of finding housing accommodations which are suited to the needs of the aged, both physically and economically. In terms of shelter, a low income means a low quality of accommodation. The unavailability of adequate housing has resulted in many elderly people having to live with relatives or in institutions. In 1950 approximately 25 per cent of the aged who did not maintain their own households lived either with relatives or non-relatives, and another 6 per cent lived in quasi-households, including institutions.[1]

The government, both state and federal, has recognized the necessity of better care for the aged. The Federal Housing Administration is authorized to insure rental housing projects of 8 or more living units especially designed for use by persons 62 years of age or older.

The maximum mortgage amounts are:

1. $12.5 million for a private mortgagor and $50 million if the mortgagor is a Federal or State corporation regulated by Federal or State law or by a banking or insurance department.

2. $9,000 per dwelling unit for garden-type projects and $9,400 for elevator projects. (An elevator is required in structures of more than 1 story.) These amounts may be increased by as much as $1,250 in high-cost areas.

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[1]Superscript refers to number in Literature Consulted.

3. For a nonprofit mortgagor, 100 per cent of estimated replacement cost for new projects and 100 per cent of estimated value for rehabilitated projects. For a mortgagor other than a nonprofit organization, the maximum ratio is 90 per cent of replacement cost (or value).

The mortgage may include commercial and special facilities adequate to serve the occupants of the project.[2]

In addition to the programs at the federal level, various states have instituted a variety of programs of their own.

SOCIOLOGICAL ASPECT:

The sociological aspect of aging has three problems worthy of study. First, voluntary or involuntary retirement; second, cultural attitudes toward elderly people; and, finally, the feeling of economic insecurity.[3]

Retirement is often a factor causing emotional upsets in elderly people. Without hobbies and interests developed during earlier years to occupy the time, older people find it difficult to relax and enjoy life. Too much inactivity makes them feel useless and causes them to concentrate on their physical sicknesses. Retirement often causes a severe loss of self-esteem. To lose one's goals in life for many persons is the end of all hopes and of life itself. Work is often the stabilizing factor, both physical and mental, for many people.

Elderly persons, therefore, must have something to retire to. Suitable hobbies and interests must be available to help occupy the hours of the individuals. It is very necessary that sufficient space be allotted for this particular phase in the retirement home. Occupational therapy and recreation areas must not be secondary considerations in the design. Some of the maintenance work could be allotted to the individuals in the home.

Writings again and again refer to this century as the "century of and for the youth". It has in essence, too, become a nation for youth. There is a tendency in society to reward youth and penalize old age. This is a world of continuous competition. Everyone is directed toward social and economic goals and are driven by an irresistible force to

achieve them. Time is money. There is no time for recreation and relaxation. The connection between nature and living is lost. The feeling of being a human being is often lost. In this world of tension, compulsion, work, and competition, elderly people are considered a burden. They know it, they feel it, they see and hear it.

Elderly people are unable to compete with this modern trend, but they are unable to change it. It is interesting to note that in the Oriental societies, where family plays a more important role than in the Western societies, that rarely do older persons feel rejected. They are, on the contrary, happy, serene, and quite satisfied with their position. Public charity for the aged is unnecessary in these societies.

The third factor of study is the feeling of economic insecurity. It has been already pointed out that the older population has a definite economic problem. These persons require accommodations just as the more economically stable. The problem of a limited income has an effect upon the physical and mental health of the aged. Often they are forced to live in dwellings and areas that are not best suited to their health. The types of dwellings may be of poor quality and difficult and hazardous for the individuals creating more physical problems. The dwindling of the income may force the older individual to move from a familiar neighborhood, which was a psychological security, to a neighborhood of lesser quality, which would be a new psychological problem. The economic assistance given is often in a manner that produces an emotional blow and a severe loss of esteem. Economic security can be obtained through a program that makes available pleasant, low cost housing for

the aged.

All of the three factors mentioned show that a good housing program is needed. The retirement home can bring a new dimension of living into the life of the aged individual. A good program can provide the interests, work, and entertainment that is necessary for a full life for the individual. The proper arrangements can give his life a useful meaning. By introducing a community of persons of the same age group with common problems and interests the feeling of belonging can once more be instilled in them. The availability of housing that can do this for the aging portion of our population is a very desirable thing. The sociological aspect should be considered to a great extent in the design stage of the retirement home.

PSYCHOLOGICAL ASPECT:

The psychological aspect of the aged is more of a concern to the aesthetic approach to the building than the functional.

According to Gitelson, in a paper published in 1948, there were six different patterns of adjustment in old age:

1. A decreased memory for recent events - a turning away from the present.
2. A sharpening of memory for the past, especially when life was successful.
3. A more self-assertive attitude as compensation for insecurity.
4. A mild depression caused by isolation and the feeling of loneliness.
5. Introversion and increased sensitivity with querulous and paranoid attitudes.
6. A free floating anxiety caused by death among the same age group.[3]

The irritability of older persons often has its source in the inability to cope with the environment as well as in physical decline. Apathy can be a result of the detachment of the individual from painful memories and events of his life. The losing of a friend gives the older person not only a feeling of being alone, but also that he is unprotected and insecure.

It should be pointed out that not all of the nation's aged are emotionally disturbed. Many elderly people have adjusted themselves completely to the various changes in their personal and social roles

which accompany retirement and old age. The key to a good adjustment is supplying a proper environment for them. Many of the emotional feelings of the elderly can be overcome with proper thought given in designing. Depression, escape from reality, a feeling of insecurity, all of these are results of an unpleasant experience that they are having in the course of their later years in life.

BIOLOGICAL ASPECT:

The underlying cause of many of the problems of the aged lies in the steadily progressive impairment of their mental and physical abilities. The process of deterioration has an influence on all aspects of life; on employment, economic position, psychological makeup, etc. The most important, however, is the effect which poor health and diminished abilities has upon day-to-day living. Man's shelter should reflect his requirements. This is particularly true in the case of the aged. Different requirements are made of the physical environment by the aged and this must be recognized.

The aged are not a homogeneous group. That is, they have many varied abilities, needs, and outlooks. Several general headings can broadly classify the various aspects of physical decline. These groups, and how they relate to design and planning, are as follows:

Disability and mobility

Various recent studies have indicated that the total of the aged who are either bedridden or housebound is approximately 6 or 7 per cent. Approximately 26 per cent are ambulant, but limited in their activities and movements. If this group is to be housed in normal housing units, specialized planning is necessary. The retirement home would not be concerned with the bedridden, but the other types must be considered. All changes in level must be accomplished by ramps. Changes in floors require elevators. Doorways and corridors must be wide enough to accomodate a wheelchair (with room allowed for passing), all corners must permit a large turning radius. Equipment in the kitchen and bath-

rooms must be lowered, re-arranged and re-designed to facilitate use by a person sitting in a wheelchair. Provisions need to be made for extra grab bars, sliding doors, etc. The entire living unit must be arranged to accommodate the functioning of a wheelchair.

The group with limited mobility require particular attention in matters of site selection and planning. Areas free from traffic, where a person can move at his own pace without fear of being run over, are necessary. Although the persons are limited in their mobility, they still require a certain amount of exercise to help maintain their health. Walking would be the chief source of this exercise. Properly designed areas provide shelter and pleasant surroundings while persons are walking.

Physical strength

Old age brings a general and progressive decline in physical abilities. This affects all activities, not just mobility. Due to this decline of strength, many household and daily activities become difficult to perform. Walking, even for ambulant persons, becomes more of a problem as the persons become more aged. The location of areas is of great importance because of this. Also the accessibility of transportation facilities must be considered.

The inability of elderly persons to perform household tasks as easily as younger persons is also a fact that should be considered. The layout of rooms should be such that they are not too large or too difficult for the occupant to keep clean with a reasonable amount of effort. Laundry facilities should be laid out, and of such a nature,

that they do not present a problem to the users.

Falls

Another aspect of physical deterioration pertains to balance. As the sense of balance diminishes the aged become very prone to falls. Lack of strength also adds to their proneness to fall. The older person is rarely able to prevent falling once he has lost his balance. As a result, the aged are apt to fall whenever balance becomes the slightest bit precarious.

Equally as important as the liability to falling on the part of the aged is the fact that the majority of these falls are preventable. Environmental factors that cause many of the falls can be avoided through careful planning and design.

Vertigo is another important cause of falls. It seems particularly liable to strike when arising at night to go to the bathroom. Vertigo seems to appear with an increase of age. Unfortunately, there does not appear to be very much that can be done to help or prevent this in terms of environmental conditions. It is important, though, that the bathroom be placed in a direct, short path from the bed. The aged have reason to make this trip quite frequently, even at night.

Olfactory decline

The olfactory senses of the aged suffer a general and progressive decline. The sense of smell cannot be relied upon as a means of detection of smoke or gas fumes. Automatic fire alarm systems and automatic shut-offs on all gas equipment are necessary.

Aural deterioration

Definite changes also occur in the hearing ability of older persons. The loss of hearing becomes progressively worse, particularly with respect to higher frequencies. This general impairment of hearing ability has several implications for design. Any alarm, signalling device, or door bell should be louder and lower pitched than normally would be the case. Amplifying systems with earphones should be provided in rooms where various types of recreation would make them desirable.

Vision

Various aspects of visual ability show a progressive decline in later years. Visual impairment is particularly pronounced in dim light. Adaption from light to dark or dark to light is slowed down. The inability to see in darkness points up the necessity for easily located and reached light switches.

Having to place an ever-increasing reliance upon failing vision creates another hardship for the aged. Many movements or operations in daily living, that were rather effortless, require more intense visual concentration by persons in later years. A physical task must be clearly seen in order to be performed safely. In other words, everything in the home should have a visual as well as a physical accessibility.

Temperature requirements

Various physiological changes in basal metabolism and vasomotor controls, together with a general atrophy of the sweat glands, result in an instability of body temperature which causes the aged to require higher temperatures and to avoid drafts.

Respiratory system

The aged are very susceptible to various respiratory ailments. This is in part due to their lowered resistance to infection, and the atrophy of the mucous membranes. The generally high heat levels which the aged require tend to result in a very low humidity. This produces an undesirable condition because low humidity has the effect of drying out the mucous membranes and increasing the possibility for infections. Good ventilation will help to overcome this problem.[3]

DESIGN CONSIDERATIONS CONCERNED WITH NEEDS:

Some general criteria that should be considered because of the needs of the aged are:

1. The accommodations should be small and compact, both for economy and convenience.
2. The construction should be fireproof and designed for the maximum of safety for the occupants.
3. The problems of housekeeping and daily activities should be minimized.
4. The home should be pleasant, liveable and a source of pride and affection.
5. A high degree of privacy should be provided.
6. The look or feeling of being an institution should be completely avoided, even with the requirements placed upon the design.

These are general characteristics and should be applied throughout the complete design of the home. Breaking down the considerations into narrower aspects, we have the following.

1. Space for leisure activities

The most significant thing about the leisure time of the elderly is that they have so much of it. They require areas that they can actively and personally enjoy. The living room of a home will rarely be used by any age group as much as the older age group. Particular pains should be taken to make the areas which will contain the bulk of the living activity of the residents appealing and interesting - in terms of size,

shape, color, etc.

2. Sleeping areas

The sleeping habits of the aged, like everyone else, will vary considerably. If in good health, the persons will spend far less time in bed than if they are in poorer health. It can be expected, though, that the frequency and duration of ill health will increase with the passing of years. This would point out that the sleeping area should be as pleasant as possible.

A separate sleeping area and living area is desirable, but not completely practical in all cases. The combined arrangement, sleeping-living, has many advantages. It is more economical and more compact for easier maintenance. With imagination the single space can offer plenty of privacy and be divided into separate pleasing spaces that do not give the feeling of being in a bedroom.

The provision of a separate bedroom, in the case of two person occupancy, is almost required. It is usually recommended that the bedroom space be able to accommodate twin beds.

A few considerations should receive attention in the design of the sleeping area:

a. A minimum space of 18 inches should be left on three sides of the bed. If a wheelchair is to be considered, 5 feet on one side of the bed should be allowed.

b. There should be space for an oversize night table to hold medicines, water, tissues, etc.

c. The arrangement should allow placement of the bed near a window

to allow a bedridden person to see out.

d. It may be desirable to provide a bell or a buzzer near the bed.

e. There should be a convenient outlet near the bed location.

f. There must be a short and direct access from the bed to the bathroom.

3. Accommodations for Personal Hygiene

The accommodations provided for personal hygiene are of utmost importance. In the case of disabled or physical handicapped the size requirements of the bathroom are greater. The three normal items of equipment, toilet, lavatory, and bath tub or shower are necessary. An advantage of locating the toilet between the lavatory and tub is that it can be used as a seat. This brings up another point: elderly people tend to fall onto seats. It is desirable, therefore, for the water closet seat to be of the sturdiest, most shock-proof construction to avoid excess maintenance and replacement costs.

For assistance in sitting down and getting up, some form of grab bar is recommended. A pair of arched bars set in the floor is a good arrangement as it allows the user to push up instead of pull and also can be used as an arm-rest and general support.

Lavatories are generally recommended to be set at the normal 31 inch height. The lavatory should be equipped with a single mixing faucet to avoid scalding. Large level type handles and mechanical drains are desirable features. There should be no projections over the lavatory.

A shower seems to satisfy the needs of the aged better than a tub.

There are no high sides to climb over and there is no danger of falling asleep. A shower can be provided with a seat that makes it quite usable for the aged. Showers also use less water which is an economical consideration. Bathroom floors should be of non-slip material, especially the shower. A grab bar should be provided in the shower. The water should be controlled outside of the shower. Doors, instead of curtains, in the long run might result in a savings.

4. Meal Preparation and Dining

In the small kitchen areas to be provided in the residence wings throughout the house several things should be considered. Excessive stooping or reaching is difficult for the aged. Storage spaces should consider this aspect. All shelf and storage space should be visible space. The equipment should also receive careful attention. Electric ranges should be used instead of gas. Garbage disposal should be made convenient. Inaccessable and hard to clean areas should be avoided. Floors should be non-skid material.

In the dining area, arrangement of tables should allow for wheelchairs and crutch walkers. At least 6 feet should be left between tables and 7 feet for service aisles. As older people tend to have more problems with eating, no more than 4 persons should be seated at a table. A small parking stand for canes and crutches will eliminate the necessity of having to hang them on the back of chairs and avoid the possibility of accidents.

Design Considerations Concerned With Equipment

Some consideration must be given to the requirements on the physical components of housing. Materials and items of equipment are important for the convenience and comfort of elderly persons. Some of the criteria for the proper selection of items will be discussed.

1. Floors

Non-skid flooring is of great importance in the prevention of falls. Visual appearances of being slippery are also to be avoided. Highly glossy surfaces can be psychologically dangerous even though the floor in question may actually be non-skid. Wall to wall carpeting is an ideal material for covering the floor. It also aids in the soundproofing of a room.

Smoothness and levelness is equally as important as slipperiness. Slight irregularities are a potential hazard for the aged when walking. Particular attention should, therefore, be paid to highly jointed surfaces such as tile and concrete paving. Door threshholds should also be avoided.

2. Doors and Hardware

Wide door openings are desirable for persons using crutches, for the passage of stretchers, and for use by persons in wheelchairs. An opening of 3 feet is good.

Large, easy to grasp door knobs should be chosen. Shapes other than round are recommended. Sliding doors are desirable for closets as they do not present the possibility of an accident by sticking out.

3. Windows

Windows serve three functions: providing ventilation, light, and view. View is of the utmost importance as elderly persons tend to spend more time indoors than do younger persons. The heights of windows should permit a reasonable view while comfortably seated.

Allowing as much sunlight as possible to enter is desirable from a psychological, as well as a physical, point of view. Shading devices should be provided as precautions against excessive amounts of glare. Drapes are a desirable means of control.

Ease of operation must be considered in the selection of windows for the aged. Windows should be weatherstripped. The cleaning of the windows should be as easy as possible.

4. Lighting

The decline of visual ability accompanies the advancing of years. In order to compensate for the decline, general higher levels of illumination are necessary. Conventional illumination levels recommended should be roughly doubled.

Advancing years also result in difficulty in adapting to changes in brightness. This calls for a relatively uniform distribution of light and careful selection of properly shielded sources.

5. Heating

Generally the aged require a higher temperature; approximately 80 degrees F. The aged also require a uniform distribution of heat and a freedom from drafts. This problem is not so common in a residence where the occupants are not mixed (young and old).

6. Sound Control

There is a strong desire on the part of the aged to protect their sedentary preoccupations and to be assured of quiet during their nap periods. The walls and ceilings between apartments should therefore be constructed so as to minimize both direct and air-borne sounds. This not only protects the privacy of the occupant, but as many of the aged have a hearing problem, the excess noise that they generate will not be as disturbing.

7. Vertical Circulation

This is one of the major problems of the aged. Stairs are particularly bothersome since the ascent is extremely energy-consuming, while the descent is dangerous from the viewpoint of balance and liability to falls. Stairs should be avoided whenever possible. Elevators are generally considered a necessity. Ramps can be substituted for stairs, especially where wheelchairs may be used.

PART II:

The local conditions and the site chosen for the retirement home have a very definite influence upon the design. The considering, or not considering, of these factors in the design can mean success or failure for the home. Part II is concerned with the local conditions and the site selection.

LOCAL CONDITIONS:

Geographical

Helena is located 46° 36' N latitude, 112° 00' W longitude. It is at an altitude of 4,100 feet. Low, rounded Mount Helena to the rear and Mount Ascension on the right enclose the nine square miles that constitute Helena. The Prickly Pear Valley, almost flat and treeless, stretches out in front of the city. Past the valley can be seen the spurs of the Rockies to the North and West and the Big Belt Mountains to the East.

Historical

On July 21, 1864, gold was discovered in Last Chance Gulch. By early fall, 1864, the gulch contained more than 100 cabins. A more dignified name was desired for the camp and Hellena was selected. The name Helena has gradually evolved from the first spelling. Helena became a scene of intense activity. After a little more than two years, Helena boasted of a population of 7,500. The population consisted mainly of hard-working men. From 1900 to 1910, farming came into its own in Montana. Families streamed into the state to take up homesteads. Gradually in the Helena area, like elsewhere in the state, the female population began to increase. Helena became the capital of Montana in 1875. It became the location of headquarters of all Federal and State offices. This is the principle source of income in the city at present.

Climatic

The following information is based on data obtained from the

United States Weather Bureau. The average annual temperature in Helena is 44.0 degrees.

Spring	43.0 degrees	
Summer	64.0 degrees	Seasonal average
Fall	45.0 degrees	
Winter	23.0 degrees	

The warmest month is July, 67.0 degrees; the coldest month is January, 20.0 degrees. The highest reading ever recorded was 103.0 degrees; the coldest, -42.0 degrees.

The average annual precipitation is 13.2 inches.

Spring	4.0 inches	
Summer	4.1 inches	Seasonal average
Fall	2.8 inches	
Winter	2.3 inches	

Heavy falls of snow may occur from November to March. The average annual snowfall is 57.5 inches.

Spring	17.6 inches	
Summer	0-0.1 inches	Seasonal average
Fall	12.0 inches	
Winter	27.9 inches	

The annual relative humidity at noon, local time, is 51 per cent.

Spring	48 per cent	
Summer	39 per cent	Seasonal average
Fall	52 per cent	
Winter	64 per cent	

The sun shines 2,636 hours a year, which is 57 per cent of the possible.

Spring . . .	723 hours, 59 per cent of possible	
Summer . . .	978 hours, 70 per cent of possible	Seasonal average
Fall	549 hours, 54 per cent of possible	
Winter . . .	386 hours, 46 per cent of possible	

The average date of the last killing frost in spring is May 7. The average date of the first killing frost in fall is September 29.

The frost depth is approximately 2 feet. The growing season is 145 days. The prevailing wind direction is Southwest. The average hourly wind movement is 7.9 miles. April has the greatest hourly wind, with an average of 8.7 miles. Approximately 26 days a year have thunderstorms, 3 have hail, and 76 have snow.[4]

Population[5]

The following information is based on data obtained from the U.S. Department of Commerce, Bureau of Census. Both the local population and the national population will be discussed. The total Helena-East Helena population is 21,717 persons. Of the total 10,5 per cent is 65 years of age or older. Breaking down the 65 and over section of the population we have:

People 65 or over in Helena . . . . 898 males . . . 1,223 females
People 65 or over in E. Helena. . . 55 males . . . 62 females

Estimated populations in the United States from 1950 to 1960 (in thousands):

1950 151,683
1955 165,270
1960 180,670

Marital status of population 65 years and over (in thousands):

	Single	Married	Widowed	Divorced	Total
Male:					
65 to 74	321	3,769	609	79	4,778
75 and over	177	1,348	721	34	2,280
Female:					
65 to 74	462	3,250	1,723	94	5,529
75 and over	264	2,086	667	37	3,054

Population from 1910 to 1960 according to location (in thousands):

Location	1910	1920	1930	1940	1950	1960
Urban	41,999	54,158	68,955	74,424	88,927	113,056
Rural	49,973	51,553	53,820	57,246	61,770	66.267

Economic

People living in Helena, not considering agricultural employment, are employed in the following fields:

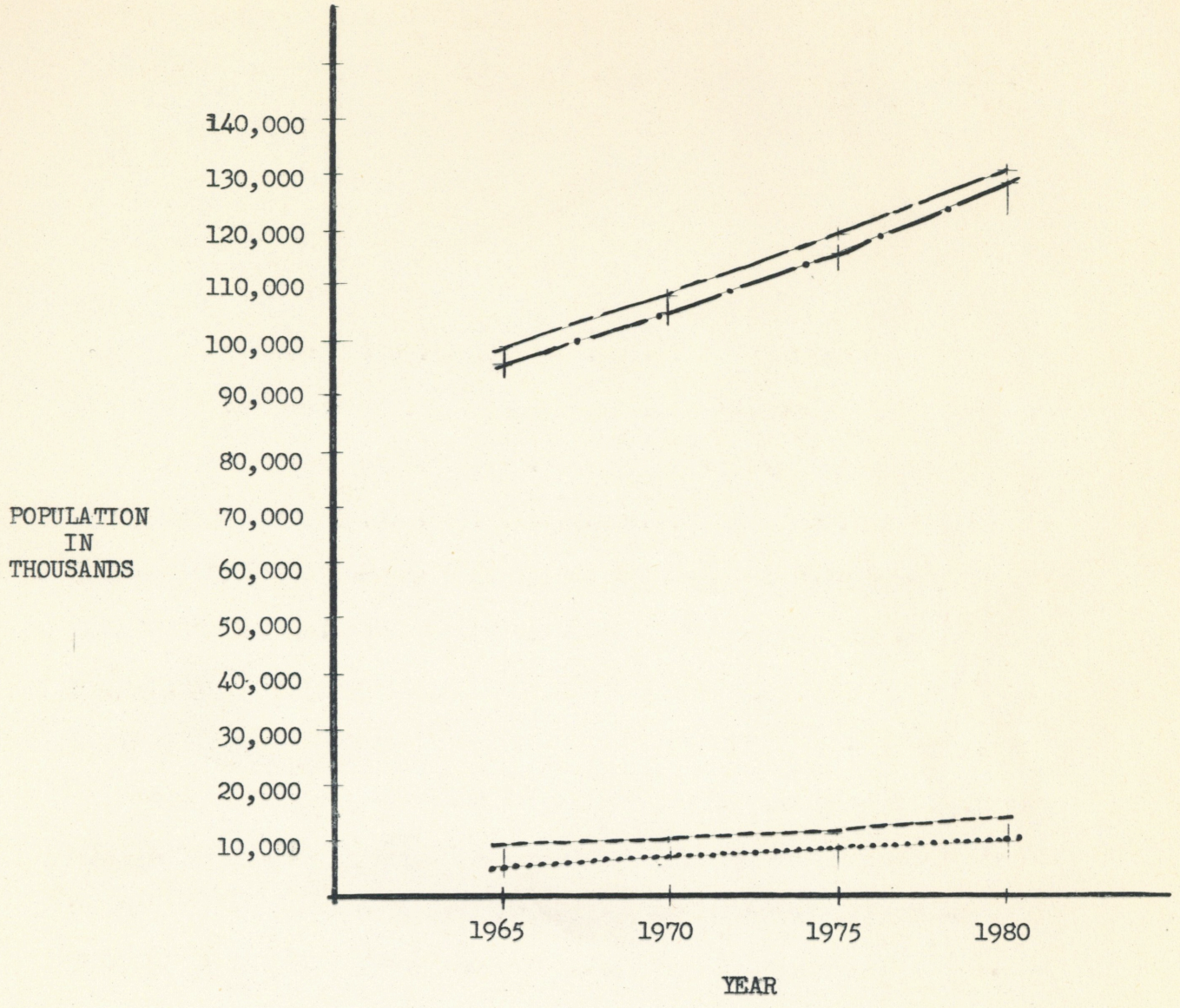
Retail trade . . . . . 625 persons
Wholesale trade. . . . . 80 persons
Service Establishments . . . . . 790 persons
Transportation, utilities. . . . . 670 persons
Manufacturing. . . . . 715 persons
Construction . . . . . 535 persons
Finance, real estate . . . . . 315 persons
Government . . . . . .2550 persons

Within a radius of 100 miles of Helena is more than 65 per cent of the state's population, and 90 per cent of the state's payrolls.

Social and Recreational

Helena has two Roman Catholic churches, two Methodist, two Lutheran, and one each of Baptist, Presbyterian, and Christian Science, plus 14 miscellaneous churches. Various programs are offered within the church in which the residents of the home could participate. A very complete group of fraternal and service organizations are located in Helena.

There is one public library in the city with 75,000 volumes, plus the new Pioneer-Memorial building which houses a museum, the Charles Russell collection and the State Historical Library. Helena offers much for the sightseer. Helena's past history can be seen in the pioneer cabin built in 1864, the site of the 1864 gold discovery, the old watch tower erected in 1864 to guard against fires, and many other buildings along the gulch. In the summertime the Old Brewery Theater



PROJECTION OF TOTAL POPULATION IN THE UNITED STATES ...

Male Total ——— Over 65 .....

Female Total — — — Over 65 — — — —

presents broadway plays and old fashioned melodramas. Frontier Town, located on the Continental Divide 20 miles from Helena, is a replica of an old fort and offers numerous forms of entertainment throughout the summer.

Carroll College, Senior high school, Junior high school, the summer baseball and softball programs, golf, and bowling provide ample opportunity for spectator and in many instances active participation. Within 30 miles there are four major lakes and numerous streams which offer opportunity for fishing and relaxation. Picnic areas are found in abundance around the lakes, near the streams, and in the mountains. Helena is located half way between Glacier Park and Yellowstone Park. It is about 190 miles to Yellowstone and a little over 200 miles to Glacier.

Transportation

Helena is served by the Northern Pacific Railroad, Great Northern Railroad, Northwest Airlines, Western Airlines, Greyhound, Inter-Mountain and Canyon Transportation Bus Lines. The Northern Pacific provides passenger service east and west and the Great Northern, north and south. Planes land at the Helena Municipal airport, just north of the city. There are flights each day, north and south (Western Air Lines) and east and west (Northwest Airlines). U. S. Highway 12 runs through Helena from East to West and U. S. Highway 91 runs North and South. Montana Highway 287 also runs North and South.

Within the city itself there is bus and taxicab service. The buses operate on a limited schedule and route. The taxicabs operate

24 hours a day with service to any point. Parking facilities for personal automobiles are adequate in the downtown area within a short walking distance of the main section of town. Shopping centers and supermarkets located at different points throughout the city have large parking areas available.

LOCATION AND BUILDING SITE CONSIDERATIONS:

The success of a retirement home depends considerably upon the location and building site. There is no site that is perfect in every respect. Compromises must be made. A good site is one that combines as many desirable features as possible without sacrificing any one completely.

Accessibility is the first important consideration in determining a location for the home. The home must be easily accessible from the central section of the community. The more easily a home can be reached the greater the flow of activity will be through it, and the greater the stimulus to those living there. Public transportation is desirable. If such facilities do not exist the home will be required to furnish transportation.

A home for the aged should be near the following: stores, theaters, libraries, churches, hospitals, sport and recreational facilities, and a center of population from which a staff could be supplied. The availability of these functions will help to lessen the demands on the home itself and help to encourage community participation which is desirable.

The home should be built away from disturbing and distracting activities, but at the same time should not be segregated from the desirable activities of a community. Older people enjoy being around youth, and youth can profit from older people. Children supply a stimulus to older people. On the other hand, excessive noise and physical disturbances annoy and distress older people.

Many people assume that older people desire to live in a warm, semi-

tropical climate. This is not completely true. Many like cold winters, and would miss snow and ice. Sudden and violent temperature changes should be avoided, however. Enough moisture to make grass, plants, and flowers grow is desirable, but an excessive amount of moisture causes difficulty for arthritic and bronchial cases.

The type of home and its location will determine the size of the lot. Suburban areas and small cities can spread out more than central areas in larger cities. The grounds should be spacious enough to permit the residents some activity - gardening, cookouts, croquet, and similar things - but not so large that it is difficult to maintain. If the plot is adequate it will help to protect against encroachment.

The ground should be level, or at most have a very gentle slope. The site should not be in a narrow valley, the top of a hill, or on the side of a hill where residents would be required to walk up and down. Natural characteristics of the site should be preserved. It is foolish to destroy natural characteristics of the site when they have been the deciding factor in picking the site. The land should be relatively fertile so that a great expense is not required to landscape and maintain the area.

Zoning restrictions should be checked before any property is purchased. Exceptions are sometimes made in cases of this nature.

Utilities, fire protection, and other community services affect the ease of operation of the home and the comfort of the residents. Electricity is essential, but will probably be available at any site. Garbage and trash and sewage disposal must also be considered.

SITE ANALYSIS:

Location

The site chosen for the retirement home is located in the Hotel Park Addition just west of the city limits of Helena. It is in the S 1/2 SE 1/4 Section 22, Township 10 North Range 4 West. The site is a part of the C. A. Broadwater Hotel Property. The property lies on the North side of U. S. Highway 12. For description purposes the front of the lot will be considered as the part that is in direct contact with the highway.

Vegetation and natural features

The site has an abundance of vegetation in the form of trees. The trees consist of willows, cottonwoods, and poplars. They range from approximately 30 feet to 60 feet in spread and 30 to 40 feet in height. The complete south frontage is lined with trees spaced about 20 feet apart. The trees continue back for about 200 feet to an open area on the west end of the site that is about 360 feet long (running west to east). The east end of the lot has numerous trees that extend from the front of the property to the back. Retention of as much of the natural landscape as possible in the form of existing trees is desirable. They would provide good shade areas for the resident's outdoor activity.

Ten Mile Creek runs the length of the property. It flows from the west end of the property to the east. It is located on the northern half of the lot. It has recently been rechanneled and now runs in a relatively straight path from property line to property line. The average depth of the creek is from two to three feet. By late fall

the creek is only about a foot deep. The creek is lined with trees, especially on the eastern extreme.

The entire site, with the exception of the area north of the creek, is covered with grass. The grass is in rather poor condition, but could possibly be rejuvenated.

Topography

The site is relatively flat with a slight slope to the east and toward the creek. At the east end of the creek, where it leaves the property, the ground level is about three feet higher than the creek bed on the south side and ten feet higher on the north side. The land on the north side remains ten feet higher than the bed the complete length of the creek. The land on the south side rises to eight feet higher than the creek bed at the west end of the property where the creek enters. The creek is approximately 10 feet wide and the cut 20 feet. The front of the property extends 1,110 feet (south boundary); the west boundary, 1,180 feet; the north boundary, 1,220 feet; and the east boundary, 660 feet. The site is located at the mouth of the Ten Mile Creek Valley as it opens onto the Helena Valley (Prickly Pear Valley). The former Broadwater Hotel is still standing on the north side of the creek at the west end of the site. It is approximately 360 feet long and 100 feet wide. The former pool area of the Broadwater Plunge (a natural hot spring plunge) is located in the northeast corner of the lot.

Soil Analysis

The soil on the site is a dark brown, alluvial soil. It is a good

quality of topsoil, as far as its fertility is concerned. This is partly evident in the fact that a green house is located to the immediate west of the site and seems to enjoy an abundance of plant growth without an unreasonable amount of care. The area that directly adjoins the creek tends to contain more gravel and more abundance of rock. The remaining area which is covered with grass seems to require little care and the grass still survives, which would indicate that the soil is of a healthy nature. No additional top soil would have to be brought in for the landscaping.

Views

As was previously mentioned the site sits at the mouth of the Ten Mile Valley. It is situated between hills on two sides. The view to the south looks across the highway to a small range of mountains. Mount Helena is the most obvious feature of the view. An interesting rock formation sits atop the mountain and looks over the tops of the surrounding hills. The view is quite enjoyable. To the north the mountains begin to fade out as they reach the site and gradually begin to give way to the valley. A residential district sits in this area, just below the hills. The area is not well kept and does not make a desirable view. Looking past the residential area the mountains can be seen rising up across the valley. The view to the east looks along the creek and the highway. Along the highway several bars and a grocery store have been built. They help to give the site a feeling of belonging to a community which is a necessary thing. Along the creek there are trees and interesting natural features which make a pleasant view.

Past the creek the mountains can again be seen in the distance as they rise up across the valley. The view to the west looks up the canyon. The hills follow along both sides. It is a wholesome, fresh view and gives the site a clean atmosphere. Trees follow the creek up the valley and along the hillsides. Buildings occupy the lot directly adjacent to the site and are in clear view from the site.

Adjacent Environment

Some of the surrounding environment has already been mentioned in the discussion of the views. To the north is an area that consists largely of residents. It is not a heavily populated area. The area to the east, along the highway, has a bar, small grocery store, and a gas station, along with several homes. The area south of the site is mountainous (more of a hilly nature) with the highway running in front. To the west is a residence and a small motel. Past this area is a large nursery. The environment as a whole could be described as rural with slight indications of urban development.

Traffic

U. S. Highway 12 runs along the south property line of the site. This is the direct route that leads into the city of Helena. It is a 20 minute drive to the central shopping district of Helena from the site. Shopping centers and drive-ins are located at various points along the highway. A dirt road runs along the east property line. This road connects to U. S. Highway 12. It leads to a small residential district and finally to the Fort Harrison Veteran's Hospital. This could be of value to some of the residents if they were connected with

the medical treatment facilities offered by the government to veterans.

Utilities

One of the desirable characteristics of the site is the access to natural, mineral water hot springs. This was utilized formerly by the hot water plunge that was located at the site. The water is piped in a short distance from a spring. The piping is still available at the site. Electric power and telephone lines are located on the site. City sewer and water facilities are available at the site or within a close enough distance so that it would be reasonable to service the site with them. A gas main is available to the site.

Services

The size of Helena and the relative ease in movement from area to area eliminates many of the problems of service. Garbage pick-up could be arranged with a private concern or very possibly with the city. Local bus service to town does not extend as far out as the site. The home itself would have to furnish transportation for the residents who desire it. This could be achieved with several station wagons or a small bus. Food delivery service would be extended by the local stores. The local college, located a short distance from the home, could supply a sufficient labor force to handle the small services (ground maintenance, etc.) around the home.

Zoning Regulations

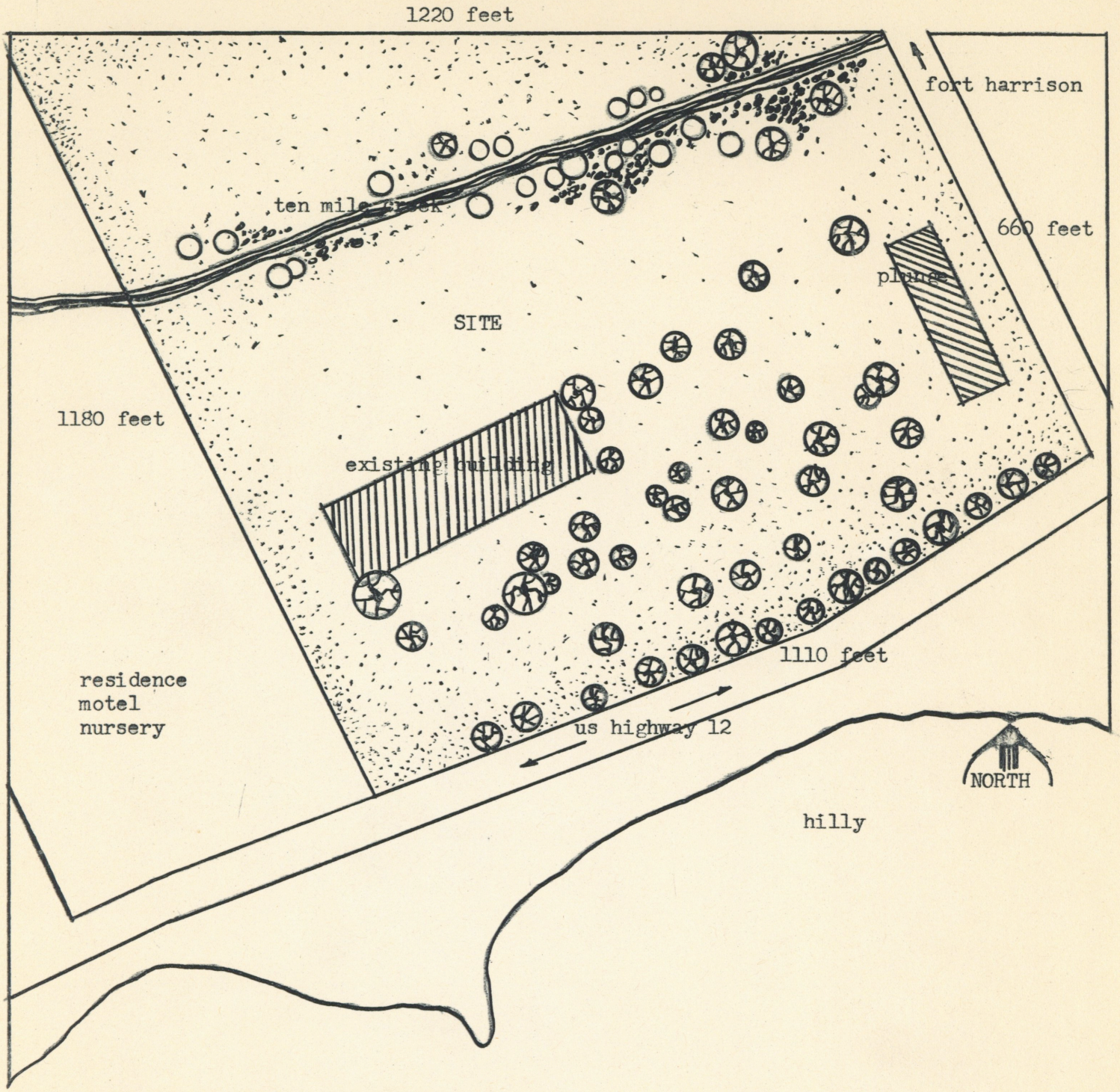
The site is located outside the city limits of Helena. None of the city zoning ordinances or regulations would apply to the site.

Climatic Conditions

The site is relatively protected from the direct brunt of the weather conditions due to its location among the surrounding hills. Some of the winter sun hours may be lost due to the hills on the south side of the site. On the whole, however, the directness of the sun on the site is not affected to any great extent.

History

The property chosen for the home was formerly the site of the Broadwater Hotel and Natitorium (hot water plunge). The plunge was destroyed by an earthquake in 1935. The hotel remained in operation for several years afterwards with a small amount of gambling activity. The hotel still stands today, but is not in operation. The complex, while in operation, was a quite interesting layout. Numerous drives for carriages circled the front area of the property among fountains and pleasant groves of trees. The hotel was constructed of wood principally and was an interesting structure. Today, as it stands in its uncared for condition, the building seems to fit the site better than when it was in operation. The trees have grown taller and fuller and the wooden structure has taken on a character that is quite indigenous to its surroundings.



SITE CHOSEN FOR RETIREMENT HOME ...

S 1/2 SE 1/4 Section 22, Township 10 North Range 4 West
C. A. Broadwater Hotel Property

PART III:

In order to approach the design of a building in the proper manner, a good building program must be set up. The program should take into consideration the factors that have been discussed. Part III is concerned with the building program and preliminary design studies.

ECONOMIC CONSIDERATIONS:

Cost is an important factor in institutional work. To achieve an accurate cost estimate the architect must work closely with the building committee in the development of the project, from start to finish. A preliminary estimate can be drawn up after the program has been defined and rough sketches and basic specifications have been prepared.

Many variables affect costs: climate, building codes, labor costs, transportation, and the size of the building. The major units of cost involved in the construction of a home for the aged are:

1. Plant - Building, site, site improvements, and contingencies for anticipated changes
2. Equipment - Furniture, kitchenware and linen, and related things
3. Preparation - Site survey, soil investigation, architect's fee, supervision and inspection at site, legal fees, and cost of fund raising.

A study of some cost figures of building projects already completed can give some idea of what the cost would be.

The National Committee on the Aging in 1957, after an informal inquiry, revealed that the cost of building a home for the aged (with infirmary facilities) ranged from $8,000 to $12,000 per bed.

In New York State in 1958 a home which provided for 80 single rooms, 10 two room suites, a 20 bed infirmary, physicians' examining rooms, a chapel, recreation room, large lounge, three small lounges, dining room, solarium, and a gift shop, was estimated to be $1,600,000,

or about $13,000 per bed. The cost did not include land, architect's fee, legal fees or movable furnishings and equipment.

Mr. Harold Lund, a consultant on services to the aged, at the Southwestern Regional Conference on Aging held on October 20, 1958, came up with a minimum cost figure of $10,000 per bed, including furnishings, an initial inventory of supplies, and reserve for use in maintenance until an operating income could be attained. This figure was based on several large scale studies. The first was from an article in the Social Security Bulletin (May 1958). It stated that recent costs for nursing home construction in widely spread areas over the country ranged from $3,000 to $14,000 per bed. A church organization constructed a home in 1955 in Hartford, Connecticut, for a cost of $6,000 per bed for construction alone, and $9,000 including equipment. The average cost of 125 nursing homes receiving grants from the Hill-Burton program was $11,000 per bed. The average capacity was 47 beds.[6]

A local project that is now under construction, Hillcrest Homes in Bozeman, cost approximately $1,810,000. The approximate cost was $15,000 per bed. The time of construction and the location has some affect on the cost.

A minimum of $12,000 per bed for this area is a good general figure. The economic condition of the persons who would inhabit the home should also be considered. The initial cost of the home would have to be such that it would be possible to pay it off in a reasonable length of time.

AESTHETIC CONSIDERATIONS:

Compared to the usual client that an architect encounters, the aged are a quite different problem. The aged possess fewer physical and mental resources, and their flexibility and adaptability is markedly reduced. A pleasingly designed building can be a source of pride and affection to the resident. Without beauty, a home for the aged can be no more than an institution for sheltered care; it certainly cannot be a home.

The basic consideration concerned with the aesthetic quality of the home is that it must not have an "institutional look". The building is not to be an institution but a home, so it is entitled to the warmth of a home. The use of familiar natural textures and materials will help to provide a warm and welcome atmosphere. A flashy use of materials may tend to commercialize the building and introduce the "institutional look".

Relationship of spaces is very important in the home. Although the residence room is the last retreat from group living, it is still important that it does not become a separate unit from the rest of the home to the extent that the other areas are not felt by the individual to be part of the "living" environment. The relationship can be made so there is a feeling of invitation and transition rather than a sense of complete abrupt change. The relationship between spaces may be continuity or contrast, but should always be harmony. Dimensions of spaces can seemingly be expanded through various methods of division: opening spaces to the outdoors, carrying uninterrupted surfaces consis-

tently throughout, treating several spaces as one. The spaces should be scaled to the individual rather than the group.

All the materials, colors, and textures should be used in a sense of order and security, warmth and use that denotes a home, and of scale and proportion that represents an individual rather than the group. Symbols of protection and security can be obtained from the use of the elements.

The site chosen is a relaxing site - strong, silent trees; soft, grass covered areas; a small, bubbling stream - the building should not disturb this natural calm. The natural elements of the site should not be outweighed by the building, but rather the building should accentuate the best qualities of the site. A harmonious relationship should be achieved between the building and the site. Natural features should be exploited and considered in the design. Major landscape features should be built to, around, and among. The level site offers a minimum of plan restriction. Plan interest depends on the relationship of object to object, space to space, and object to space. The materials used in the construction of the exterior of the building should be complementary to the site and indigenous to the area (wood and stone).

SPACES REQUIRED AND THEIR FUNCTIONS:

I. Common Services

A. Living rooms

1. main lounge

a. should be located in the central building (near the main entrance, but not a part of the lobby)

b. need for small groups and private conversations should be recognized (arrangement of furniture)

c. used by larger groups for recreational purposes (concerts, plays, dances, parties)

d. a pantry should be located adjacent (requires only heating and storing food, washing and storing dishes)

e. this area could be substituted for a recreation area

2. smaller living rooms

a. located in or near the sleeping areas

b. should be in sufficient number to provide for residents of a specific wing or floor

c. rooms can be used for private or small group recreation (cards, music, radio, television, tea parties, letter writing, and smoking)

d. a small adjacent pantry should be located here (food heating and storage)

3. staff lounge

* The lounges should maintain the informality and functional values of a true living room. Accessibility and proximity of these rooms to sleeping and dining areas can be of special value under unusual conditions when residents may require special dining due to sickness. This will help relieve the infirmary of some of its duty.

B. Dining room

1. main dining room

a. should be centrally located, near the kitchen

b. ample space should be provided for persons in wheelchairs or on crutches - leave at least 6 feet between tables and 7 feet for service aisles

c. four residents to a table (maximum)

d. should have provisions for individual tables and private dining for residents unable or not desiring to dine with others

e. the dining room will serve three meals a day plus snacks, teas and parties

f. a small parking area for crutches and canes would be desirable

2. space for feeding occasional visitors

a. this area could be combined with the main dining room or worked in with the small living rooms

3. staff dining room

a. desirable to have a quiet area for staff to eat (they will eat in shifts so not necessary for seating for entire staff)

* The recreation area could be adjoined with the dining room to provide a larger available area. Expansion must be considered if possibility of adding more living units is likely.

C. Recreation room

1. main lounge could be used for recreation, but a separate area is desirable

2. room should be adaptable to various kinds of programming (movies, dancing, lectures, concerts, festive meals)

3. room should be capable of division into smaller areas

4. space should be provided for storage of chairs, tables, and other equipment (important)

5. room should be usable by wheelchair and bed patients

a. important for morale

b. 25 feet (square) per bed is minimum for area (a small percentage of beds can be assumed)

6. controlled access to outdoor recreational facilities would be desirable

7. amplifying system with earphones for hard of hearing should be provided

    a. desirable to have a unit that may be simply connected at various points

8. motion picture booths and equipment should be considered

    a. local building codes require fireproof booths

* The extra expense of this area can be justified in part by the necessary psychological role it plays. Social contact and recreation are very important in making the residents feel emotionally secure and at home.

D. Religious service

1. recreation room could be used for this purpose, but considering importance of religion to elderly people it is desirable to have separate area

2. emphasis should be on a small area for meditation

3. it would be nondenominational so simplicity should be keynote

E. Library

1. this requires only a small area for reading

2. good lighting, comfortable chairs, tables, and plenty of shelf space should be provided

E. Recreation facilities

1. these should be planned in cooperation with occupational therapy department

2. facilities are limited only by the imagination of person in charge

F. Garden and patio

1. should be a functional part of the structure

2. garden should be informal

3. concerts, picnics, cookouts, shuffleboard, croquet, and

similar activities would take place in these areas

II. Residence Unit

A. Single rooms

1. these would consist of a bathroom and a combination living dining area

B. Double rooms

1. these would consist of a bathroom, living room, and dining room

C. Cottage units

1. these units would be separate from the residence wings

2. these would consist of a bathroom, living room, dining room, and a kitchen

* The single rooms and double rooms would be located in residence wings that would include a small kitchen and lounge. The rooms should be flexible to allow individual arrangement of furniture and use of individual furniture. These areas will determine the extent to which the resident feels at home. Ample storage space should be provided.

III. Administration

A. Entrance lobby

1. reception area

a. this area would contain an information desk and the switchboard

2. waiting area

a. public restrooms and telephone booths would be located here

B. Offices

1. head administrator's office

2. nursing service director's office

3. general office

a. several secretaries would occupy this area

4. business office

a. financial records and accounts would be kept here

C. Conference room

1. this area would be for office personnel or residents

IV. Health Needs

A. Doctor's office

1. personal office for use of doctor

2. examination room for checkups

3. laboratory

B. Dentist's office

1. dental room with one chair

C. Occupational therapy

1. this would consist of several rooms devoted to special activities

V. Service and Mechanical Facilities

A. Service entrance

1. space should be provided for storage of garbage and incoming supplies

2. a separate entrance for employees is desirable

B. Central stores

1. a storage space should be provided for the storage of household and nursing supplies, food, furniture, and personal belongings of residents

C. Kitchens

1. the main kitchen requires the same areas as any kitchen of the same scale

a. storage - warm and cold

b. preparation

c. cooking

d. baking

e. serving

f. dishwashing

g. garbage disposal

2. smaller kitchens in residence wings

a. these kitchens would be for the preparation of snacks

* The main kitchen would prepare all the meals for the residents and help in the serving of refreshments at parties.

D. Laundry facilities

1. This area would be for laundering of personal items and not for the entire laundry of the home

E. Boiler plant

1. this area would contain the heating, cooling, ventilating, hot water storage, and other miscellaneous services

F. Lockers

1. female locker room for staff

2. male locker room for staff

G. Mechanical facilities

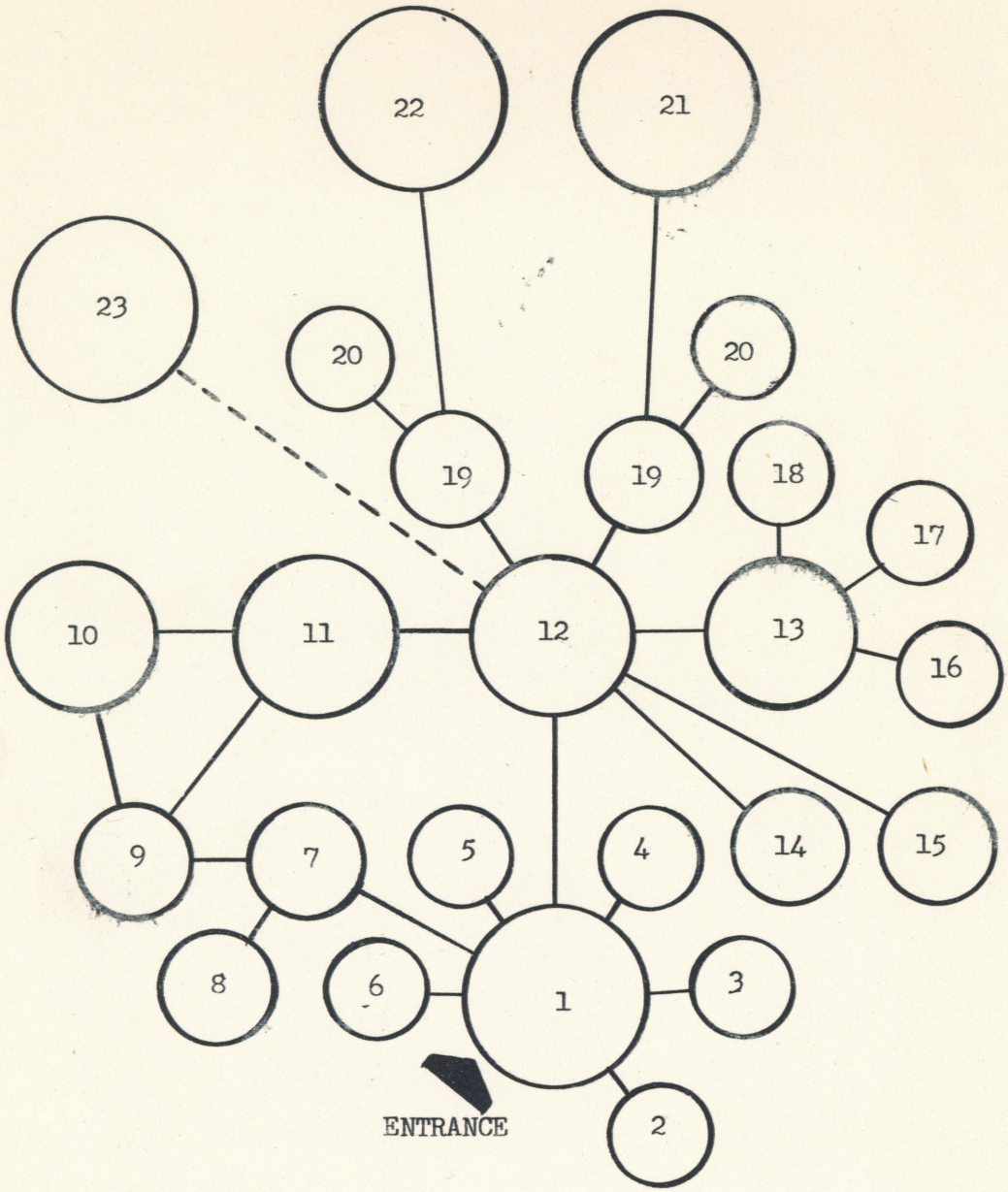
1. electrical and signal systems

a. emergency power unit must be available

2. snow melting system

3. elevators

4. heating, air conditioning, and ventilating



FLOW DIAGRAM ...

1. entrance lobby
2. conference
3. business
4. general
5. head administrator
6. nursing service
7. staff lounge
8. staff lockers
9. staff dining
10. main kitchen
11. main dining
12. main lounge
13. recreation
14. doctor
15. dentist
16. religion
17. library
18. occupational therapy
19. small lounge
20. small kitchen
21. resident unit (1)
22. resident unit (2)
23. cottage

* laundry
* storage
* boiler plant

BUILDING PROGRAM:

Area	Square Footage	Number of Units
MAIN LOUNGE	2,000	1

Equipment:

couches, upholstered chairs, coffee tables, lamps

Capacity:

200 persons

Special Considerations:

should have an informal atmosphere
above average illumination
adequate electrical outlets
should seat 25 informal conversation groups

MAIN DINING ROOM	2,000	1

Equipment:

table, chairs, service tables, water outlet, stand for canes and crutches

Capacity:

125 persons

Special Considerations:

above average illumination
good ventilation
good soundproofing
should have a cheerful atmosphere

RECREATION ROOM	2,000	1

Equipment:

movable seating, tables, lamps,

Area	Square Footage	Number of Units
amplifying system, piano, moving picture equipment, television, phonograph, recreation equipment		
Capacity:		
125 persons		
Special Considerations:		
above average illumination abundant storage space capable of division into smaller areas		
RELIGION	600	1
Equipment:		
permanent seating, simple worship accommodations		
Capacity:		
25 persons		
Special Considerations:		
character should be inducive to meditation		
LIBRARY	300	1
Equipment:		
comfortable chairs, tables, shelf space		
Capacity:		
25 persons		
Special Considerations:		
above average illumination should have a quiet atmosphere		

Area	Square Footage	Number of Units
ENTRANCE LOBBY	1,500	1
A. Reception Area	100	1
Equipment:		
receptionist desk, switchboard		
Capacity:		
3 persons		
B. Public Waiting Area	1,000	1
Equipment:		
couches, upholstered chairs, telephones		
Capacity:		
25 persons		
Special Considerations:		
should have homelike atmosphere unencumbered for handicapped persons		
C. Public Restroom	400	2
Equipment:		
water closet, urinal, lavatory		
Capacity:		
4 persons		
Special Considerations:		
adaptable to use by elderly persons		
HEAD ADMINISTRATOR'S OFFICE	200	1
Equipment:		
chairs, secretarial desk, filing cabinets		

Area	Square Footage	Number of Units
Capacity:		
3 persons		
NURSING SERVICE DIRECTOR'S OFFICE	200	1
Equipment:		
chairs, secretarial desk, filing cabinets		
Capacity:		
3 persons		
GENERAL OFFICE	400	1
Equipment:		
chairs, secretarial desks, filing cabinets		
Capacity:		
6 persons		
BUSINESS OFFICE	400	1
Equipment:		
chairs, secretarial desks, filing cabinets		
Capacity:		
4 persons		
CONFERENCE ROOM	300	1
Equipment:		
chairs, conference table, cabinets		
Capacity:		
10 persons		

Area	Square Footage	Number of Units
DENTIST'S OFFICE	600	1
Equipment:		
couch, chairs, dentist chair, desk, counter, cabinets, dentist equipment		
Capacity:		
4 persons		
DOCTOR'S OFFICE	800	1
A. Personal Office	120	1
Equipment:		
desk, cot, chairs, cabinets		
Capacity:		
3 persons		
B. Examination Room	400	1
Equipment:		
water closet, lavatory, examination table, desk, chairs, cabinets, table		
Capacity:		
4 persons		
C. Laboratory	280	1
Equipment:		
sink, working counter, stools		
Capacity:		
3 persons		

Area	Square Footage	Number of Units
OCCUPATIONAL THERAPY	200	Not specific
Special Considerations:		
equipment and capacity dependent on function of room		
MAIN KITCHEN	1,700	1
A. Food Preparation	1,000	1
Equipment:		
work tables, sinks, mixer, dish washer, range, storage, refrigerator, filing cabinet, counters, water outlets		
Capacity:		
7 persons		
Special Considerations:		
good ventilation good lighting		
B. Storage	200	2
Equipment:		
refrigeration, shelf space		
Special Considerations:		
there is a cold and warm storage good ventilation		
C. Receiving	200	1
Equipment:		
garbage racks		
Special Considerations:		
there is a garbage area and supply area		

Area	Square Footage	Number of Units
D. Dietician's Office	100	1
Equipment:		
desk, chairs, filing cabinet		
Capacity:		
2 persons		
STORAGE	1,500	Variable
Equipment:		
shelves		
Special Considerations:		
personal and general storage		
LAUNDRY ROOM	300	1
Equipment:		
washers, dryers, tables, chairs, sinks		
Capacity:		
8 persons		
Special Considerations:		
good lighting		
STAFF DINING ROOM	400	1
Equipment:		
tables, chairs, water outlet, service table		
Capacity:		
16 persons		

Area	Square Footage	Number of Units
STAFF LOUNGE	250	1
Equipment:		
couches, upholstered chairs, lamps, tables		
Capacity:		
16 persons		
STAFF LOCKERS	400	2
Equipment:		
lockers, benches, showers, water closets, lavatories, urinals		
Capacity:		
10 persons		
Special Considerations:		
facilities for men and women		
BOILER PLANT	2,000	1
Equipment:		
heating, cooling, ventilating, hot water storage, miscellaneous service		
Special Considerations:		
could be separate from main building unit		
SINGLE ROOM	375	75
A. Living-Bedroom	315	75
Equipment:		

Area	Square Footage	Number of Units
dresser, bed, tables, chairs, couch, bookcase		
Capacity:		
1 person		
B. Bathroom	60	75
Equipment:		
water closet, shower, lavatory, grab bars, cabinet		
DOUBLE ROOM OR COTTAGE	565	25
A. Living Room	260	25
Equipment:		
couch, chairs, tables, bookcase		
Capacity:		
2 persons		
B. Bedroom	245	25
Equipment:		
beds, chairs, dressers		
Capacity:		
2 persons		
C. Bathroom	60	25
Equipment:		
water closet, shower, lavatory, grab bars, cabinet		
SMALL KITCHEN	150	1 per wing or cottage

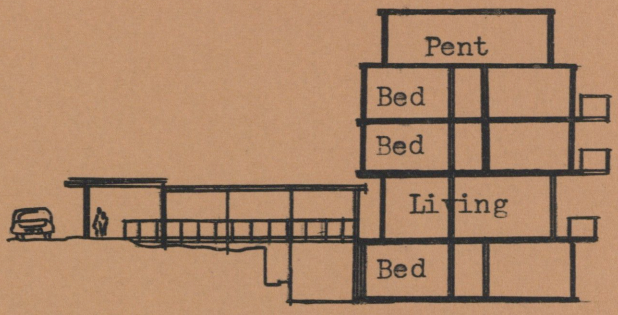
Area	Square Footage	Number of Units
Equipment:		
range, refrigerator, working counter, sink, water outlet, cabinet, oven, dishwasher		
Special Considerations:		
good lighting		
SMALL LOUNGE	500	1 per wing
Equipment:		
couches, upholstered chairs, tables, lamps		
Capacity:		
20 persons		

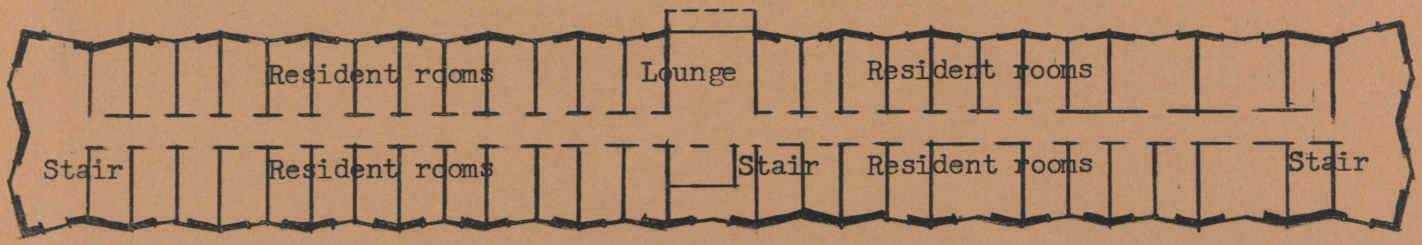
GENERAL PLAN STUDY:

There are three general plan concepts that appear in retirement home design:

1. a multi-story building with common functions housed on a particular floor
2. a single story building with the living areas used as the traffic element to reach the resident areas
3. a group of buildings with common functions housed in a particular building.

All three concepts have been used effectively. Various factors affect the choosing of a particular concept. An analysis of examples of the three concepts follows.





Good Samaritan Home for the Aged, Hellmuth, Obata & Kassabaum, Architects
not to scale

MULTI-STORY BUILDING ...

The multi-story building is suitable for a limited site. It has many disadvantages:

1) tendancy for long corridors,

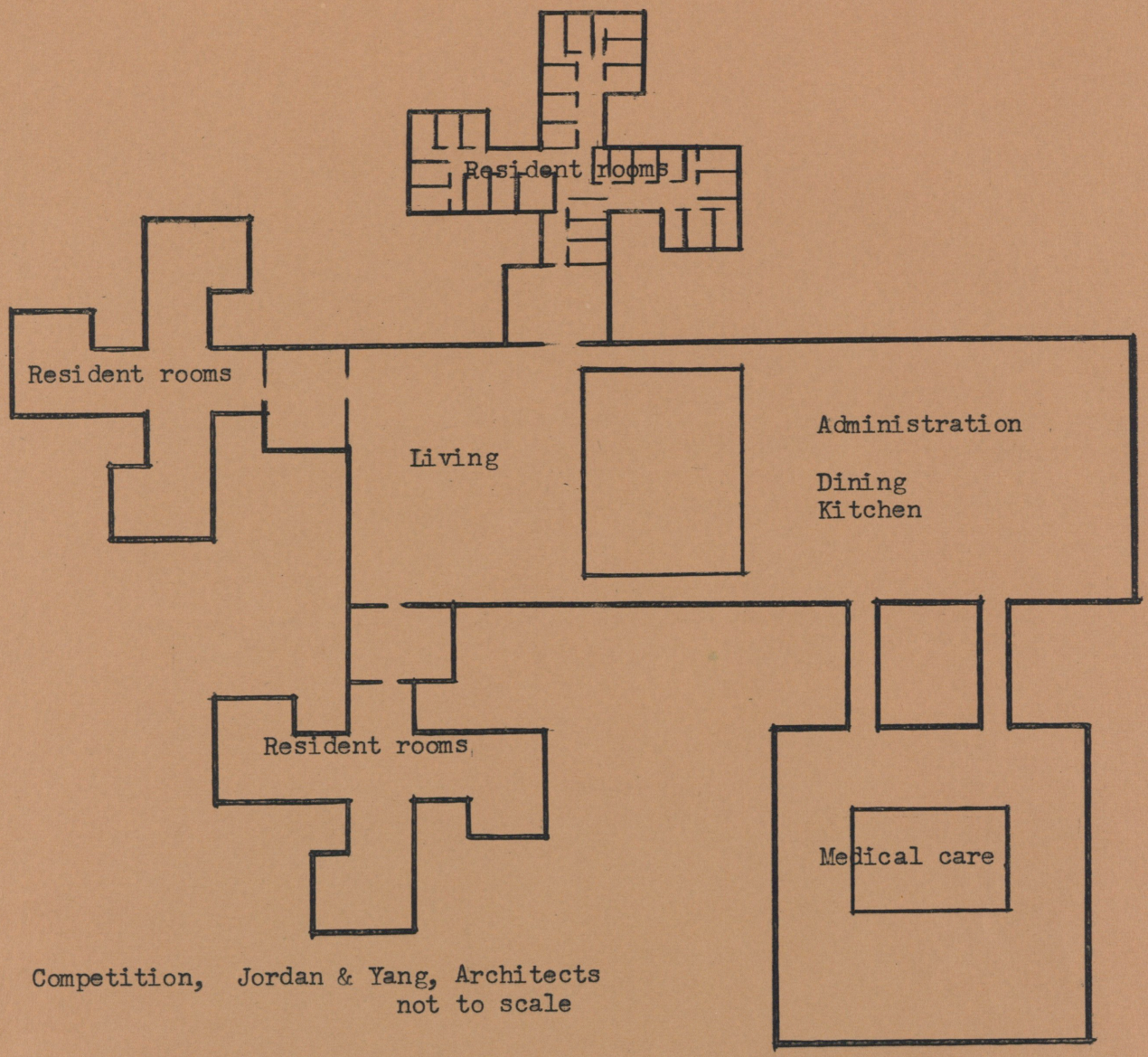
2) institutional character,

3) not scaled to the individual,

4) traffic or circulation problem,

5) service problem,

6) loss of outdoor - indoor relationship.



Competition, Jordan & Yang, Architects
not to scale

SINGLE STORY BUILDING ...

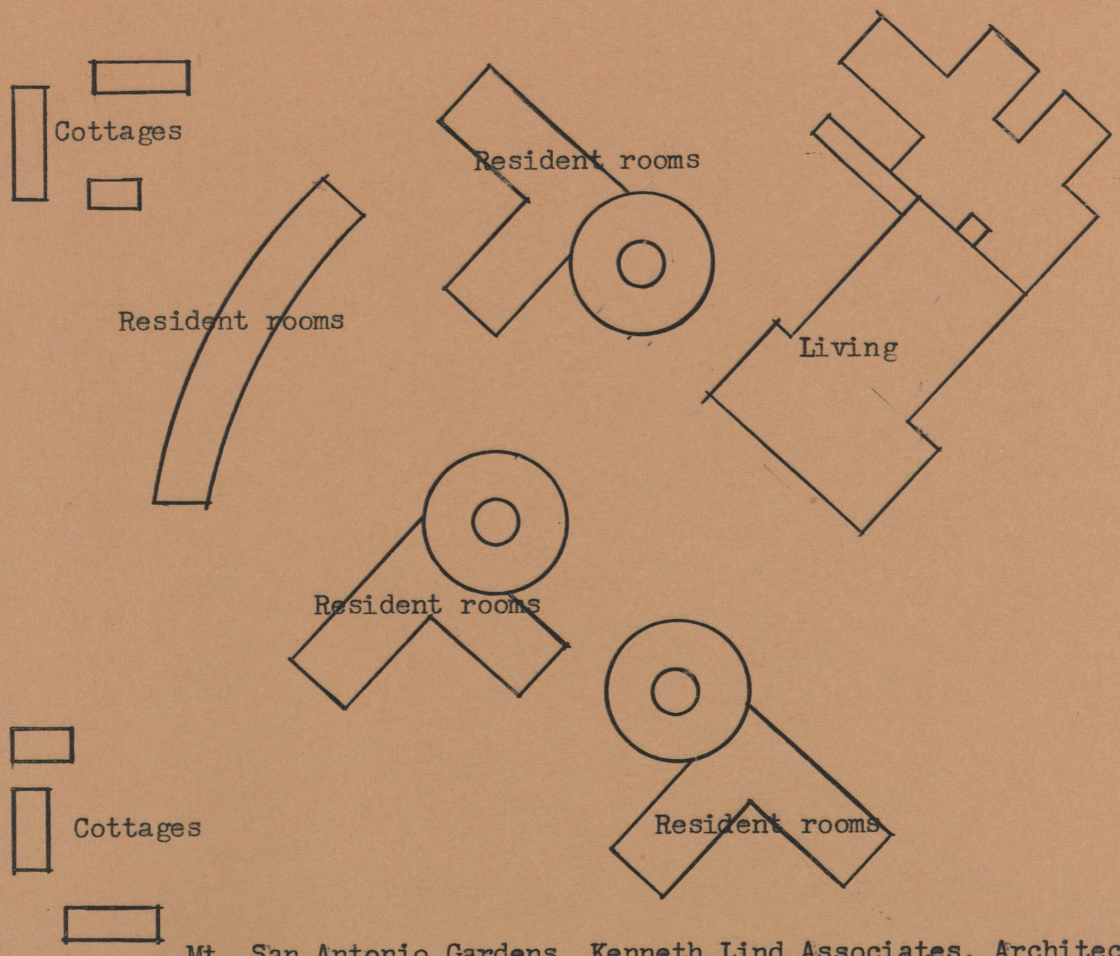
The single story building requires a larger site. It has the advantages of:

1) more opportunity for individual scale,

2) creation of activity in the home by use of the living area as a traffic element for residents,

3) easier circulation and service,

4) a good relationship can be obtained between the natural features and the building.



Mt. San Antonio Gardens, Kenneth Lind Associates, Architect
not to scale

GROUP BUILDINGS ...

This type of scheme is similar to the single story scheme. It has the advantages of:

1) a residential scale,

2) a great flexibility in room design,

3) easy traffic and service circulation.

It has the disadvantages of:

1) exposure to weather in moving from resident to living areas - an important factor in this area,

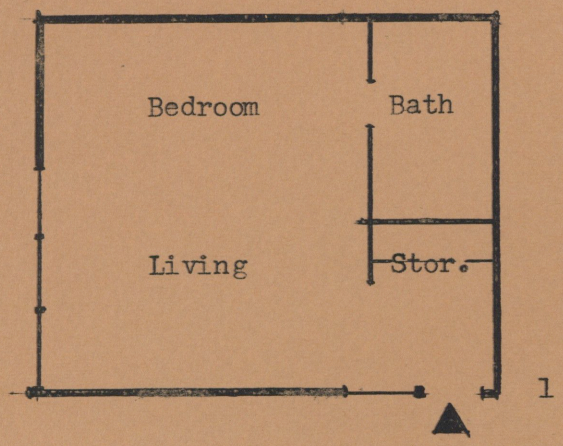
2) requires the largest area of the three types.

RESIDENT ROOM STUDY:

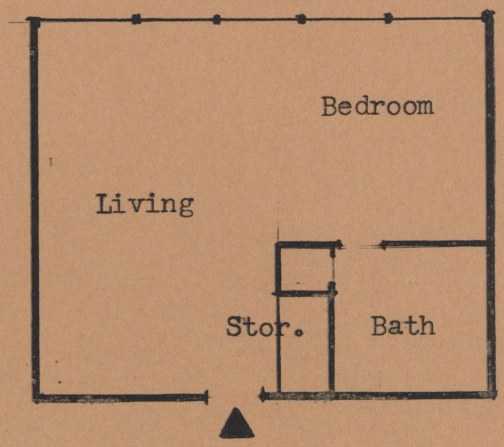
In the design of the retirement home I am concerned with three types of resident units:

1. a single room - consisting of a bathroom, bedroom-living area, and storage area
2. a double room - consisting of a bathroom, bedroom, living area, and storage area
3. a cottage - consisting of a bathroom, bedroom, kitchen, living area, and storage area

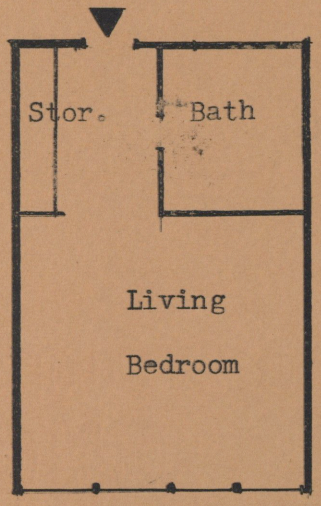
An analysis of examples of these follows.



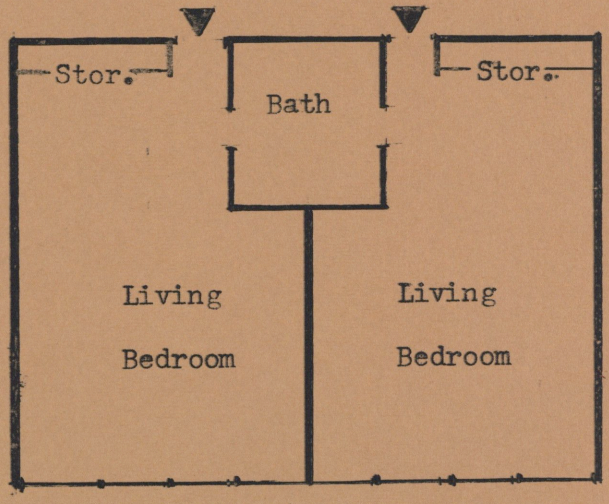
1



2



3

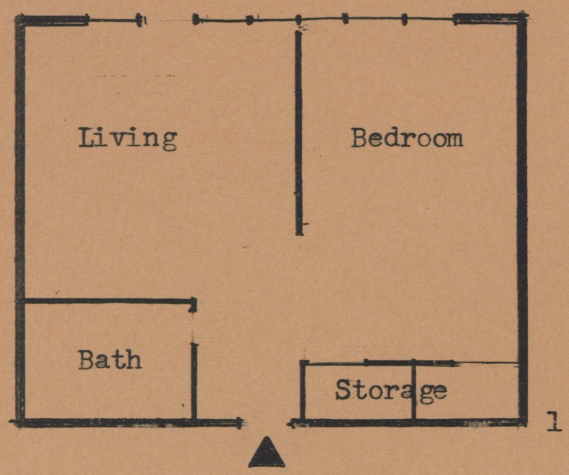


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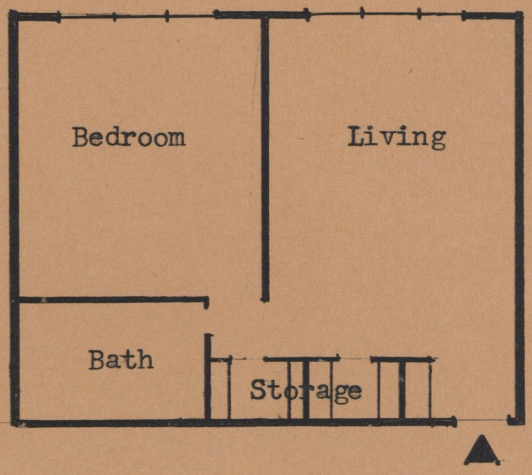
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SINGLE RESIDENT ROOM ...

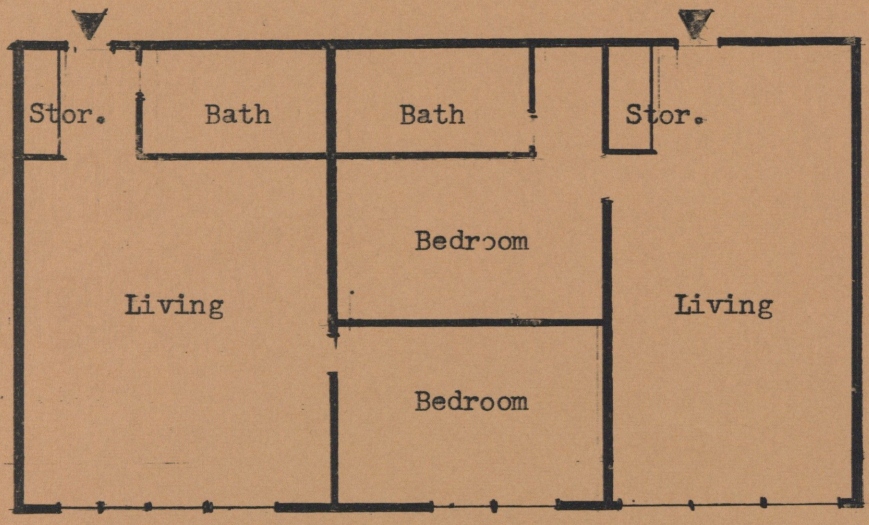
Plans 1 and 2 contain the largest areas. A good seperation of spaces (living - bedroom) can be obtained because of this. Both plans work quite well. Plan 2 has a better definition of areas. There is a direct connection between the bathroom and bedroom areas in both cases, which is desirable. Plans 3 and 4 are smaller areas. Variations can be made in the plans by moving the entry door to the left or right. A dressing area could be placed next to the bathroom. This would be desirable in plan 4, where the bathroom is shared. More space is achieved for living and bedroom by sharing the bathroom, but this would not always be a satisfactory arrangement for the occupants.



1



2

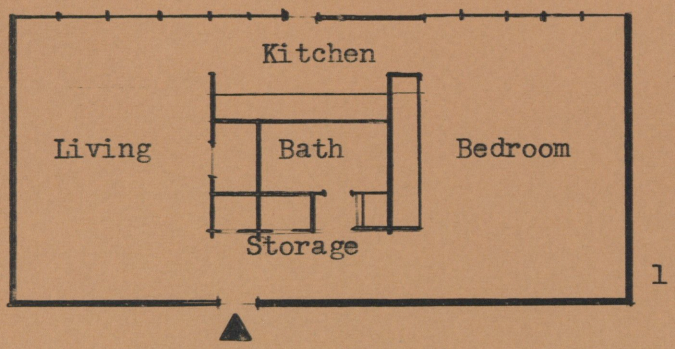


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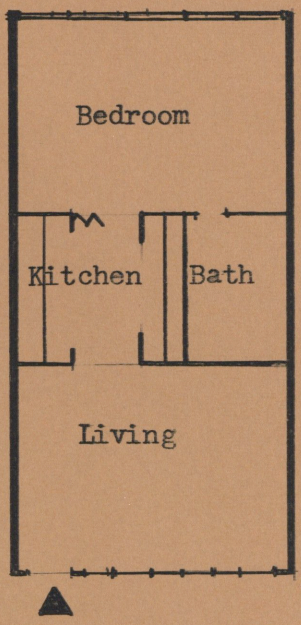
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DOUBLE RESIDENT ROOM ...

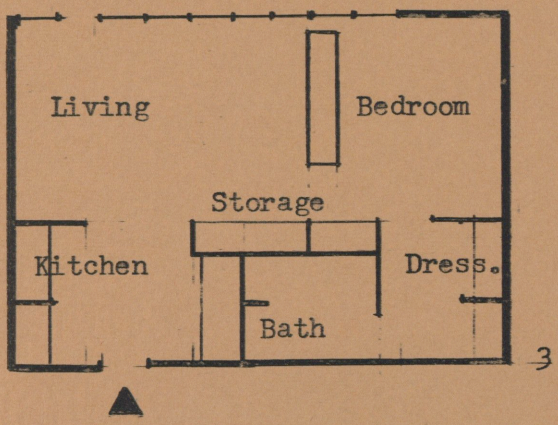
Plans 1 and 2 are variations of the same basic plan. The bedroom – bathroom relationship works better in plan 2. The use of a partial partition to separate the living – bedroom areas could be an interesting element in the room and would give it a larger more spacious appearance. Plan 3 shows how two units could be combined. Interesting variations in plan could occur with this type of scheme. The arrangement shown has some bad features. The bedroom of the right-hand unit is buried. There is a poor relationship between the bedroom and the bathroom of the unit on the left. The entry-way of the left-hand unit has a motel-type solution that should not be necessary in the double room.



1



2



3

not drawn to scale

COTTAGE ...

Plan 1 is different and interesting. The cottage would have a nice open feeling. The relationship of spaces is good. Plan 2 is rather unimaginative. The areas are too strict in their placement. The kitchen would be a hallway, especially with the bathroom entrance through the bedroom. Enough area for storage would be difficult to find. Plan 3 is good. It too would have an open feeling. There is a good bathroom - bedroom relationship. The added dressing room is a good feature (especially for women).

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[6]Mathiasen, Geneva. Planning Homes for the Aged. New York: F. W. Dodge, 1959.

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