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A Community Oriented Rehabilitation Center for Newly Disabled Adults - A Campus Concept

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A COMMUNITY ORIENTED REHABILITATION CENTER FOR
NEWLY DISABLED ADULTS - A CAMPUS CONCEPT


by William Charles Means


A sixth year terminal project submitted to the
faculty of Clemson University College of
Architecture as partial fulfillment of the
requirements for the degree of


MASTER OF ARCHITECTURE


August 31, 1977


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To my father and mother for their love, support, and constant faith.

TO SUSIE

**A COMMUNITY ORIENTED REHABILITATION
CENTER FOR NEWLY DISABLED ADULTS
- A CAMPUS CONCEPT -**

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"It has been found that the disabled who have been hospitalized for some time in a rehabilitation center tend to experience crisis when they are about to leave the center and are making their first contacts with the larger community. If the time of transition from the rehabilitation center to the larger community is such a traumatic and anomic situation, it is rather evident that the two settings are quite dissimilar. Effective socialization and performance in the one setting may not prepare the disabled for effective performance and adjustment in the other." ¹

project proposal

... a "Community Oriented Rehabilitation Center."

By investigation of the programs, personnel, clientele, and existing buildings of the Charlotte Rehabilitation Hospital, and through analysis of similar facilities, as well as projected trends in rehabilitation, I propose to relocate and redesign this facility to accommodate existing and future programs accentuating its role as a "Community Oriented Rehabilitation Center".

problem description

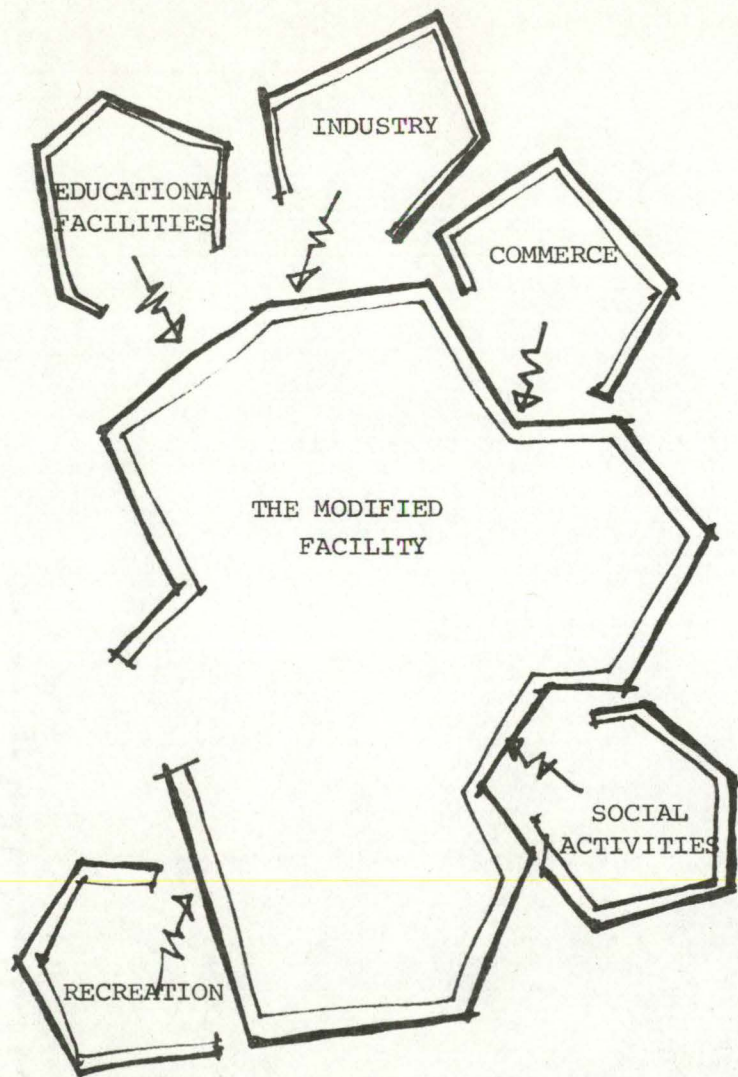
"The adult's rehabilitation program must ... surpass medical
rehabilitation ... "

Many facilities being presently used as adult orthopedic rehabilitation centers had their beginnings as hospitals for handicapped and polio-stricken children.

Unlike adults, children have few established habits and skills, and even fewer dependents or responsibilities. In contrast to the adult, the child who has not yet developed advanced behavioral patterns will not have any to relearn. Consequently, the rehabilitation process takes as primary concern the physical well being of the child. The rehabilitation process and facility is, therefore, highly medically oriented and like that of an acute-care hospital.

As the threat of polio began to diminish, many of these children's facilities turned to the care of orthopedically disabled adults. Having been designed for medically oriented programs, they were often incapable of accepting other program types. The programs, therefore, remained medical in nature focusing on the physical well being of the adults.

Just as children have few established behavioral patterns, most adults have developed and tested the attitudes, habits, skills, and responsibilities that they intend to keep for life.



MODIFIED FACILITIES OFTEN LIMIT ADULT CARE OPPORTUNITIES

The intervention of a physically disabling limitation at this stage often requires a highly concentrated learning effort to reestablish new directives.

The adult's rehabilitation program must, therefore, surpass medical rehabilitation and encompass as many realistic working, socializing, and learning aspects of life as possible.

Modified children's facilities designed for medical programs offer serious physical limitations for the expanding needs of the adult rehabilitant thus causing the diminished effectiveness of other than the medical programs.

The problem, therefore, is to design a facility to house one such existing, expanding program for the rehabilitation of other orthopedically disabled mentally alert adults which presently operates under spatial and/or geographical limitations.

the charlotte rehabilitation hospital

"Charlotte Rehabilitation Hospital has had difficulty in promoting
the clients' independence ... "

The Charlotte Rehabilitation Hospital is presently encountering the many problems typical of a facility which has transcended from child to adult care.

As a medically dominated rehabilitation program, the Charlotte Rehabilitation Hospital has had difficulty in promoting the clients' independence through self care. The exclusive site that the center presently encompasses does not allow social involvement of the client with other than disabled individuals. The limited site does not allow adequate expansion of vocational programs for detailed job training. The location of the center outside the nucleus of community activities does not allow the inclusion of the clientele within that nucleus. The medically designed facility excludes planned barriers and obstacles natural to everyday life. The singular building housing the center is unnatural as a living/working environment.

Even with these present obstacles to an optimum rehabilitative setting, the directors of the hospital have made extensive studies of their shortcomings and made major advances in obtaining an optimum program.

Prior to 1975, the following services to various degrees were provided within the Charlotte Rehabilitation Hospital:

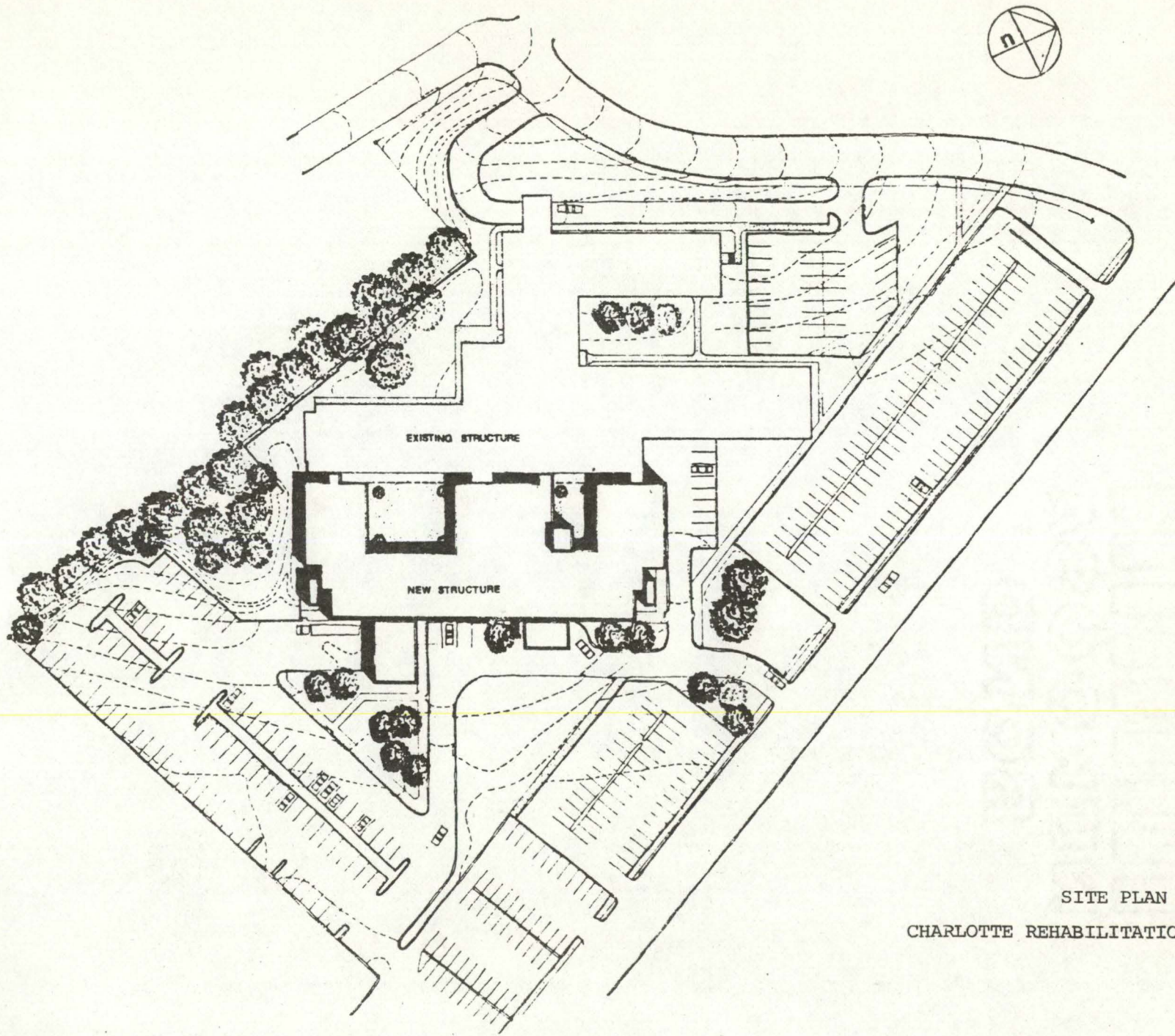
Medical Supervision
Nursing
Physical Therapy
Occupational Therapy
Speech and Audiology
Activities of Daily Living
Prosthetics
Orthotic
Clinics - Amputee
 - Speech and Audiology
 - General Out-Patient
Therapy Affiliations
Residency Affiliations
Medical Social Service
Vocational Psychology
Vocational Counseling
Work Evaluation
Group Therapies
School 1-12 grades
Nursing Education

The obvious emphasis upon medical services shows a need for more community-oriented service agencies.

In the late 1960's, the Medical Staff and the Board of Managers at C.R.H. began to study the shortcomings in both their programs and spatial accommodations. They determined that their major program shortage was in the area of vocational services. After researching the potential use of extensive

vocational services within an adult rehabilitative program, they determined: these services should be utilized "simultaneously with the medical services to provide the patient with the most productive and beneficial restoration possible in the shortest period of time at the least possible expense."² As a justification of the physical expansion necessary to house an elaborate vocational program, these individuals concluded: "If some of these people are to compete in work situations where disabled personnel are in the minority, then education and training should be in a facility where the competition and setting will be similar to eventual work situations."

By 1975, the most recent physical and programmatic expansion was complete. Within the existing site and adjacent to the existing facility, a total of 55,842 square feet of treatment and administrative space was added. Included in the expansion program were spatial allocations for: Vocational Rehabilitation Hospital Administration, Testing, Evaluation and Production, Servicing (miscellaneous), and a Spinal Cord Unit.



SITE PLAN
CHARLOTTE REHABILITATION HOSPITAL

Although the Charlotte Rehabilitation Hospital was able to implement a combined program of medical and vocational rehabilitation, the physical facility itself was only renovated. The buildings were enlarged to house the programs but because of the restrictive site they were unable to be modified or redesigned to become an integral part of the program.

The hospital presently occupies its original site within the city of Charlotte directly across Blythe Boulevard from Charlotte Memorial Hospital. C.R.H. is physically linked with Memorial Hospital by an underground passageway and procures from Memorial, laundry, dietary services and some supplies. Charlotte Memorial Hospital is an 880-bed acute medical and surgical teaching institution with extensive out-patient and clinic facilities. It purchases some therapy services from C.R.H. Services are also procured from and provided for:

Charlotte Community Hospital
108-bed chronic disease unit
Huntersville Hospital
73-bed chronic disease unit
Presbyterian Hospital
500-bed acute

Mercy Hospital
380-bed acute
Charlotte Eye, Ear, Nose and Throat
75-bed special

The land on which the C.R.H. is located is mostly occupied by either the building or automobile parking. The site is made exclusive by an enclosing security fence. Exterior recreational spaces are limited to two interior courtyards within the building. Community recreational spaces are made available through the use of hospital transportation vehicles. No structured recreational facilities for indoor group activities exist within the hospital.

Major transportation arteries are easily accessible from the existing site by means of Blythe Boulevard and Kings Drive. Public transportation units utilize these avenues.

Major retail shopping is available to C.R.H. residents at the Charlottetown Mall, approximately one mile away via Kings Drive. Charlottetown Mall includes numerous speciality shops. No retail facilities adjoin the C.R.H. site.

Employment opportunities are afforded the residents of the Charlotte Rehabilitation Hospital through the in-house

Vocational Workshop Program. The hospital does not utilize any off-site employment for its residents.

The Charlotte Mecklenburg School District provides teachers to instruct the C.R.H. residents from grades 1 through 12 within the hospital. This allows those who wish to continue with their pre-college education to do so. No educational facilities are immediately adjacent to or accessible to the present site.

The immediate area surrounding the Charlotte Rehabilitation Hospital is zoned multi-family residential. Older homes are within walking distances of the hospital. Kings Drive and Morehead Street are major traffic arteries providing access to housing to the south and east.

Other than the chapel within the Charlotte Memorial Hospital, no immediate religious centers are accessible to the site.

CONCLUSION: In addition to the many social and behavioral obstacles induced upon the residents of the C.R.H. by its physical arrangement and site location, there are as many obstacles fostering dependence among the residents.

The primary and, therefore, most important mission of any rehabilitation program, facility, or staff member is to direct the patient toward a path of independence. If one element of the threesome falters, the entire purpose may suffer.

Because of the physical restrictions of the present site and building, the residents are forced to recreate with only disabled partners within an institutional-like setting. They are required to shop in groups as a planned group activity. Employment must be kept inhouse because of the lack of immediate off-site jobs. Education must be kept at a pre-college level because of the lack of nearby college institutions.

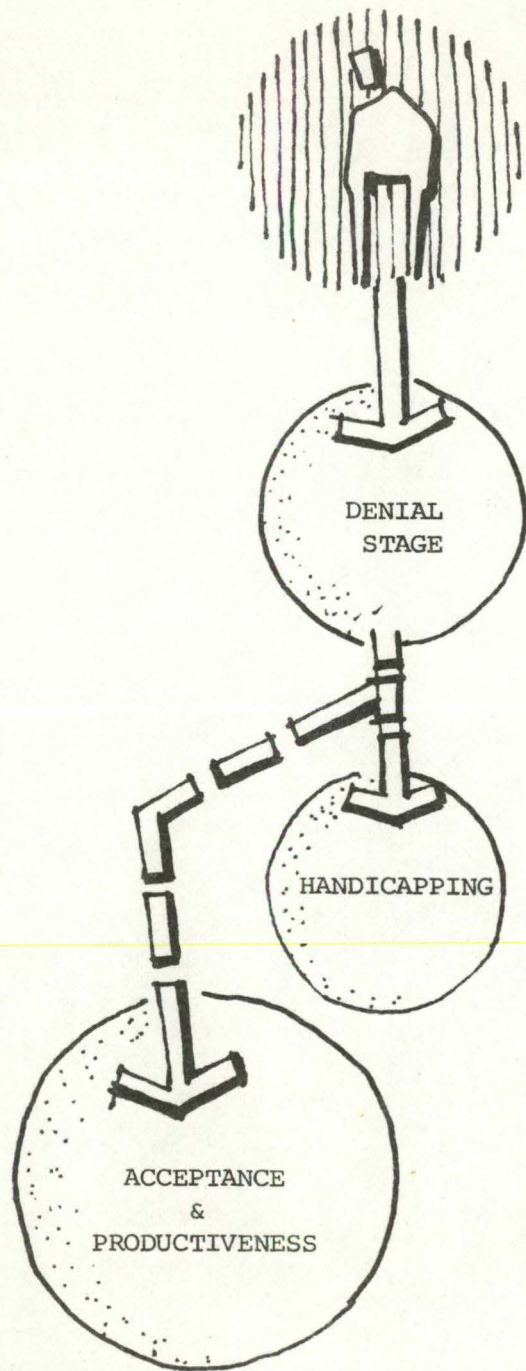
The general conclusion is that the Charlotte Rehabilitation Hospital, though providing comprehensive medical and vocational treatment opportunities, is not successfully integrated within the community. The facility has serious physical limitations which could hinder the reentry of the individual into his community. The present site is utilized to its limits and is incapable of future physical or programmatic expansion.

the newly disabled adult

"The rehabilitant ... must be actively involved in his
rehabilitation ... "

The newly disabled adult is one of today's 28 million disabled adults in the United States.⁴ If he is enrolled in a rehabilitative setting for orthopedic disabilities, he is one of the 12% of the total disabled adult population actively seeking rehabilitation services. His average age is approximately 40 years; however, he, as an adult, may vary in age from 18 to 64. As a member of an orthopedic disability rehabilitation program, he is mentally alert but has disabling physical limitations. His physical disability is most likely due to a musculoskeletal disorder since 32.8% of all disabilities are contributed to this cause. Because of the rehabilitant's age, he most likely has been charged with the responsibility of family supporter and/or child rearer. He has probably been an active member of his social and economic community and is now anticipating a return after rehabilitation to that community and/or family role.

The important word in the description of the disabled adult is the word "role". It is this word which is foremost in the mind of the rehabilitant. After an active life as a



normal member of his community, the individual, through some mishap or act of nature, has had a physical disability imposed upon him. It becomes his responsibility, that of his family, and of his rehabilitator to develop a new or redevelop an existing role in life that will be productive and meaningful. The rehabilitant must have or create the determination to succeed at whatever role he is to play. "He must be actively involved in his rehabilitation and in essence be an agent of change rather than a passive object in the hands of the rehabilitation team."⁶

After the imposition of a disability, the pattern of behavior is generally the same for all. First the individual enters the "denial" stage or "this isn't really happening to me" stage. This usually comes about while the individual is still in the acute care hospital. He will most often refuse to accept the severity of his condition or that the condition will not heal given time. The period of time following the "denial" stage is very crucial to the rehabilitation process. If the individual passes into the "self-pity" instead of "acceptance" stage, the likelihood of handicapping and non-

productiveness is greatly increased.⁷ On the other hand, an individual who is willing to accept his limitations and deal with them is open to the opportunity to relearn his affected functions.

Historically, the disabled American adult has not always had the opportunities for rehabilitative training and education afforded to them today by our modern centers.

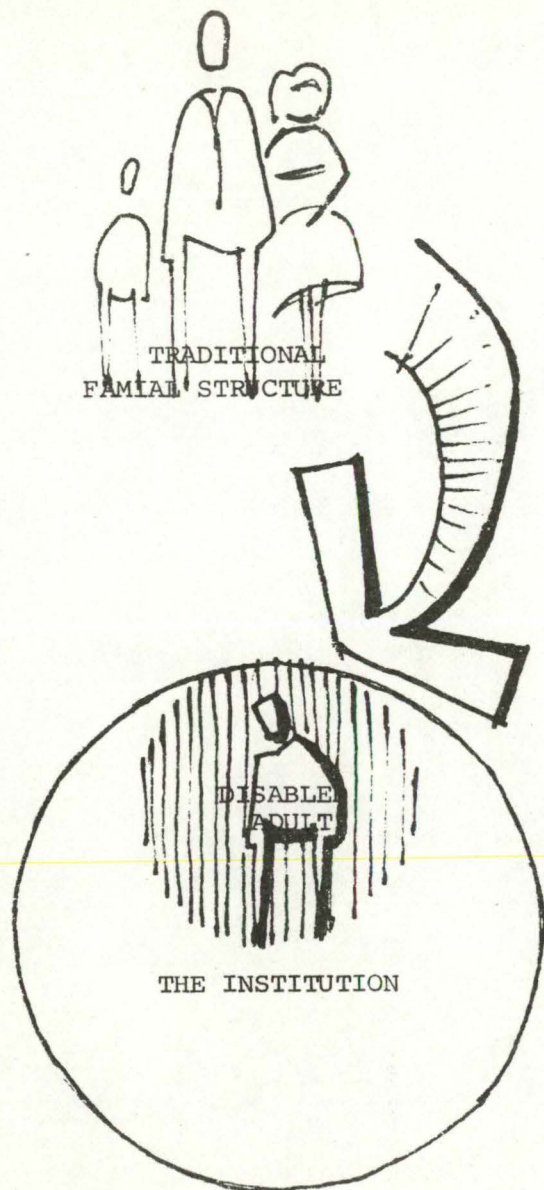
The end of World War I marked a new era for America's disabled. 1911 to 1920 saw new legislation for both workers and veterans. Workmen's Compensation was implemented and covered two thirds of America's work force. Because of medical and surgical developments, more veterans survived World War I than any other war. Since the country, at that time and up until World War II, was a primarily agrarian economy, there were serious shortages of skilled laborers within our urban areas. Thus an acute interest in the usefulness of vocational training for the disabled began to develop among the employers. Because of the manpower need, the health of America's men became a national liability prompting federal policies. The government took an active part in the vocational training of

the disabled by issuing the Smith-Sears Act of 1916. To encourage state support of this work force of disabled war veterans, the government, in 1920, issued the first Vocational Rehabilitation Act. This act provided for matched funds on a fifty-fifty basis for those states which sponsored rehabilitation programs.

The Depression brought about a nationwide concern for employment of all people in whatever jobs available, thus the segregationist practice of making workers of the disabled wained. It was not until the onslaught of World War II that the interest was revived.

By the time World War II had concluded, major social changes were beginning. Industrialization had gripped the country changing the nation from a predominantly rural society to a predominantly urban one. Thus the secure jobs of the disabled urbanites gave way to the aggressive abled bodied. The disabled were forced in to a charity role.

At the same time that industrialization was sweeping the country, the familial structure was undergoing social changes. The traditional role of the family was changing to include



each individual as his own provider. Those who were disabled and unable to provide impeded the progress of the other family members and thus were often placed in asylums, hospitals or given over to custodial care. This became the second most popular means to treating the disabled, through medical care programs.

As the trend towards caring for the disabled through medical programs gained in popularity, so did the realization that as non-productive citizens, the disabled would have to be provided for by society throughout life. In the late 1940's economic arguments for expanding and strengthening vocational rehabilitation became quite persuasive. The federal legislation to follow, however, "covered only the disabled of working age and the potential working population". Only recently has the exaggerated emphasis upon the vocationally rehabilitated been challenged.⁸

As the history of adult rehabilitation and rehabilitation legislation shows, on one hand there has been strong support for and emphasis upon medical rehabilitative programs and on the other hand equal support and emphasis upon vocational

rehabilitation. The attitude of today is that neither program within an adult rehabilitative setting is effective unless both are provided and used to give intensity one to the other. Consequently, the rehabilitated adult cannot be fully prepared to regain an active and productive role within his community unless he has experienced all aspects of rehabilitation.

the facility

"The primary purpose of any adult rehabilitation facility, program,
or personnel is to serve as a cohesive educational media ... "

The adult rehabilitation setting although intended to be progressive in nature often house public programs which actually foster dependence. While the public Medicaid Program is able and willing to support individuals in extensive care facilities, it has no legal means to apply these funds toward independent housing facilities, college tuitions, or home health care. Consequently, the individual must rely on insurance or funding from the State Department of Vocational Rehabilitation for assistance.⁹ In 1974, the federal government issued and passed the National Planning and Resources Development Act of 1974. Funds were allocated for construction and implementation of other than extensive care facilities as follows:¹⁰

NEW OBLIGATIONAL AUTHORITY FOR FISCAL YEARS 1975-77
(In millions of dollars)

	<u>Fiscal Year</u>			
	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Total</u>
Planning and regulations:				
Health systems agency planning grants				
Sec. 1516	60	90	125	275
State health planning and development				
agency grants, Sec. 1525	25	30	35	90
Demonstration grants for regulation of				
rates for health services, Sec. 1526	4	5	6	15
Centers for Health Planning - grants				
or contracts, Sec. 1534	5	8	10	23
	<hr/>			
Subtotal	94	133	176	403
Resources development:				
Health facilities construction and				
modernization allotments and grants,				
Sec. 1613	125	130	135	390
Health facilities construction and				
modernization loans and loan				
guarantees, Sec. 1622	*(1)	*(1)	*(1)	*(1)
Development grants for area health				
services development funds, Sec. 1640	25	75	120	220
	<hr/>			
Subtotal	150	205	255	610
	<hr/>			
Grand Total	244	338	431	1,013

*1 Authorizes "such amounts as may be necessary".

With such extensive development of health care resources within the United States, it would stand to reason that federal support for individuals utilizing these facilities would be soon to follow.

Presently, the country is moving toward more comprehensive methods of rehabilitating the disabled. New and innovative programs in both medical and vocational rehabilitation are beginning to be implemented. Unfortunately, even with the new innovations, facilities are being constructed as "institutions" for rehabilitative training. New facilities like Peace Institution in Greenville, South Carolina and sections of The Orthopedic Hospital in Asheville, North Carolina still maintain an "institutional" attitude.

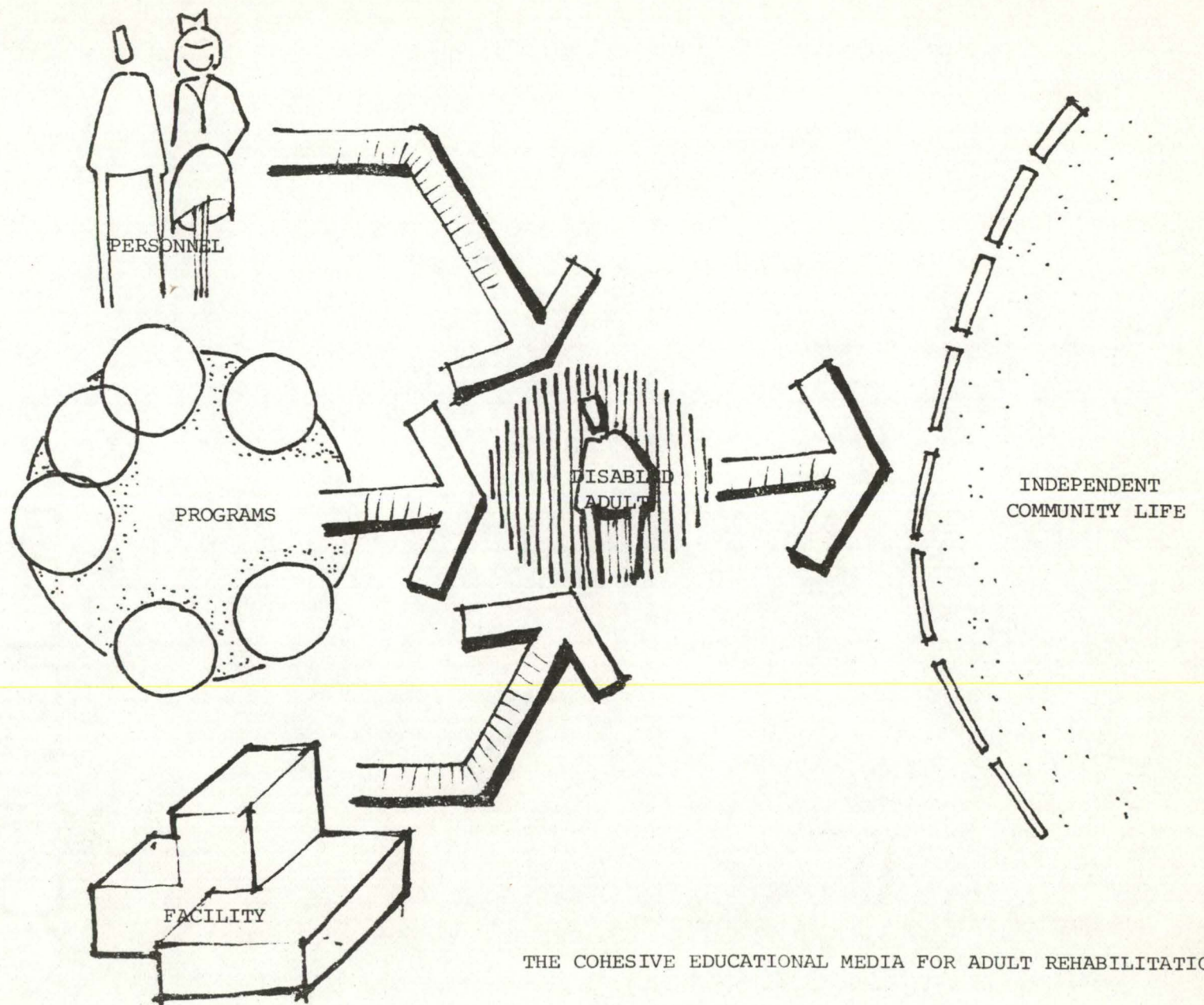
Some of the characteristics of living in a total institution are as follows:

- barriers exist to social interaction outside the institution
- the tendency exists to sleep, play, and work in the same place with the same participants, under the same authority, with a rational plan.
- all activities are tightly scheduled, with one activity leading at a prearranged time to the next.

- all activity is imposed from above through a system of explicit rulings.
- activity forms a single overall rational plan to fulfill official aims of the institution.
- the handling of many human needs is accomplished by bureaucratic organization of whole blocks of people.
- blocks of people move in time, thus only a relatively small number of supervisory personnel is needed.
- one person's infraction of the rules is likely to stand out in relief against the visible, constantly examined compliance of others.
- patients and clients have restricted contact with staff who are integrated into the outside world.¹¹

The question then arises, "What is the primary role of the combined efforts of the facility, programs, and personnel as a rehabilitative agency serving orthopedically disabled adults?"

The primary purpose of any adult rehabilitation facility, program, or personnel is to serve as a cohesive educational media for aiding the individual to become an active, productive, and independent member of his community.



THE COHESIVE EDUCATIONAL MEDIA FOR ADULT REHABILITATION

As a successful learning center for adult orthopedic rehabilitation, the architectural facility must function as:

- a medical unit servicing the physical well being of the individual.
- a living space for the individual for the duration of the learning process.
- an educational center for various and varied learning experiences.
- a community counterpart offering the opportunity for every possible aspect of community life.
- a clinic for medical care of out patients.
- an administrative center for the delegation of all aspects of care.

The success of the rehabilitation setting as a counterpart of the cohesive educational media is dependent upon the quality and effectiveness of the program it houses. A comprehensive rehabilitation program must utilize as many therapy agencies as possible to allow the individual the opportunity to redevelop every aspect of his affected life.

Medical agencies such as:

Physical therapy - for the treatment of musculo-skeletal disabilities.

Occupational therapy - to assist in the mental and physical restoration of the disabled.

Speech and Hearing - to offer aid for hearing speech and voice disorders caused by diseases or injury.

Orthetic and/or Prosthetic Appliance Shop - to provide medically prescribed appliances to support and give control to weakened parts of the body.

Social Agencies such as:

Psychiatric services - for the care of and assistance in emotional problems.

Psychological services - utilizing counseling on both an individual and a group basis to aid in the development of social and personal behavior.

Social services - for the correction of abnormal living patterns.

Recreational Therapy - to aid in social, psychological, and physical adjustment.

Vocational Agencies such as:

Vocational counseling - to enable the individual to understand his vocational potential and abilities.

Vocational evaluation - to aid the individual in setting realistic employment goals.

Vocational training - to offer opportunities for the individual to develop his abilities and assurances in job situations as close to reality as possible.

Sheltered Workshop - an inhouse working environment offering wages for services rendered to provide advanced employment training.

Special education - to offer opportunities for academic and vocational advancement.

Nursing Agencies such as:

Nursing units - offering living areas with medical care for those not able to live independently.

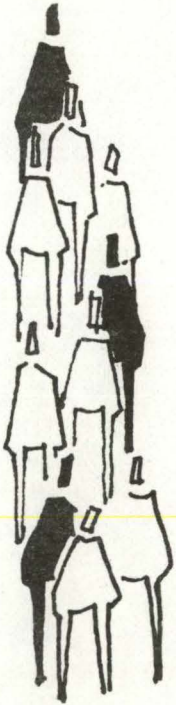
Independent living units - offering self-care units for the most progressed in-patients, for those whose homes are inaccessible, for those who require out-patient care.

Administrative Agencies: functioning as the cohesive focal point of the internal organization.

and a variety of general agencies all must function within a unified program utilizing every available aspect of the real community, thus assuring the affected individual of every learning opportunity.

The personnel conducting the various agencies within the rehabilitation center must act as teachers and guides constantly realizing the objectives and needs of each individual. It is the

The Community



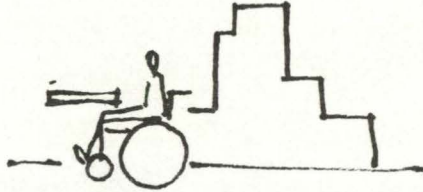
Disabling Conditions

Accidents

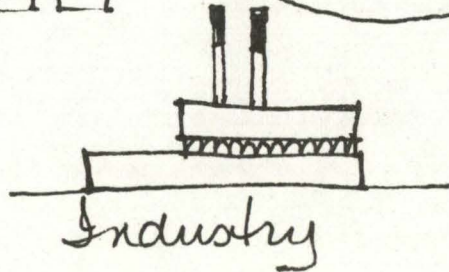
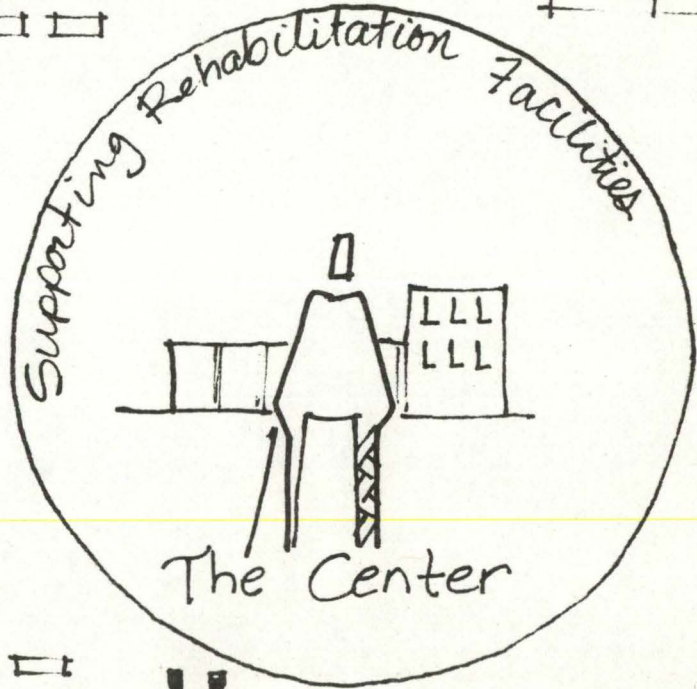
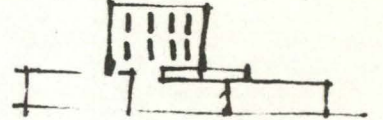
Disease

Congenital

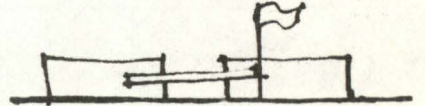
Commerce



Hospitals



Schools



duty of the personnel to provide opportunities for each client that will aid him in obtaining an independent productive life.

Proper planning of the rehabilitation center to assure the success of its programs must include a total integration of the center into the community it is to serve:

Commerce and industry offering employment and training programs,

Educational facilities with adult learning classes both within and outside the center plus instructors of all levels,

Health facilities to aid with the problems of disability and provide research programs,

Housing for both staff and families,

Recreation both passive and active offering an inclusion into community activities,

Transportation both public and private giving accessibility to community amenities,

Religious centers for spiritual aid.

All of these elements are both useful and necessary to assure the effective re-entry of the individual into his community.

case studies

"The evaluation of ... area facilities ... will provide the basis for design decisions for a new center in this same region".

Other than the Charlotte Rehabilitation Hospital itself, two area rehabilitation centers deserve attention for both positive and negative evaluation. The evaluation of each of these facilities will serve two primary purposes. First, it will put into focus the types of adult care centers available around Charlotte. Second, it will provide the basis for design decisions for a new center in this same region.

The third case study will be of a facility noted by the Charlotte Rehabilitation Hospital as being exemplary of the type of comprehensive facility of tomorrow.

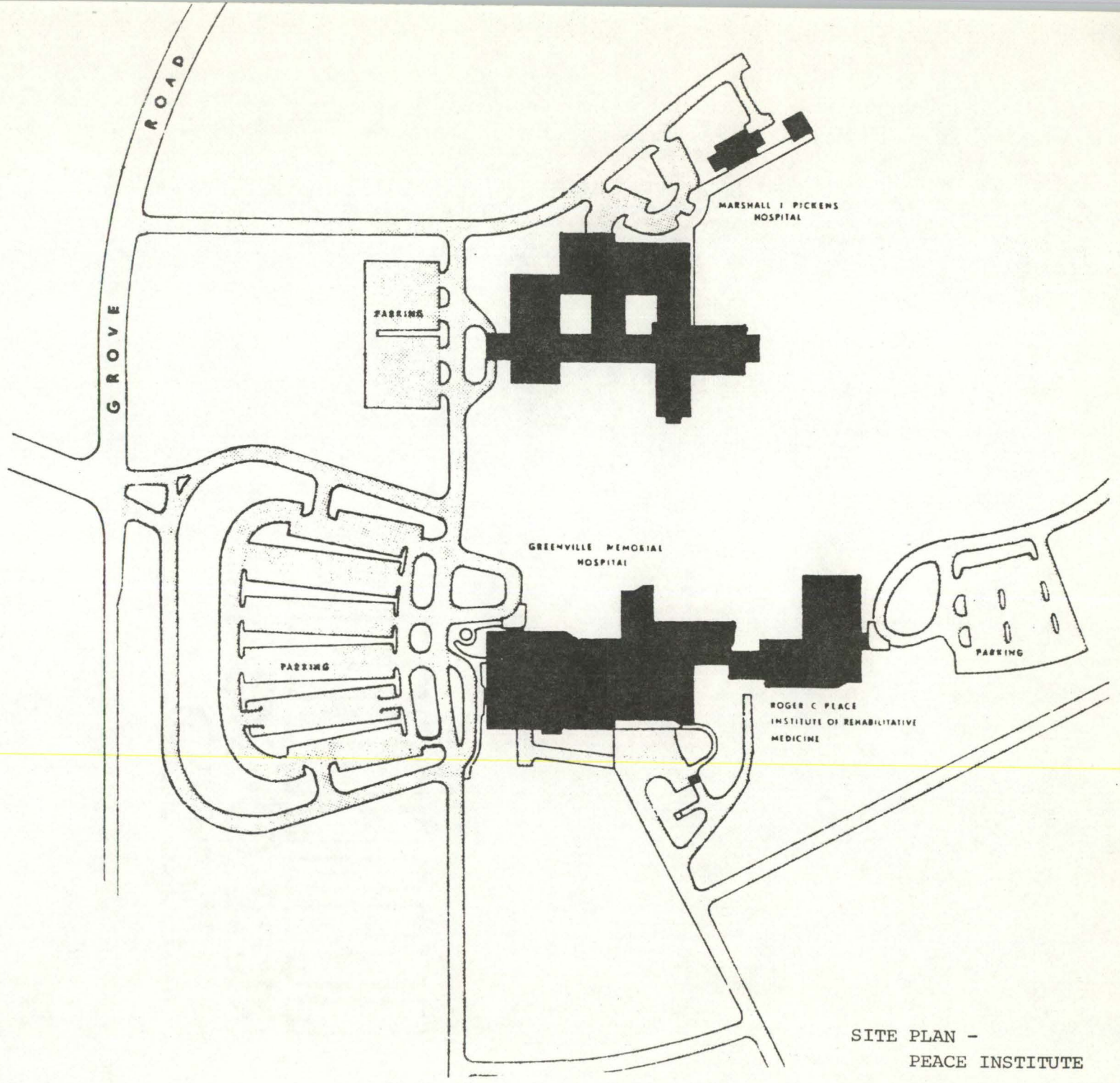
PEACE INSTITUTE

Peace Institute is located in Greenville, South Carolina and is an adjunct part of Greenville Memorial Hospital. Its service care includes the Greenville-Spartanburg area and the southwestern foothills of North and South Carolina.

The total in-patient capacity of the institute is 45. The patients of Peace Institute are comprised of adults ages 18 through 64 and some elderly. The disabilities represented by these patients are primarily musculoskeletal, however, major emphasis is placed upon hemaplegia. The reason for the emphasis upon this neuromuscular disorder is the director's desire to study treatment methods for hemaplegics. Patients of Peace Institute have an average length of stay of three months per patient.¹²

An interview with a twenty-five year old female paraplegic yielded information classified by the facilities vocational counselor to be average for all patients her age.

- She expressed a genuine fear of the physical and social obstacles she would encounter upon leaving the institution.
- She would be willing to encounter these same obstacles while at the institution if they would better prepare her for leaving.



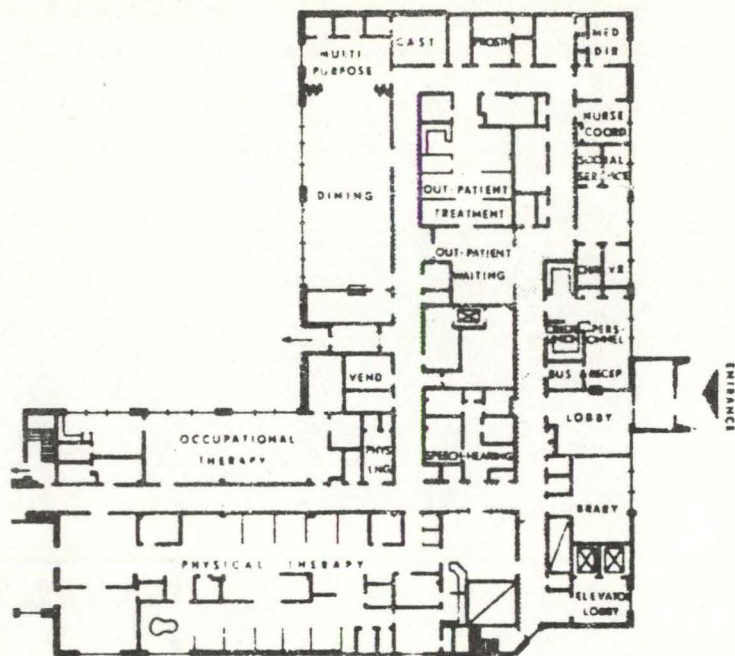
SITE PLAN -
PEACE INSTITUTE

- Her acute care bed was depressing and she would enjoy having it de-emphasized.
- She expressed a very strong interest to go back to college.¹³

All of these comments show significant relationships to community living.

The building housing Roger C. Peace Institute was completed in 1972 and was designed as an adjoining wing to the Greenville Memorial Hospital. The total facility occupies two floors, a total of approximately 15,500 square feet of positive conditioned space. The building was obviously designed for medical as opposed to vocational care. No recreational facilities were designed into the building. The later acquired Recreational Therapy department occupies an unfinished basement area. Negative spaces would be nonexistent if not for one door exiting to an exterior court area. The exit was evidently designed as a means of egress as not an entrance to a usable out of doors space.

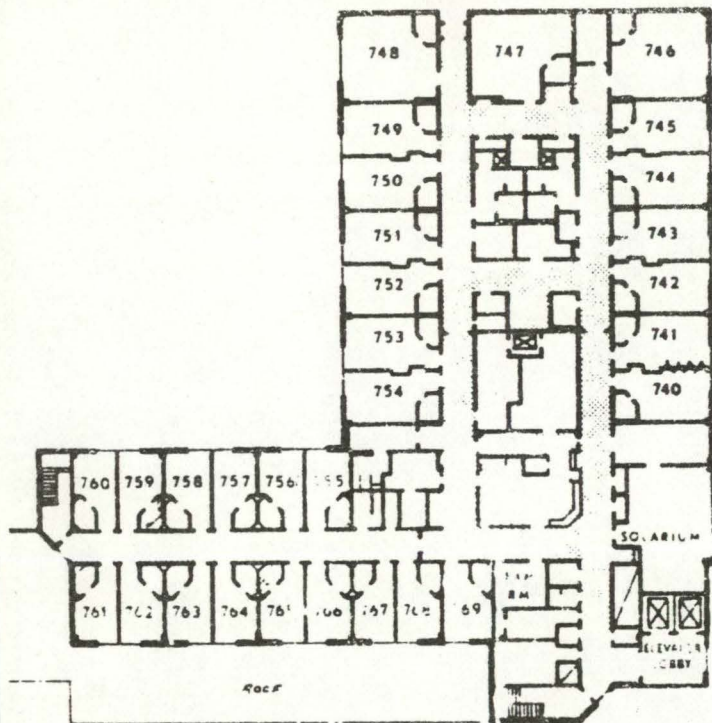
The main floor houses the administrative units, the out-patient clinic, dining, occupational and physical therapies, gymnasium, and speech and hearing.



The administrative area is adjacent to the main entrance and out-patient clinic. It is immediately accessible to all patients, which has significance. Patients are classified based upon their desire to seek therapy. It is the patients responsibility to initiate any advanced treatment process by coming to the administrators and asking for aid. This is significant because the patient must show an "independent" motivation before advanced therapy can begin. This philosophy also promotes the need for the patients' mobility. If an individual has mobility, his psychological and social well being will follow.

The out-patient clinic here services primarily the greater Greenville area. Clients utilize this facility for post-resident care as well as for continued treatment needs. The number of clients using this division of the institute fluxuates but in nearly three times the in-patient capacity. The out-patient clinic is located adjacent to the cast room, prosthetics, and dining as well as the administrative areas. The primary concern of the out-patient clinic is the physical well being of the client; however, social services are readily available.

NORTH
REHABILITATION
ENTRANCE



The dining area is centrally located on this first floor and operates in conjunction with a multi-purpose room so as to serve as an auditorium. As a dining hall, however, the area is used by both patients and staff. Both patients and staff are encouraged to use this dining area. The occasion gives both parties the opportunity to interact socially and at the same time provide each with a learning experience. The patient gets the opportunity to use the skills he has learned in manipulation of his wheelchair, braces, etc., as well as engage in the private activity of eating while under the public eye. The staff member gets the opportunity to observe the patients' behavior gaining valuable knowledge for future treatment directives.

Occupational and physical therapies are located within the same corridor zone along with the gymnasium. Other than dining, O.T. is the only first floor therapy area with an external view. The addition of natural light into these areas seems beneficial to the relaxed atmosphere of both. The O.T. area is devoted to teaching the patient independent living within his home environment. Various apparatus are used to

simulate home setting to help teach home activities. One of the primary goals of the therapist is to teach agility. Various crafts are taught for this purpose. The primary purpose of Physical therapy is to teach physical independence, therefore, major concentration is placed upon the use of apparatus designed to aid in mobility. Hydrotherapy is also a part of this area and is used to aid the affected areas of the body. The Physical Therapy unit is located adjacent to the gymnasium which is an optimum position. Quite often the gymnasium houses extended P.T. activities.

Speech and hearing is located between the general area of administration, clinic and dining and of P.T., O.T., and the gymnasium. This unit is specially designed for audio testing. It is readily accessible from the main lobby, clinic, and vertical transportation as it is used extensively.

The second floor of the institute contains patient rooms, nursing, and a patient activity room as well as supportive treatment areas. Since the institute is designed as an extension of the acute care hospital, the patient rooms are acute in nature. The rooms are relatively impersonal with

acute care beds, monitoring devices, and furniture. All rooms are finished with hard uni-colored walls. The rooms are in fact "hospital rooms".

The nursing area is similar to an acute care floor area with a central desk, transcribing rooms, and file storage. The only aspects of the patient care floor which seems to incite independence is the activity room and one small area with a washer and dryer where the patient can "do his own clothes".

CONCLUSION: A general view of the Roger C. Peace Institute of Rehabilitative Medicine would tend to support the basic shortcomings of many such adult rehabilitative centers. The programs, though highly medically oriented, are striving to be comprehensive and foster independence among its users. Programmatically, such tendencies are hampered by the physical limitations of the architecture housing the programs. The Roger C. Peace Institute is no exception.

ASHEVILLE ORTHOPEDIC HOSPITAL AND REHABILITATION CENTER

Asheville Orthopedic Hospital and Rehabilitation Center is a comprehensive rehabilitation center in Asheville, North Carolina. It was initially designed in 1938 as a treatment center for crippled children, polio victims, and children suffering from chronic infections and congenital problems. Presently the center services Western Carolina offering comprehensive children and adult services.¹⁴

Major emphasis in adult care is placed upon vocational evaluation training and work placement as well as therapies for physical treatment. The center serves all age groups - children and adults. Disabilities are not limited to types.

The setting for this facility is away from the main activities of the city and is made of a combination of old and new buildings. The architectural shell housing the activities and services include several primary buildings including a new acute care type hospital, a prefabricated metal building for vocational training, a reconditioned old home for a child learning center and therapies unit, and a school for child education.

The site itself is on a hillside with the buildings at a variety of elevations. The buildings are accessible to the more independent clients of the center, however, the site is somewhat restrictive for those of lesser agility.

Exterior recreational areas are relatively limited to child use. Adults primarily concentrate in indoor areas.

Adult patient rooms are located in the hospital. They are characteristic of the typical acute care rooms and are relatively inviting to the more mobile individual.

The therapy units and various treatment areas are concentrated in the hospital section of the center and are well equipped and staffed. The therapies and services offered include:

- Physical Therapy
- Occupational Therapy
- Speech and Hearing
- Nursing Service
- Recreation
- Clinics

For adult rehabilitation services include:

- Vocational Evaluation
- Evaluation Workshop
- Personal Adjustment Training
- On-the-job Training

The primary concern of the adult rehabilitation program is to promote independence and self-esteem within the client through vocational training and job success. The job training program here is geared toward teaching the individuals skills and abilities requiring an educational level of six years of public schools. The reasoning behind such a low aptitude level is given as, "that is the minimum requirement for employment in an industrial or mill type job". The job training program is therefore, geared toward the more simplistic menial, low-paying jobs.

Areas of evaluation and training include:

Industry -

Assembly line work
Machine usage
Etc.

Semi-skilled work

Engine repair
Electrical circuiting
Construction laborer
Sewing pattern layout
Use of machines
Etc.

Clerical work

Typing
Inventory
Collating
Reception
Etc.

Services Areas

Window washer
Sweeping and cleaning
Cooking
Snack Bars
Dish cleaning
Washing, ironing, folding laundry

Function Academics

Time telling
Cash transaction
Use of a telephone book

Etc.

It is obvious that the level of training is well below what would be considered "good paying job" training. Several reasons are given for such menial job training. First, this facility serves not only newly disabled adults but those who have been disabled since birth. Second, the disabilities served here include other than musculoskeletal and therefore, those with mental limitations. Third, the nonexistence of nearby higher learning institutions impedes the use of extra site educational facilities.

CONCLUSION: Asheville Orthopedic Hospital and Rehabilitation Center is comprehensive and services a needy area. Although the site is of ample size to house as many structures as treatment agencies, the extreme contour of the land is restrictive. The

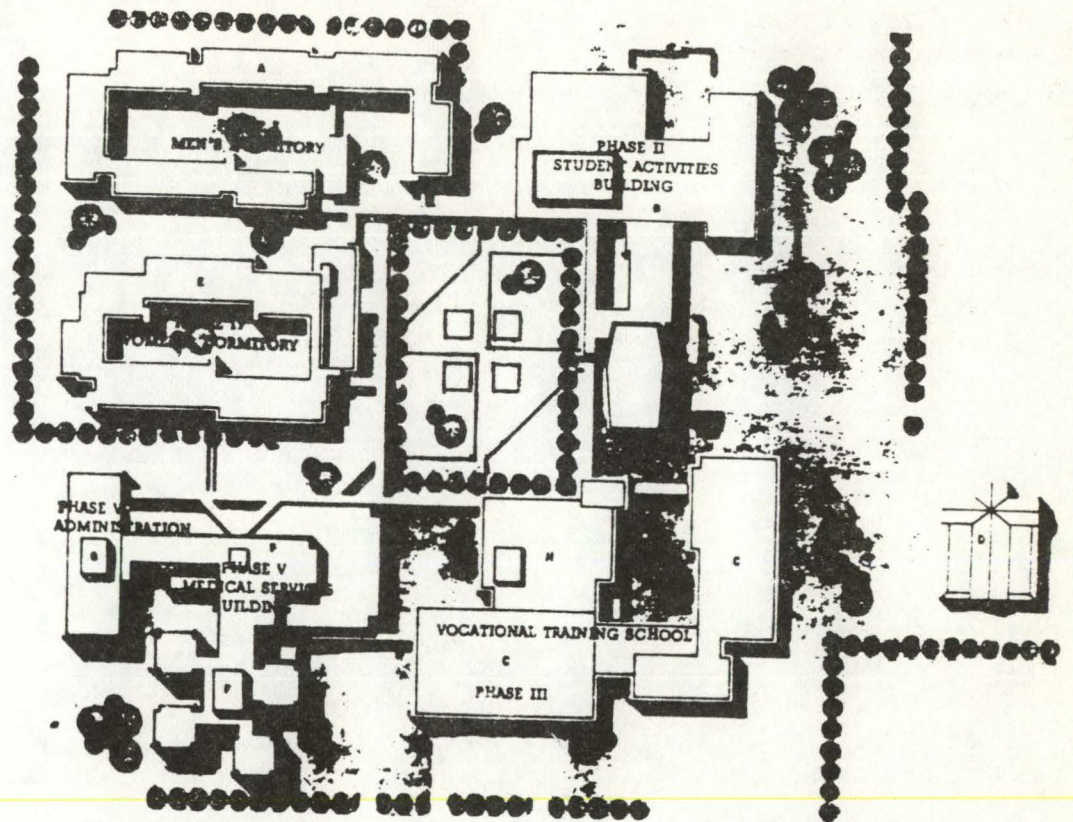
location of site is segregated from the community services and activities which could be useful in promoting job opportunities and fostering individual independence.

WOODROW WILSON REHABILITATION CENTER

One of the facilities selected by the Charlotte Rehabilitation Hospital as being exemplary of the most modern comprehensive and effective facilities for adult rehabilitation is Woodrow Wilson Rehabilitation Center.

Woodrow Wilson Rehabilitation Center in Fishersville, Virginia began in 1948 as a temporary army hospital. With its beginnings as an adult care center it represents one of the earliest comprehensive rehabilitation centers in the nation. Its staff of nearly 300 cares for and treats an inhouse capacity of 500 and serves nearly 1,800 annually. The facility's service area includes the state of Virginia and far beyond.

The Woodrow Wilson Rehabilitation Center offers a complete rehabilitation program including physical rehabilitation, vocational evaluation, counseling and training in many occupational areas. However, since it is not easily accessible by public transportation, or near a large population center, it lacks the cultural, social and medical resources which a more urban location would afford.



SITE PLAN -
WOODROW WILSON
REHABILITATION CENTER

- A. Men's Dormitory.
- B. Dining Hall and Activities Building.
- C. Vocational Training School.
- D. Maintenance Building.
- E. Women's Dormitory.
- F. Medical Services Building.
- G. Administration and Professional Building.
- H. Vocational Training School Extension.

When in 1961, a staged building program was begun to replace outdated buildings and add new structures demanded by an advancing program, intensive architectural research into building types was begun. Since the total process of rehabilitation is an "educational process", the architectural studies produced "the campus form" complex for rehabilitation. The total complex, when complete, will consist of such campus like structures as the Men's Dormitory, Activities Building and Vocational Training Unit, the Women's Dormitory, the Medical Services and Administrative Building, and the Research Unit.

The Activities Building is cited as the most unique and noteworthy (to date) of all of the structures. Since recreation has become such viable part of everyday life, Recreational Therapy has become as vital a part of rehabilitation. The Activities Building at Woodrow Wilson is the center for a "recreational program designed to encourage the growth and development of the whole person".¹⁶

CONCLUSION - The "campus form" initiated by Woodrow Wilson Rehabilitation Center has been labeled as "a milestone of progress in the development of comprehensive rehabilitation

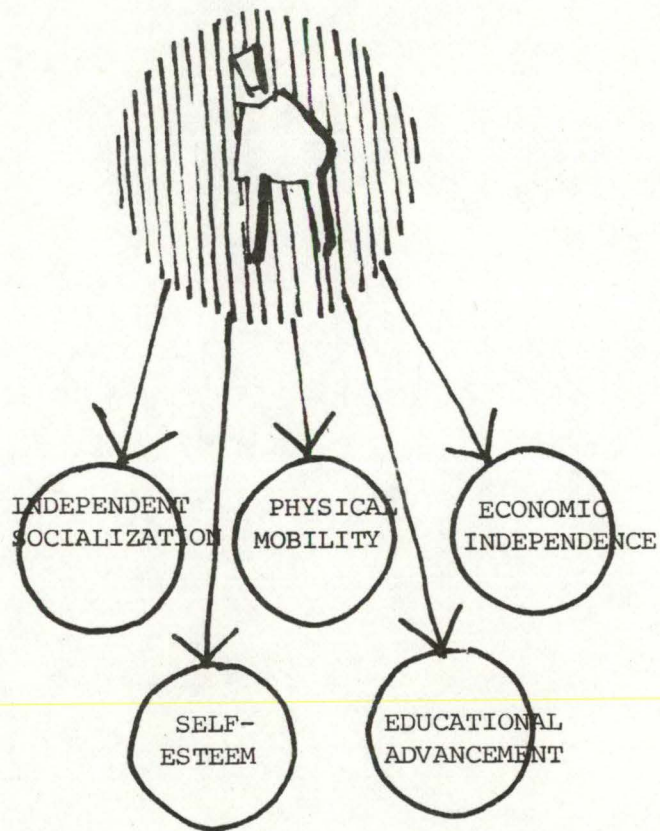
facilities in this country".

With the exception of the location of the facility away from the mainstream of community activity, the physical setting is conducive to positive "re-learning" or rehabilitation. The individual has the opportunity to re-learn, with his affected condition, to live in a multi-building environment, to encounter natural and man-made obstacles common to everyday life, and to exist in an environment predicated upon teaching and learning instead of programmed conditioning.

To include such a "campus form" into an urban community setting would be to broaden the scope of the re-learning process to include social contacts with other than disabled individuals, cultural contacts with community resources, and medical contacts with varied speciality institutions.

the campus concept

"Since mobility is a major element of insured independence, the rehabilitative setting should serve as a stimulus to individual mobility".



LEARNING OPPORTUNITIES

The campus concept of design for an adult orthopedic rehabilitative setting is predicated upon the understanding that the total process of rehabilitation is a "re-learning process". All of the therapies, training, and teaching aspects of the process are bent upon providing each adult the opportunity to learn to live with his disability. In addition to teaching the adult to live with his imposed limitations, the process offers him opportunity to become an active productive member of his community. The campus design within an urban setting is capable of affording every major aspect of community living, except a family relationship, to occur within the protective realm of the center. Family living may be permitted on a short-term basis within the dormitories but the inclusion of children would most likely require more elaborate separate living units.

Just as no single environment can be designed to look like everyone's home, the center itself need not be designed so as to produce mock settings of community life.¹⁷ With the clientele being newly disabled mentally alert adults who are aware of normal community life, the facility should be inclusive of

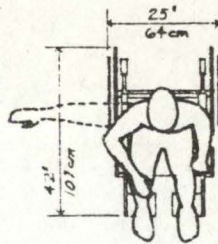
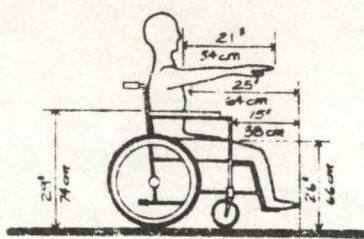
community activities. The center should be a multiplicity of buildings open to public pedestrian cross traffic. It should utilize nearby recreational, educational, spiritual, cultural, commercial, etc., aspects of the community. The clients of the campus setting should be capable of reaching all of these amenities with relative ease and still realize the protective shelter of the rehabilitation setting.

Since mobility is a major element of insured independence, the rehabilitative setting should serve as a stimulus to individual mobility.¹⁸ The setting should require the individual to move from one counterpart of the total treatment process to the other in order to utilize the opportunity afforded him. During his transit the individual should encounter the natural elements, as many other individuals as possible, both able bodied and disabled, and minor physical obstacles or challenges. All of these things he will encounter after returning to his home setting. To condition him for these encounters while in a protective setting will better condition him for when the protection no longer exists. The individual should as a final test be given the opportunity to venture outside the protective

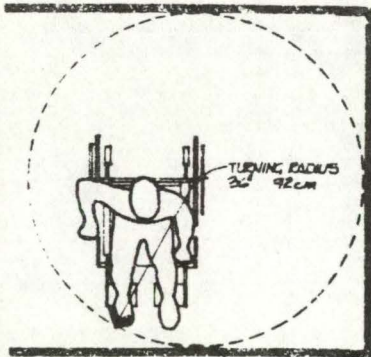
setting to seek more advanced community opportunities, thus completing his test of mobility and independence.

In addition to mobility, a major aspect of a campus setting is the opportunity for independent socialization.¹⁹ Within the rehabilitation campus as in any educational campus, areas for displays of varieties of art work, as well as plays, musical performances, public speaking, etc., should be provided both in and out of doors. External areas should be inclusive of other than disabled persons. They should take advantage of cross site pedestrian routes and be designed to be inviting to even the most average of passersby. External activities should be provided for in full view of as many campus structures as possible so as to visually include those clients who cannot participate. Internal activities for specialization should include movies, libraries, plays, musicals, public speaking, etc. Such areas as would normally be associated with recreational facilities should be made accessible to even the most disabled individual as well as to the general public.

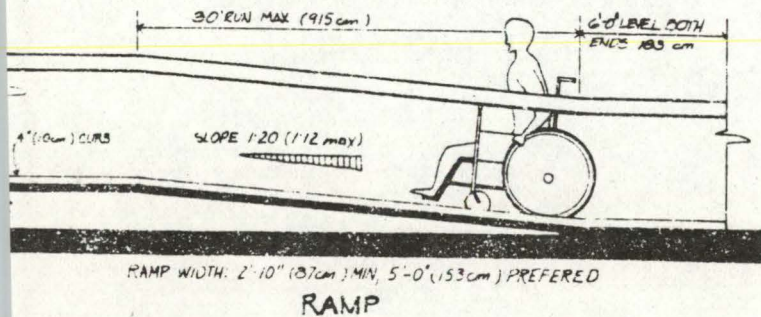
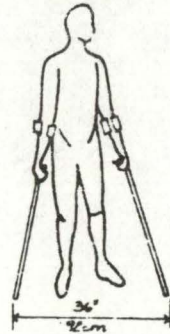
WHEELCHAIR



WHEELCHAIR TURNING



CRUTCHES

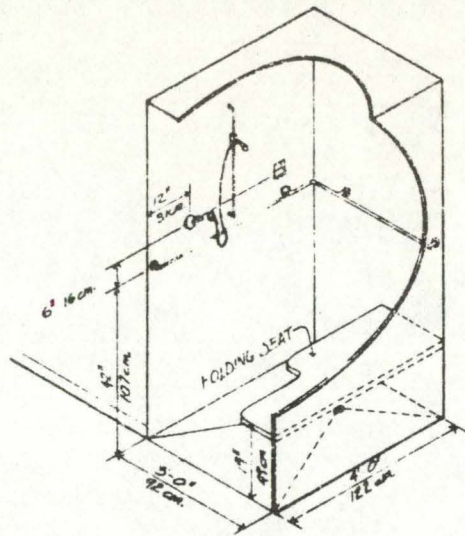


RAMP

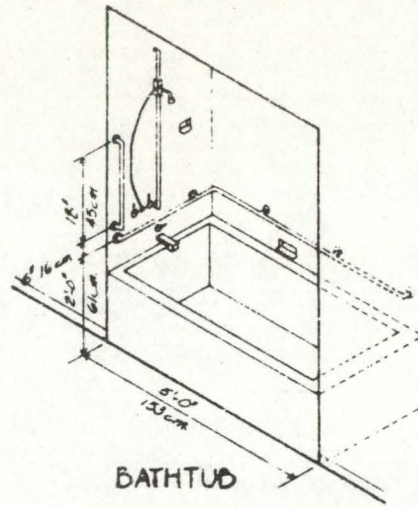
Although the campus setting is more open and flexible to encourage independence, it like any rehabilitative setting, is subject to numerous code and regulatory bodies both local and state. "A rehabilitative facility must be accessible to the disabled and provide easy means of egress, ingress, and mobility within the premises. Entrances must be level or adequately ramped or provided with platforms that allow easy transfer from ambulances, invalid buses, and other vehicles."²⁰ In addition to the philosophical rationale behind not impeding the mobility of the disabled, primarily that such action promotes dependence, these code requirements are concerned with the physical well being of the individuals, especially in emergency situations.

Code requirements for the elimination of mobility inhibiting barriers not only apply to the facility itself but in the state of North Carolina, as in many others, these codes are being applied to all public buildings. Such requirements as:

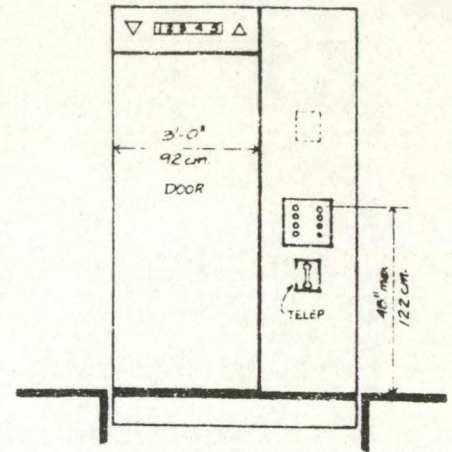
- a. At least one building entrance at ground level.
- b. 32" wide doors that open easily.



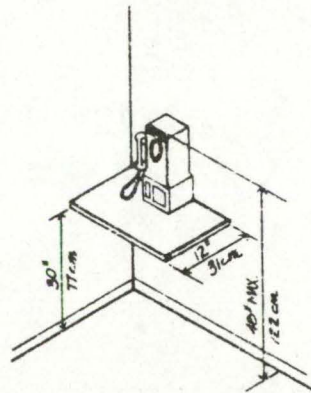
SHOWER STALL



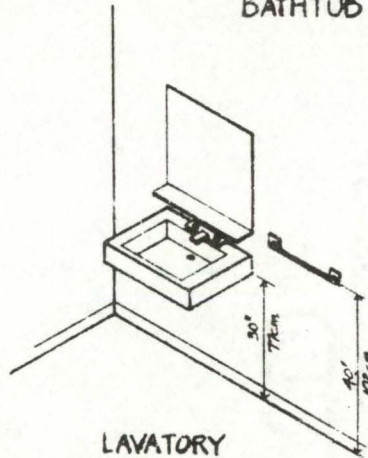
BATHTUB



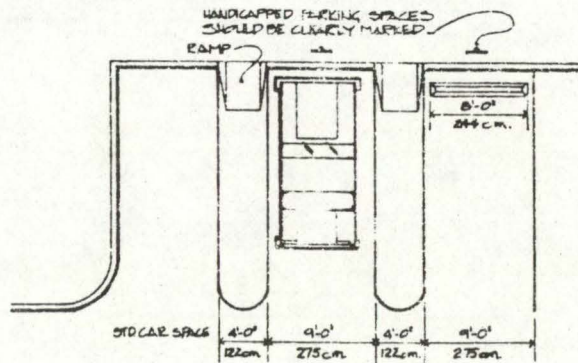
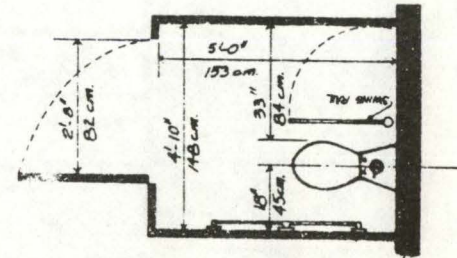
ELEVATOR INTERIOR



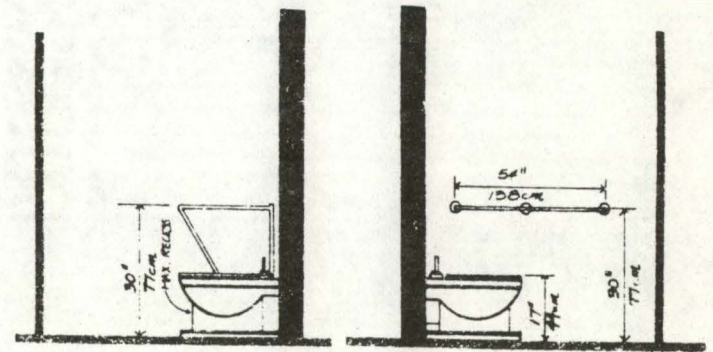
TELEPHONE



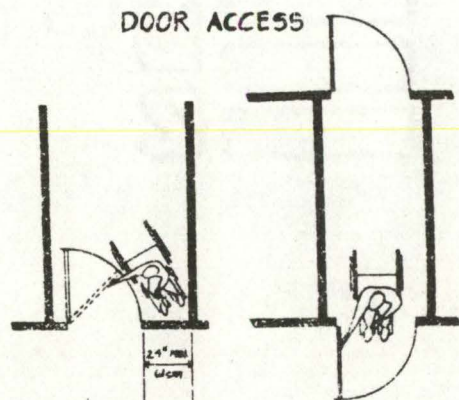
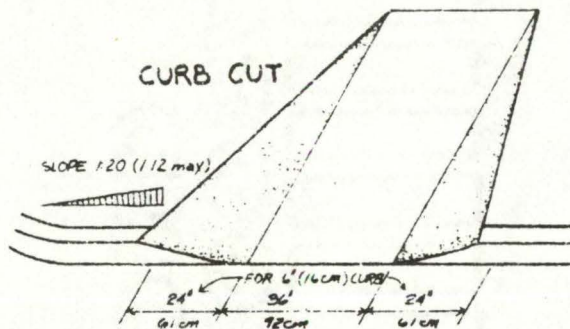
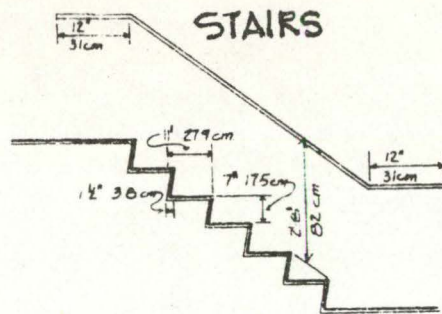
LAVATORY



PARKING



TOILET STALL



- c. Level thresholds to buildings and rooms.
- d. 1 to 12 sloping ramps instead of or in addition to stairs.
- e. Safe parking for handicapped close to building.
- f. Level walks with no curbs at cross walks.
- g. Access by the disabled to elevators.
- h. Restrooms with wide stalls and grab bars.
- i. Hand rails on stairs extending beyond the top and bottom steps.
- j. Non-skid floors.
- k. Lower fountains and public telephones.²¹

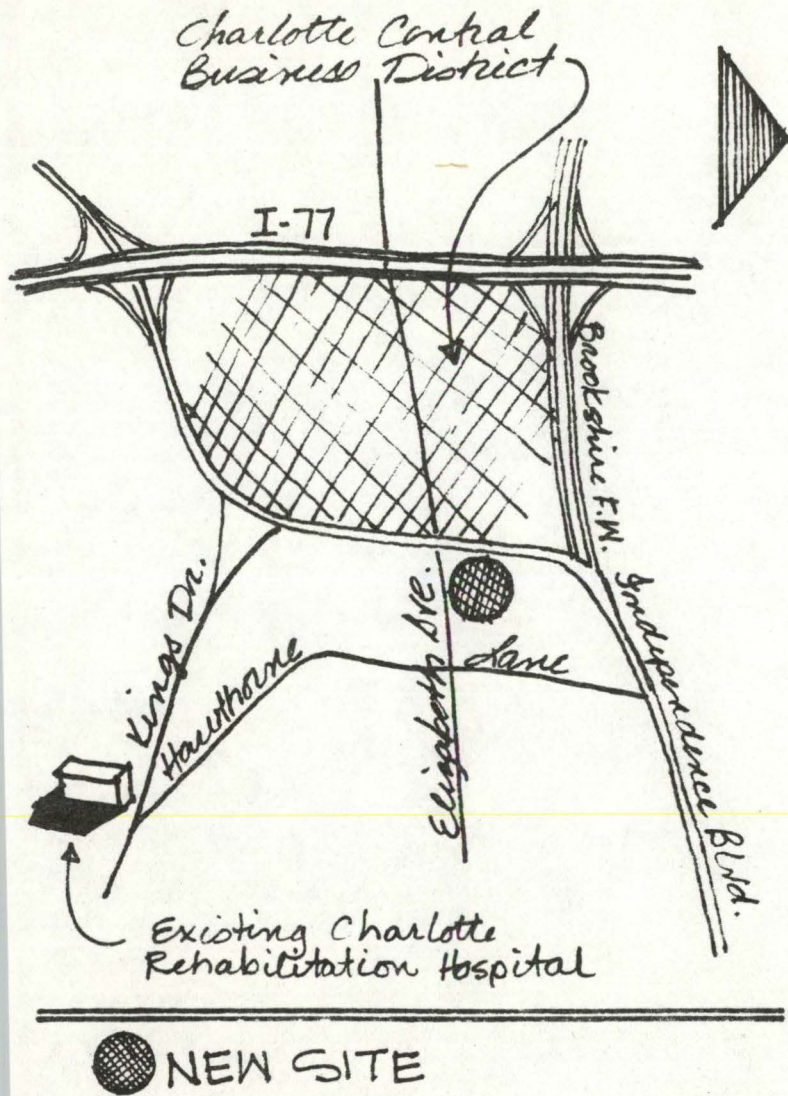
All serve to make our public buildings more accessible to the disabled.

Other than freedom of movement, major codes address themselves to the problems of personal hygiene. Regulations cover dimensional characteristics of toilets, dressing areas, showers, etc., all of which must be such that natural human functions are not inhibited.

More overall code restrictions govern the general characteristics of therapy, work, and recreational areas and their subsidiaries. Included would also be mechanical, electrical and plumbing equipment.

site selection

"The site and its immediate surroundings must be as sympathetic to the total rehabilitative program as the buildings and therapies within."



To allow such numerous learning opportunities to occur not only requires an intense study of the on-site building types and their juxtapositioning, but equal intensity is required in the selection of a sympathetic site within the community. The site and its immediate surroundings must be as sympathetic to the total rehabilitative program as the buildings and therapies within. The site must yield as many learning opportunities as challenges promoting the physical well being of the individual.

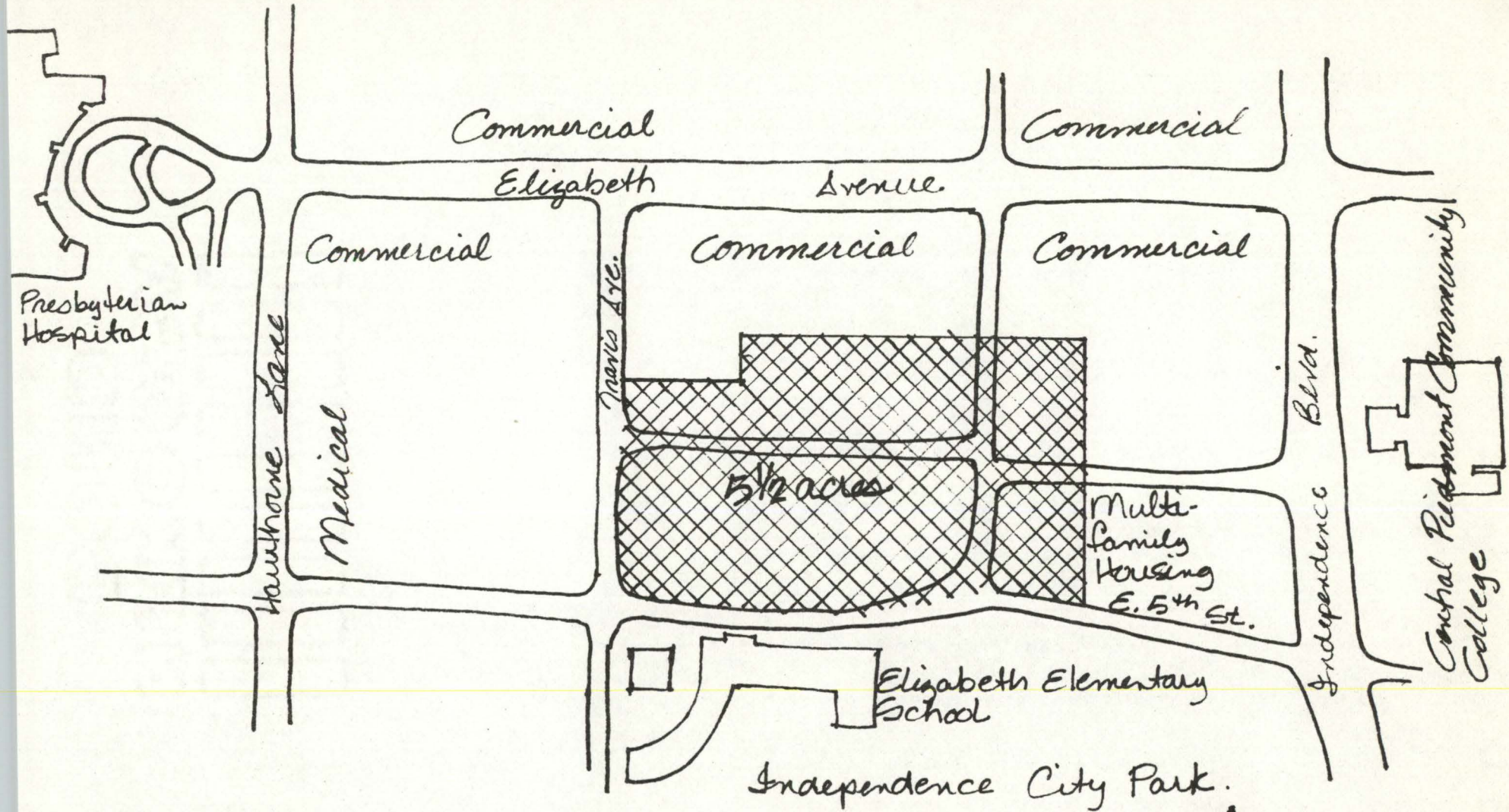
The site selected for the relocation of the Charlotte Rehabilitation Center (it will be referred to henceforth as Center) is in sharp contrast to its existing site. The new site is located on the fringe of what is labeled Uptown. East of the uptown district, the new site is one block east of East Independence Boulevard, north of Elizabeth Avenue, and bounded on the east and north by Travis Avenue and Fifth Street respectively. Within the surrounding blocks adjoining the new site are: Elizabeth Elementary School, Independence City Park, a multi-family residential section, numerous commercial and professional buildings, and a Presbyterian Church. Within two blocks surrounding the site are: Central Piedmont Community

College, a large Baptist Church, an Episcopal Church, Charlotte Memorial Stadium, Charlotte Presbyterian Hospital, and numerous medical, commercial, and professional businesses. Still within walking distance of the site are: Mercy Hospital, Kings College, parts of the Charlotte Central Business District, churches, residences, and various community amenities.

The site is presently used as an unstructured parking lot for Central Piedmont Community College students and as the site of several dilapidated residential units. Automotive traffic is concentrated on the south side of the site on Elizabeth Avenue but Fifth Street has a volume of traffic during school days (Elizabeth Elementary is on Fifth Street). Pedestrian traffic is concentrated along Elizabeth Avenue, however, a large number of pedestrians traverse the site in route to and from Central Piedmont Community College and Independence Park.

Investigation of the site and traffic flow around and through it reveals that:

1. Automotive access from Elizabeth Avenue to Travis Avenue to the site is the best route for the most frequent short time user such as an out-patient clinic user, or visitor.



2. Automotive access from Elizabeth Avenue down Travis Avenue to Fifth Street is the best route for long staying users. Those such as out-patient workshop users, dormitory residents, and staff should use this means of access because of the infrequency of use of Fifth Street.
3. Service vehicles should use the western most means of access from Elizabeth to Torrence Street. Torrence is a little used avenue and will have the largest concentration of pedestrians.
4. Pedestrians should be permitted cross site routes through the campus to promote the interaction between the disabled and non-disabled.

The 5½ acre site slopes gradually from east to west diagonally down from between 14 to 16 feet. Such a gradual gradation affords multiple opportunities for varied levels and testing situations. Level changes within the negative site spaces will aid to increase individual stamina and mobile independence. Such changes in elevation will also provide the basis for interesting and exciting exterior socializing areas.

Such surrounding amenities as have been mentioned will not only provide off-site testing and learning situations but will provide the sources for social, cultural, and spiritual activities to be brought to the center.

service agencies

" ... the campus facilities must also house the various service agencies used in the treatment process."

In addition to housing the clientele, the campus facilities much also house the various service agencies used in the treatment process. An expanded program for the Charlotte Rehabilitation Center will include the following agencies:²²

- General Administration
- Psychological Training
- Speech and Hearing
- Spinal Cord Injury Unit
- Physical Therapy
- Hydro Therapy
- Occupational Therapy
- Vocational Rehabilitation Offices
- Vocational Evaluation-Testing
- Sheltered Workshop
- Recreational Therapy
- Orthetic/Prosthetic Appliance Shop
- Dormitory Housing
- Mechanical, Dietary, Central Supply
- Parking

It is the unified effort of all of these services with the physical campus setting that provides the multiplicity of treatment opportunities necessary to produce independent productive rehabilitants.

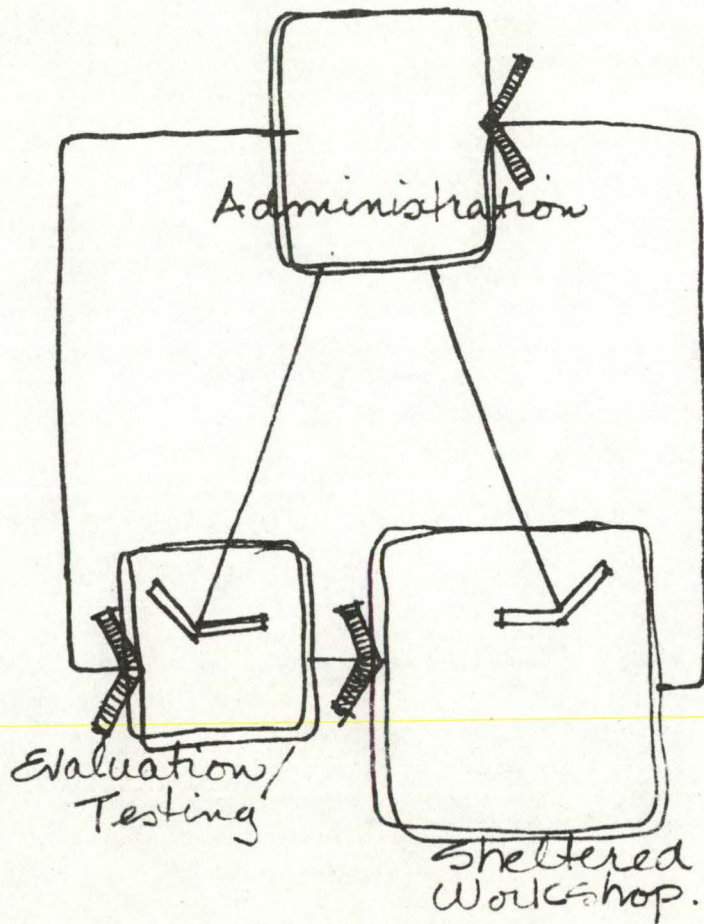
vocational rehabilitation

... today an individual's "productive worth is closely associated with the work situation."

"Because of the strong occupational attachment of the white collar professional to his work, disabling accidents or diseases do not usually affect their employability very seriously except when the disability affects their mental faculties or when it is extremely severe and threatens sheer survival. These people have too much invested in their work and have usually been satisfactorily rewarded so that their withdrawing from the labor force would penalize them too acutely from a financial, social, and psychological point of view."

"The blue collar worker builds an identity as a "good provider". Because of his emphasis on responsibility and on being self-supporting, affliction caused by a disability can be quite threatening to the "self-concept". The most effective way to handle this threat is by returning to gainful employment (preferably the predisability type) and thus reestablishing as soon as possible the predisability equilibrium".²³

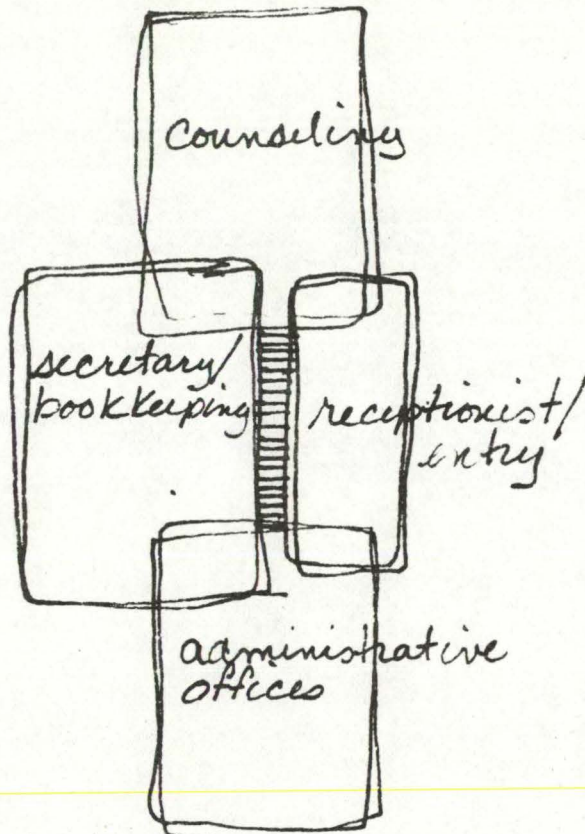
"A survey of a large sample of handicapped persons conducted in 1965, indicated that about 80% of the disabled men and 60% of the disabled women had been employed at some time prior to the onset of their disability."²⁴



All of this serves to emphasize the importance that quality, gainful, employment plays in the scheme of total rehabilitation. For an individual to become a productive member of his community, he must have some means of proving his productive worth. In today's society this productive worth is closely associated with the work situation. The individual must be evaluated, tested, and trained to assume a work position that will net him the maximum psychological and economic gain. "In 1965, the median income of families having a disabled person was only \$3,923".²⁵ This size income by today's standards is at poverty level and certainly not indicative of a productive, progressive community citizen.

The Vocational Service agencies within rehabilitative setting should be composed of three (3) major segments: Administrative, Evaluation/Testing, Sheltered Workshop. Each level should serve as prerequisite to the other.

The administrative segment should process and council the individual as to his objectives and potentials. At the same time, this administrative segment must unify and manage the total vocational program. Next the Evaluation/Testing segment

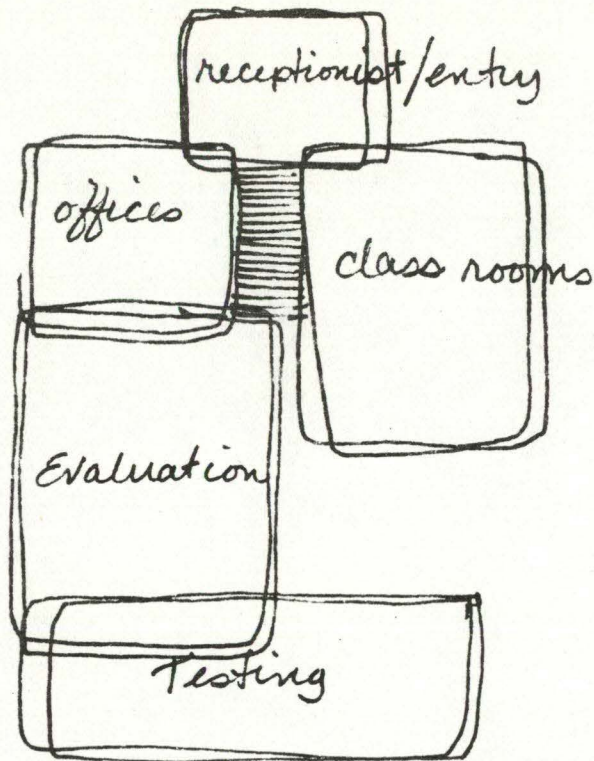


serves the individual by helping him to discover his work capabilities and to develop solid directions to follow. The third and final segment serves the individual by providing him with real life work opportunities to apply his new or modified directives.

The campus concept requires that there should be as much separation of the interagencies as of the service agencies themselves. Such separation gives strength to the campus concept objective of promoting independence through increased mobility.

Since the activities of the three vocational rehabilitation segments vary, so should their architectural shells. Three objectives should be recognized in the design of these areas. First, the architectural arrangement of the three one to the other should depict the unity of the three. Second, the arrangement of their individual areas should be such that it promotes the fluid function of each segment's counterparts. Third, the design of each should be such that it encourages the aggressive nature of the clients.

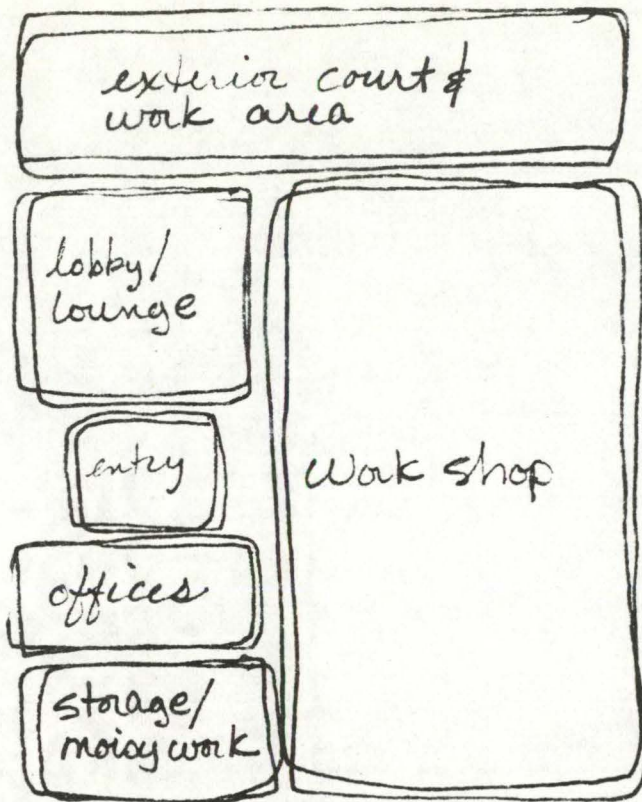
The vocational administrative building must occupy a prominent position between Evaluation/Testing and the Sheltered



Workshop. Since administration oversees all other activities, its architecture should reflect such power. The client areas of the administrative building should be included either physically or visually with the other administrative functions so as to promote the idea of oneness.

The Evaluation/Testing segment should be housed in a "middle position" since it is the second of three steps toward reaching the working community. At this stage the client has been processed by administration but has not been deemed qualified for a job situation. The architecture need not be inclusive since the activities there will be inward focusing. The architecture should be such that it welcomes outside activities but retains its concentration to within.

The Sheltered Workshop deserves prominence since it is the final stage before community employment. The architecture should be all inclusive physically and visually of the outside community. It should represent the positive independent attitude that the client has hopefully gained by this time. The architecture should be open especially toward the "outside world", however, it should remain strong and positive reflecting its position within the

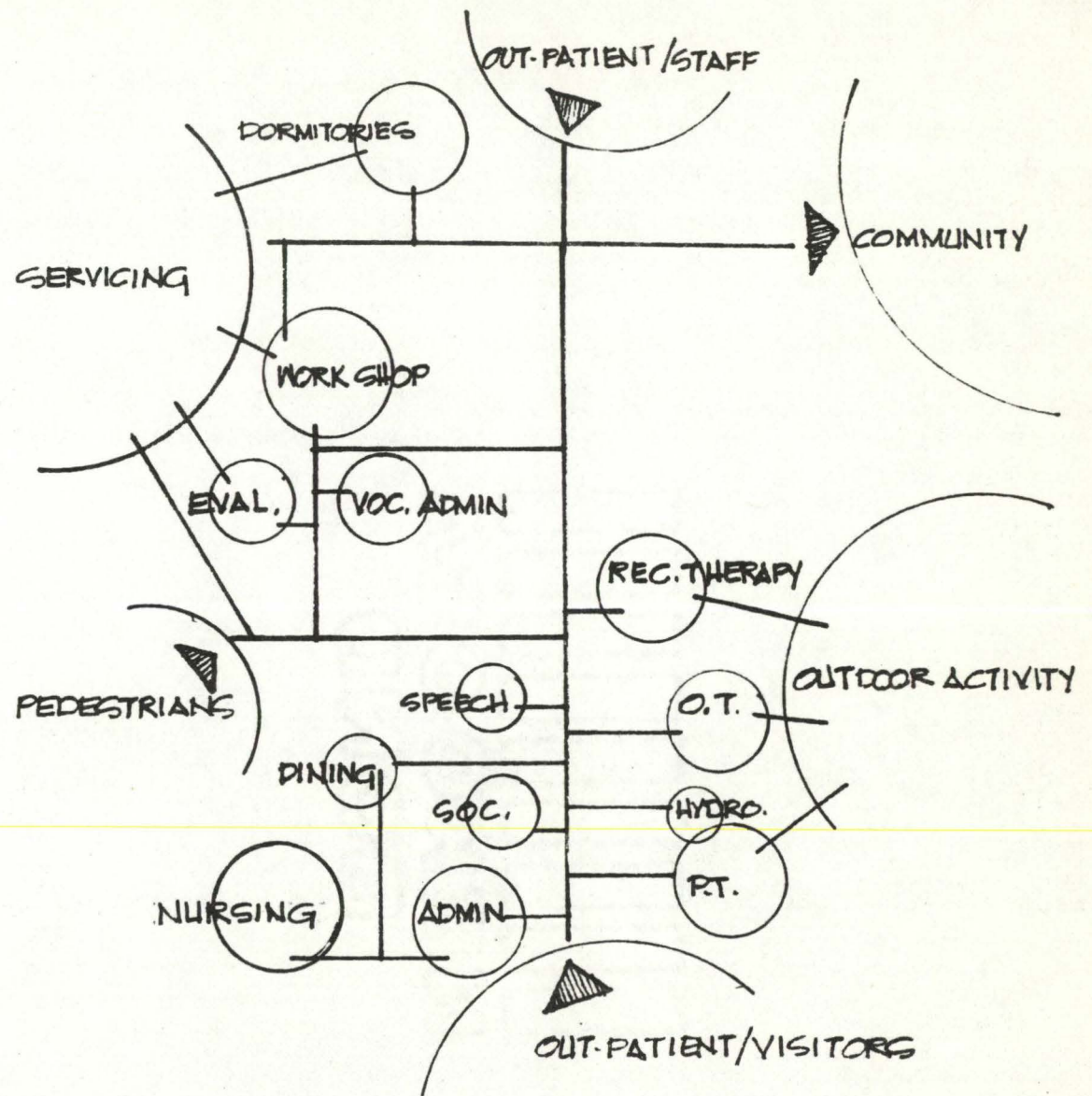


vocational triad. The interior areas though segmented to protect its many activities should be open to allow the socialization natural to a work situation.

The objective of vocational rehabilitation is to assist the disabled individual in regaining his productive abilities so as to insure his independence. Past experience has proven that an individual who can regain productivity is less likely to become a ward of society. Vocational Rehabilitation agencies have for years proven their abilities in aiding the disabled to regain productivity. Although years of testing have proven effective ways of implementing these programs, little thought has been given to the nature of vocational rehabilitation setting. A positive setting sensitive to the activities it houses can only serve to increase the effectiveness of the activities.

The vocational triad while working together must uniformly be an integral part of total rehabilitation setting. Architecturally, it should serve as a cornerstone of the entire setting signifying the termination of the rehabilitation process and the beginning of an independent community life.

**departments of
the campus
concept**



Department

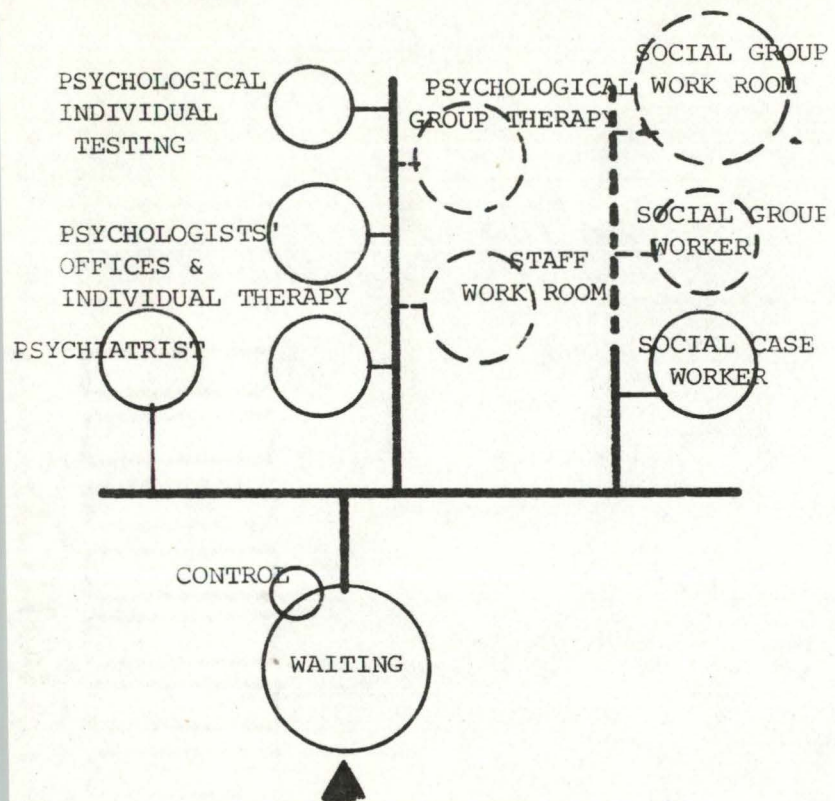
Approx. Sq. Footage

Administration -

4,600

Secretarial pool and filing
Admin. office
Assist. Admin. office
Toilets (2)
Closet
Public lobby
Switchboard/Receptionist
Business office
Computer office
Medical records
Medical social services office (2)
Public toilets (2)

The administrative department should be near out-patient and visitor's entrys. It should be closely related to in-patient restrictive care beds. It should be convenient to parking and public transportation routes. The administrative department requires a close relationship to Vocational Rehabilitation training and workshops. A good exterior view and orientation is required for the workers in this department as well as moderate sound isolation.



Department

Approx. Sq. Footage

Psychological Training -

950

- Clinical psychologist's office
- Test room
- Psychological group therapy
- Social group work room
(may be included with O.T./P.T.)
- Social worker's office
(include with Admin.)

This area should be closely related to inpatients and the administrative area. It should be zoned quiet.

Department

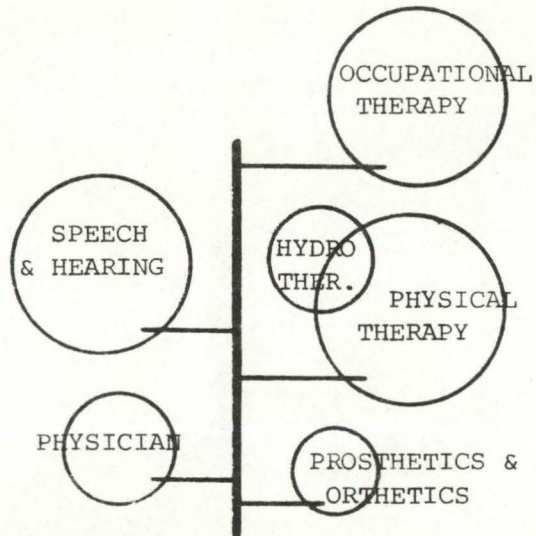
Approx. Sq. Footage

Speech and Hearing -

1,430

- Director of Speech and Audiology Office
- Waiting and receptionist
- Test room with control
- Toilets (2)
- Coat room
- Individual therapy
- Practice room
- Group therapy room
- Observation room
- Storage

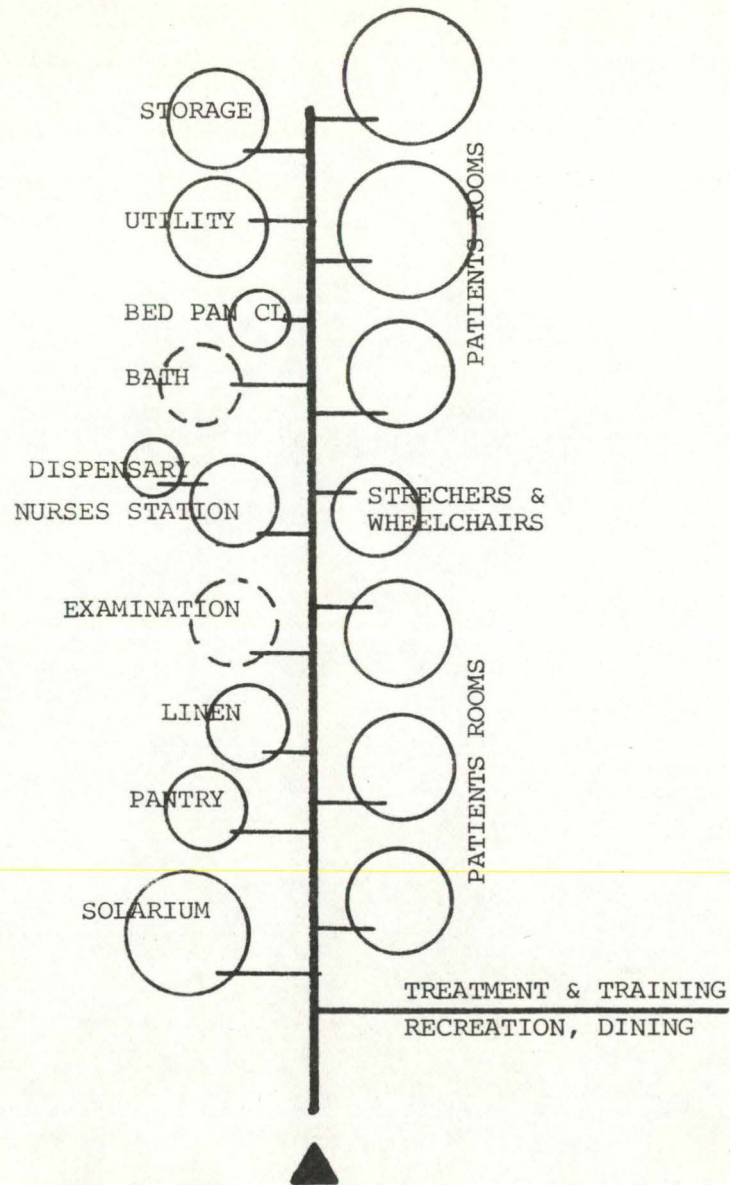
This department must be easily accessible to inpatients as well as out-patients. It may be near psychological and social units. It must be zoned quiet, away from elevators, stairways, toilet rooms, workshops or any major source of noise.



ADMINISTRATION

SOCIAL ADJUSTMENT

VOCATIONAL



Department

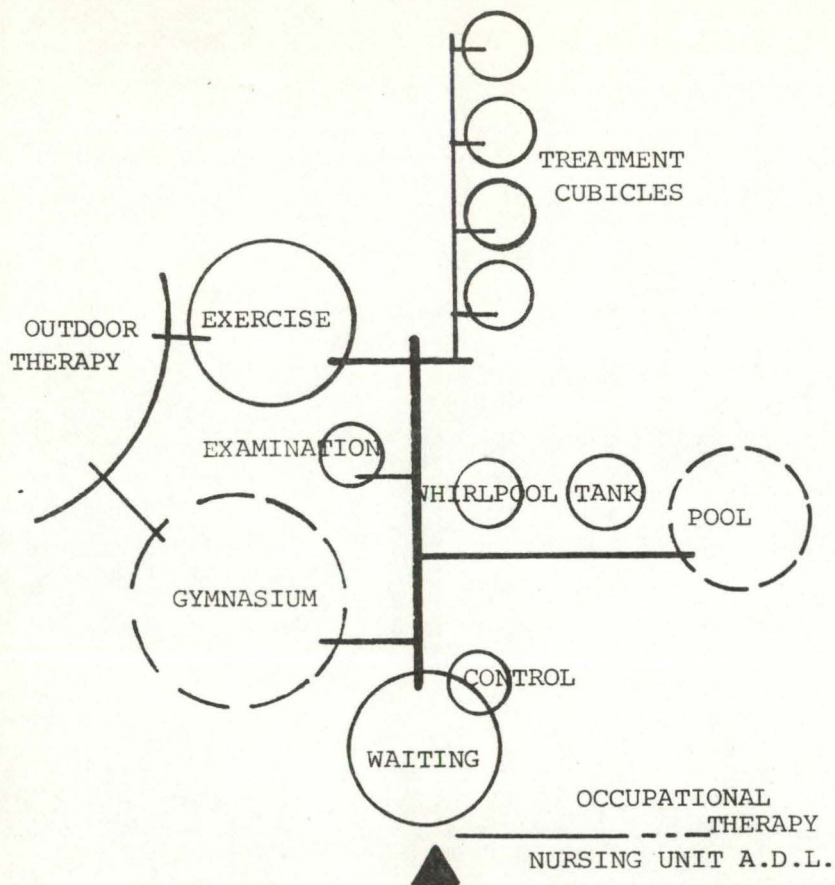
Approx. Sq. Footage

Spinal Cord Injury Unit -

20,600

- 66 private patient rooms
- Nurses station
- Soiled utility room
- Medical room
- Nurses's office/conference
- Physician's office/conference
- Physician's dictation
- Nurse's toilet
- Clean linen (2)
- Equipment storage
- Dining/recreation
- Stretcher/wheelchair storage
- Toilets (2)
- Janitor's closet (2)

The S.C.I. unit must have a direct association with the administrative area and the main entry. The unit must be zoned quiet and have primary views and orientation. Accessibility from the unit to all therapy and medical areas is essential.



Department

Approx. Sq. Footage

Physical Therapy -

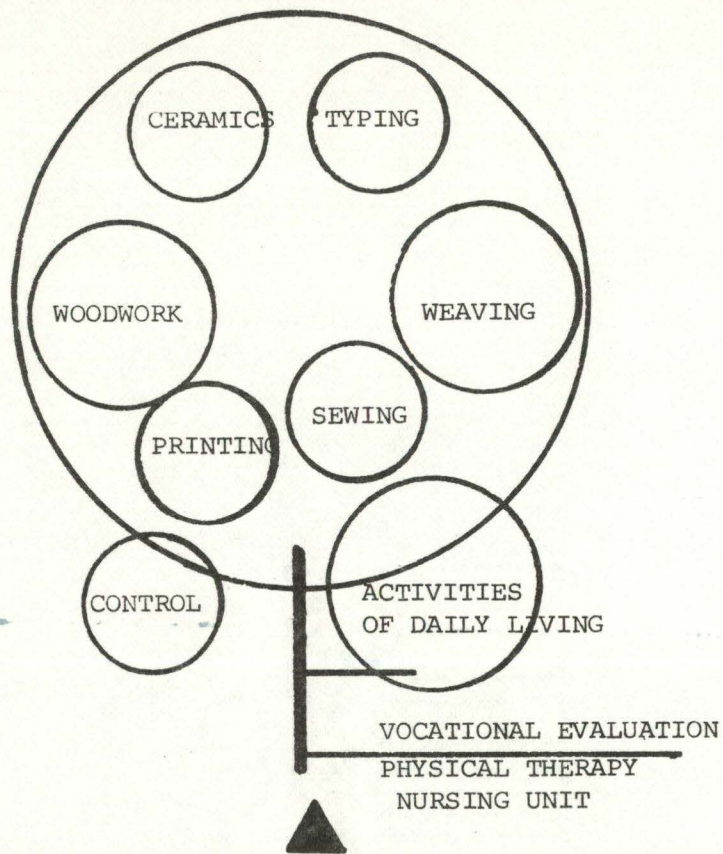
4,100

- Chief Physical Therapists' Office
- Waiting room (shared with O.T.)
- Treatment areas (3)
- Examination room
- Gymnasium, exercise, storage

Hydro Therapy -

- Tank room
 - Immersion tank
 - Stretcher parking
 - 2 treatment tables
 - 2 whirlpool cubicles
 - Waiting (shared with O.T.)
 - Linen storage
- Dressing
 - 2 toilets
 - 2 locker rooms
 - 2 shower rooms
 - 2 stretcher parking
 - Storage
- Hydro Therapy Pool

The Physical Therapy Department must be closely associated with O.T. It should also have outside space and be in a generally noisy zone. Its facilities may be shared with Recreational Therapy. Access to out-patient entry is essential. Inpatient accessibility is mandatory.



Department

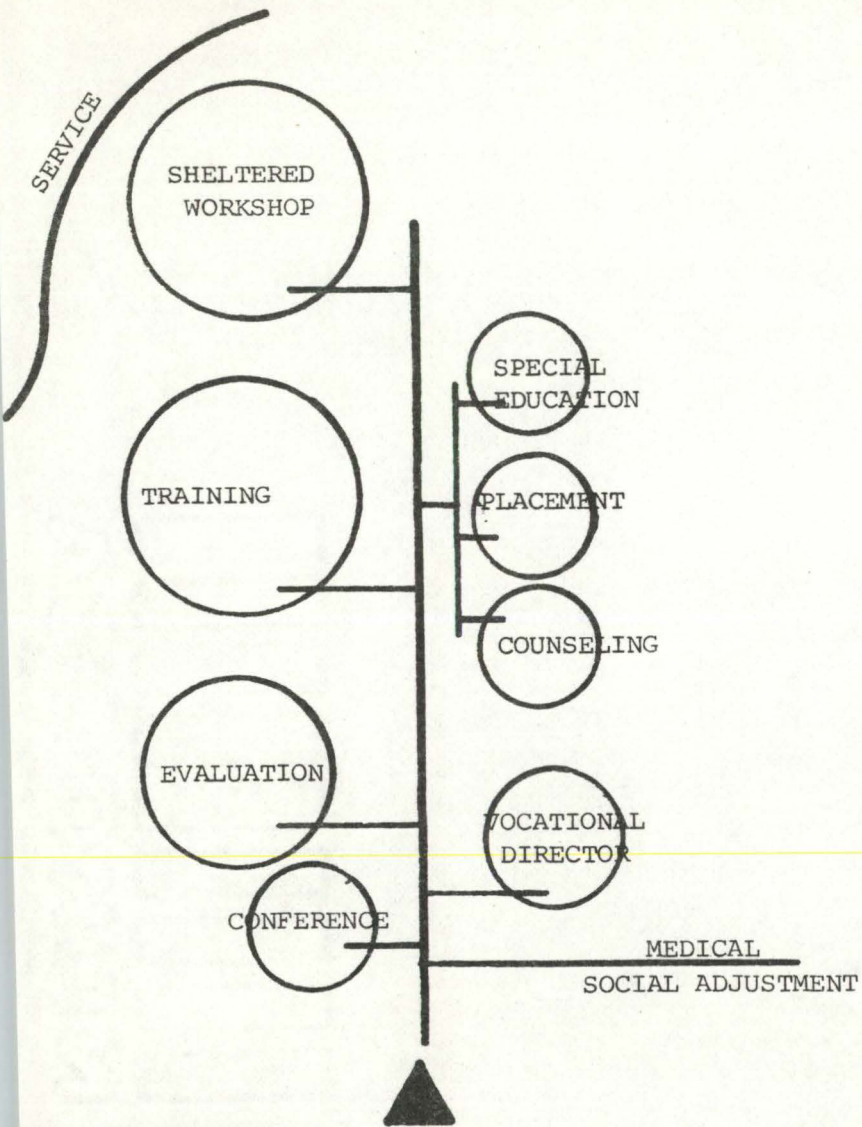
Approx. Sq. Footage

Occupational Therapy and
Activities of Daily Living -

3,180

Occupational Therapists' Office
Waiting room (shared with Physical
Therapy)
Storage (supplies and equipment)
Work Area
Patient dressing, showers, lockers,
and toilet (2) - may be shared with
P.T.
A.D.L. director's office
Home Management Instructor's office
Activities areas

This department should be located adjacent to Physical Therapy and convenient to the Nursing units. It should also be accessible to Vocational Evaluation. The O.T. department should be zoned in a moderately noisy area and have outside work spaces. Good natural lighting is desirable.



Department

Approx. Sq. Footage

Vocational Rehabilitation Office -

5,600

- Receptionist
- Waiting
- Public toilets (2)
- Supervisor's office
- Head Secretary's office
- Conference room
- Storage
- Counselor's offices (13)
- Secretarial pool
- Doctor/Social worker's office
- Library/Conference room
- Employee's lounge
- Staff toilets (2)
- Kitchen for lounge
- Janitor's closet
- Assist. Supervisor's office

This department must have a close proximity to the out-patient entrance, main entrance, and handicapped parking. Because of its administrative nature, this department has a relationship to the major administrative department as well as to the vocational workshops. It requires a moderate degree of sound isolation as well as exterior orientation.

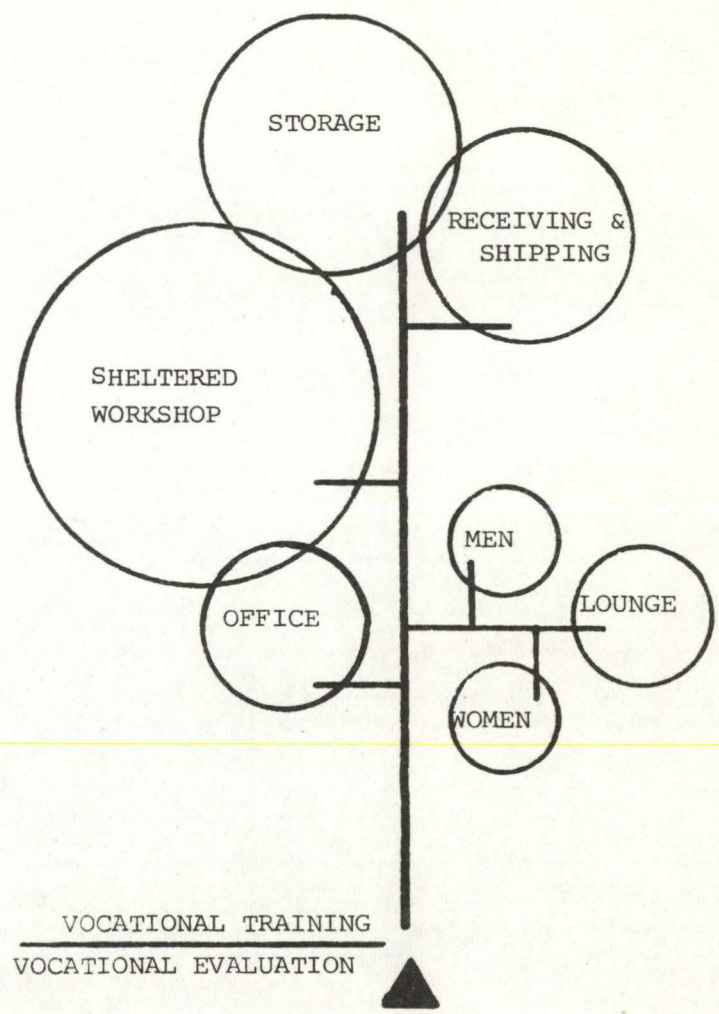
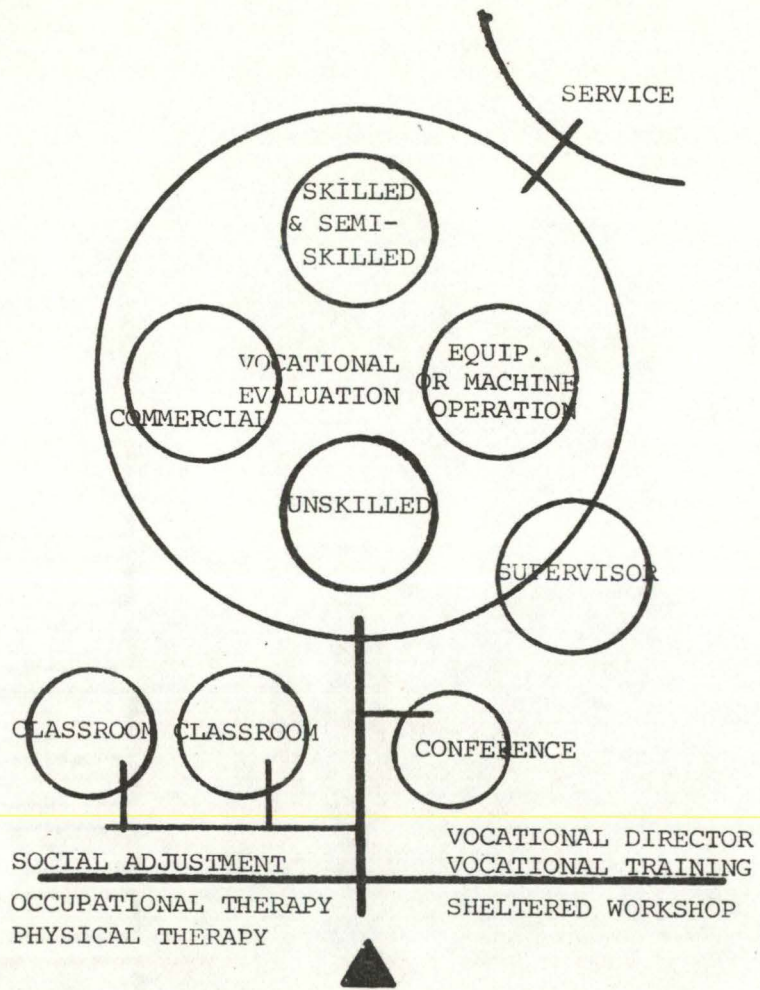
Department

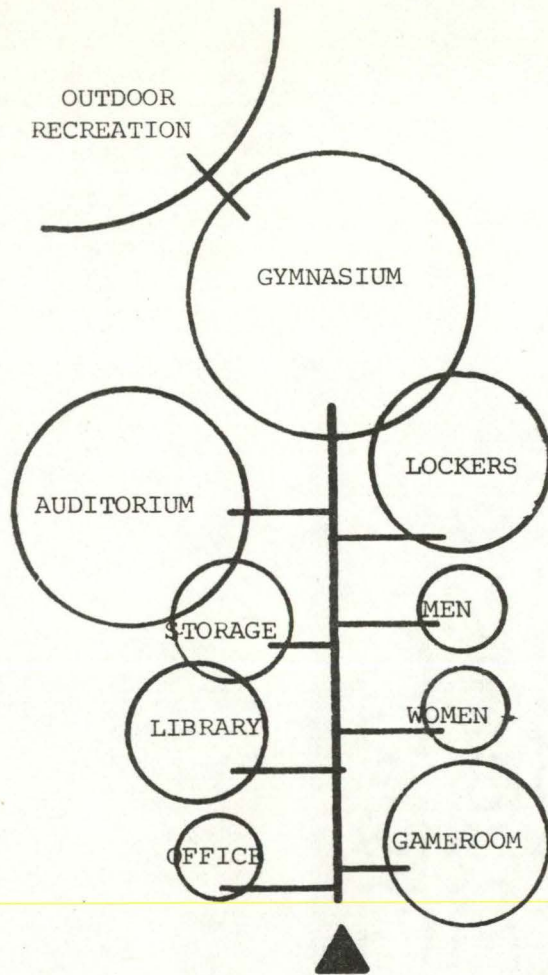
Approx. Sq. Footage

Vocational Evaluation-Testing Workshop - 13,850

Waiting
Director of Vocational Services Office
Production Supervisor's office
Secretary/Bookkeeper's office
Conference room
Classrooms (2)
Testing offices (4)
Work evaluation room
Production room
Warehouse
Central supply and storage
Loading docks (shipping/receiving)
Toilets (2)
Outpatient lobby/lounge
Vending area
Janitor storage

This department must be closely associated with the Vocational Rehabilitation offices. The outpatient entry must be reasonably close by because of the high level of usage by outpatients. This department is generally noisy and dirty. It requires the use of servicing and truck docks. Exterior work spaces are desirable. Natural lighting is helpful for the various work spaces but view and orientation are not critical.





Department

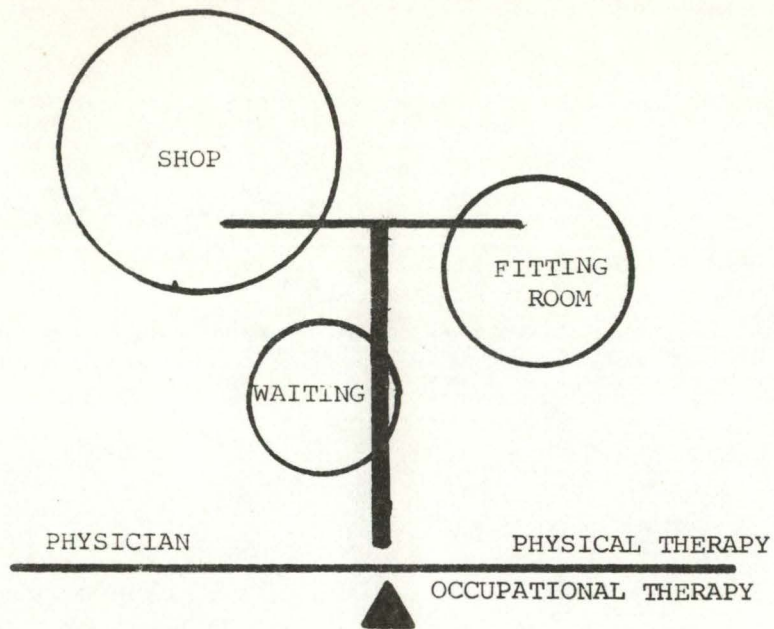
Approx. Sq. Footage

Recreational Therapy -

10,000

- Therapeutic recreator's office
- Assistant recreator's office
- Game rooms (2)
- Auditorium
- Gymnasium
- Toilets (2)
- Locker rooms (2)
- Storage
- Library

The R.T. department must be zoned noisy. It must be accessible to both inpatients and outpatients. It should be located adjacent to on-site exterior play areas and within close proximity to extra site recreation. On-site recreation areas should be both hard and soft and comfortable for both individuals and groups.



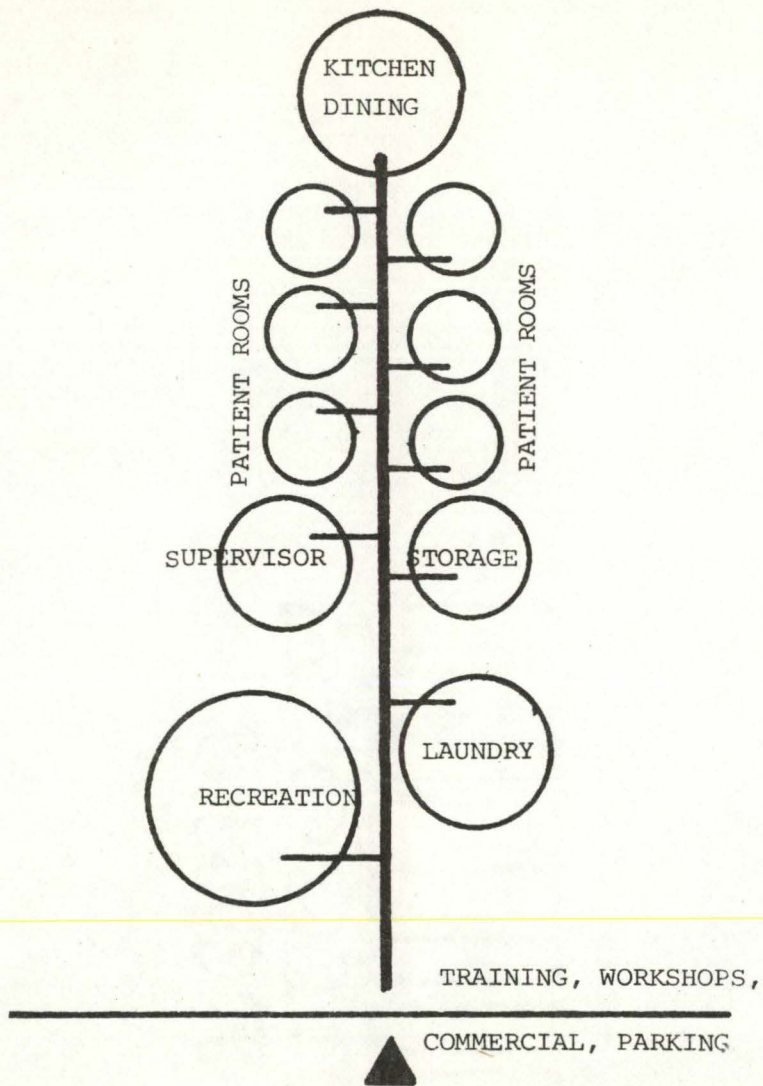
Department

Approx. Sq. Footage

Orthotic or Prosthetic Appliance Shop - 356

Waiting
Shop
Fitting Room

This area should be located adjacent to out-patient entrances and near a gymnasium or practice area. It should be zoned noisy. Should also be serviceable.



Department

Approx. Sq. Footage

Dormitory Housing -

12,000

- 36 rooms (single patients)
- 36 toilets
- 2 lounges
- 2 kitchens
- 1 laundry
- Storage and supply
- 1 dorm attendant's apartment
 - living, dining, kitchen,
 - 2 bedrooms, bath, office
- Mechanical
- Lobby
- Library

This housing may be one single structure. It need not be attached with a protective link. Access from this independent housing to other on-site amenities should be safe. This area should be zoned moderate noise. It should have a close relationship to recreation and off-site commercial and educational facilities.

Department

Approx. Sq. Footage

Mechanical, Dietary, Central Supply
and Storage -

7,700

Mechanical

Dietary (kitchen, storage, dining)

Central supply and storage (include
with Vocational Evaluation, testing,
and workshop area.)

All of these areas require a close proximity to servicing with
the exception of independent mechanical areas. These other
areas also require a closeness to patient housing.

Department

Approx. Total No. Cars

Structured Parking -

150

Service
Outpatient
Inpatient (dormitories)
Personnel

Parking areas should be designed as integral parts of the total facility. Parking should be divided so as to relate directly with the department it is to serve. The noise produced by automobiles should be of major consideration for all departments critical of high noise levels.

CHARLOTTE REHABILITATION CENTER

DEPARTMENTAL HOUSING FOR 100 IN-HOUSE CLIENTS

A. ADMINISTRATION

- 1 Administrator
- 1 Administrative Secretary
- 1 Business Manager
- 1 Financial Manager
- 1 Clerk Typist
- 1 Receptionist-Switchboard Operator
- 1 Medical Records Librarian
- 1 Medical Records Secretary
- 1 Plant Manager
- 1 Plant Engineer
- 2 Maintenance Men

B. ADMISSIONS AND MEDICAL, SOCIAL WORK DEPARTMENT

- 1 Director - Medical Social Service
- 1 Admissions Secretary

C. PHYSICAL THERAPY DEPARTMENT

- 1 Chief Physical Therapist
- 1 Assistant Chief Physical Therapist

5 Staff Physical Therapists

3 Assistant Physical Therapists

4 Physical Therapy Aides

1 Secretary

D. ACTIVITIES OF DAILY LIVING (ADL) DEPARTMENT

1 Director of Activities of Daily Living (R.N.)

1 Home Management Instructor (R.N.)

1 ADL Aide

E. REHABILITATIVE NURSING

1 Director of Nursing (R.N., B.S.N.)

1 Assistant Director of Nursing (R.N., B.S.N.)

1 Clerical Instructor (R.N., B.S.N.)

2 Liaison Nurses (R.N.)

13 Rehabilitation Nurses

6 L.P.N.'s

6 Rehabilitation Technicians

11 Female Nursing Assistants

8 Male Nursing Assistants

7 Orderlies

2 Transportation Aides

2 Ward Secretaries

1 Nursing Secretary

F. VOLUNTEER SERVICES

1 Director of Volunteer Services

G. PSYCHOLOGY DEPARTMENT

1 Clinical Psychologist

1 Secretary

H. VOCATIONAL REHABILITATION COUNSELOR

1 Vocational Rehabilitation Supervisor

1 Vocational Rehabilitation Assistant Supervisor

12 Vocational Rehabilitation Counselors

1 Secretary

I. OCCUPATIONAL THERAPY (O.T.)

1 Registered Occupational Therapist

1 Occupational Therapist Assistant

1 Occupational Therapist Aide

J. SPEECH AND HEARING DEPARTMENT

1 Director of Speech and Audiology (Ph.D.)

2 Speech Clinicians (M.A.)

1 Secretary-Receptionist

K. RECREATIONAL THERAPY

1 Director of Recreation

3 Assistants

L. VOCATIONAL EVALUATION-TESTING WORKSHOP

1 Director Vocational Services

1 Production Supervisor

4 Production Adies

1 Secretary

1 Evaluation Supervisor

M. ORTHETIC OR PROSTHETIC APPLIANCE SHOP

1 Orthetist or 1 Prosthetist

N. DORMITORY HOUSING

1 Dorm Attendant

1 Secretary-Receptionist

1 Maintenance Man

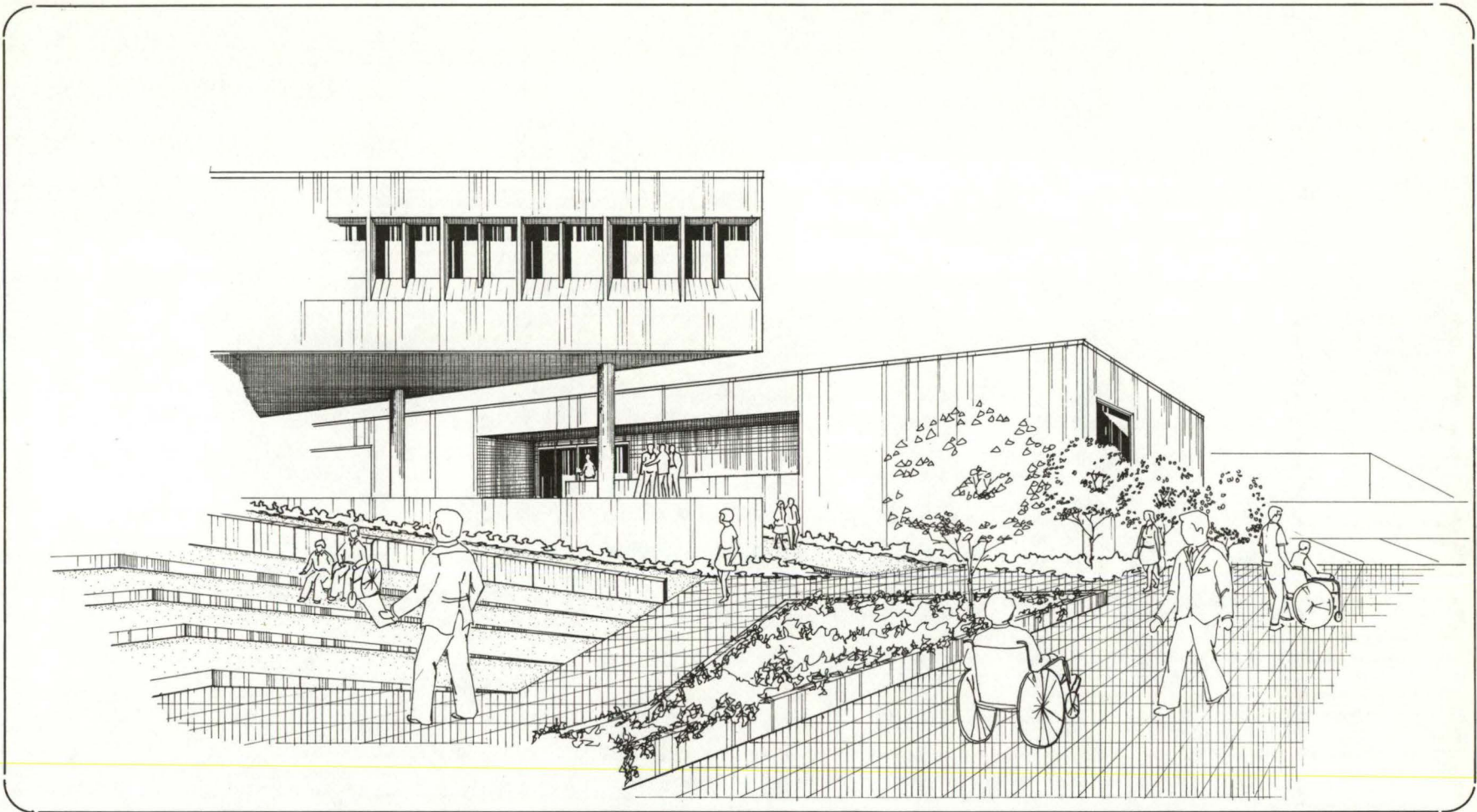
2 Attendants

SPACE RELATIONSHIPS		Sound Zones			Entry Areas			Preference to Best Exposure	Could be Isolated Unit	Related to Outdoor Activity	Related to Community
		Quiet	Moderate	Loud	Near Visitors	Auxiliary Entrance	Near Parking				
Rooms	Conditions										
MEDICAL											
Physician											
	Consultation	•			•	•	•	•			
	Examination	•			•						
	Lab-Utility		•								
	Radiology		•								
Physical Therapy											
	Examination		•								
	Exercise Room		•							•	
	Treatment Cubicle		•					•			
Hydrotherapy											
	whirlpool		•								
	tanks		•								
	pool		•								
	Dressing		•				•				
	Gymnasium		•				•			•	
Occupational Therapy											
	Treatment Room		•				•	•		•	
	A.D.L.		•								
Speech and Hearing											
	Audiometric Testing	•									
	Control & Testing	•									
	Individual Therapy	•									
	Group Therapy	•									
	Practice Room	•									

SPACE RELATIONSHIPS		Sound Zones			Entry Areas			Preference to Best Exposure	Could be Isolated Unit	Related to Outdoor Activity	Related to Community
		Quiet	Moderate	Loud	Near Visitors	Auxiliary Entrance	Near Parking				
Rooms	Conditions										
RECREATION THERAPY											
Auditorium			•								
Dressing Room			•							•	
Offices			•								
Gymnasium				•						•	•
Game rooms			•	•							
Outdoor Play Areas				•			•			•	•
ADMINISTRATION											
Offices		•	•		•						
Conference		•									
Clerical & Business			•								
Waiting Room		•			•						
GENERAL											
Offices		•			•						
Waiting Room		•			•						
Library		•					•				
Lounges			•								
Volunteer's Room			•				•				
Kitchen				•		•					
Dining				•			•			•	
Canteen				•							
OUTDOOR ACTIVITY											
Play Therapy			•				•			•	
Service				•						•	
Carport				•						•	

SPACE RELATIONSHIPS		Sound Zones			Entry Areas			Preference to Best Exposure	Could be Isolated Unit	Related to Outdoor Activity	Related to Community
		Quiet	Moderate	Loud	Near Visitors	Auxiliary Entrance	Near Parking				
Rooms	Conditions										
Ortho. &/or Prosto.											
Shop				•					•		
Fitting Room			•						•		
SOCIAL ADJUSTMENT											
Psycho. Individ. Test.		•									
" " Therapy		•									
" Group Therapy		•									
" Play Therapy				•							
" Staff Workroom		•	•								
Social Group Workroom			•								
VOCATIONAL											
Vocational Evaluation									•		
Commercial			•					•			•
Skilled			•	•		•					
Service			•	•		•					
Vocational											
Commercial			•								
Skilled			•	•		•					•
Service			•	•		•					
Sheltered Workshop									•		
Shop			•	•		•			•		•
IN-PATIENTS											
Bedrooms		•			•		•				
Nurse's Station		•									
Dispensary		•									
Solarium		•						•			

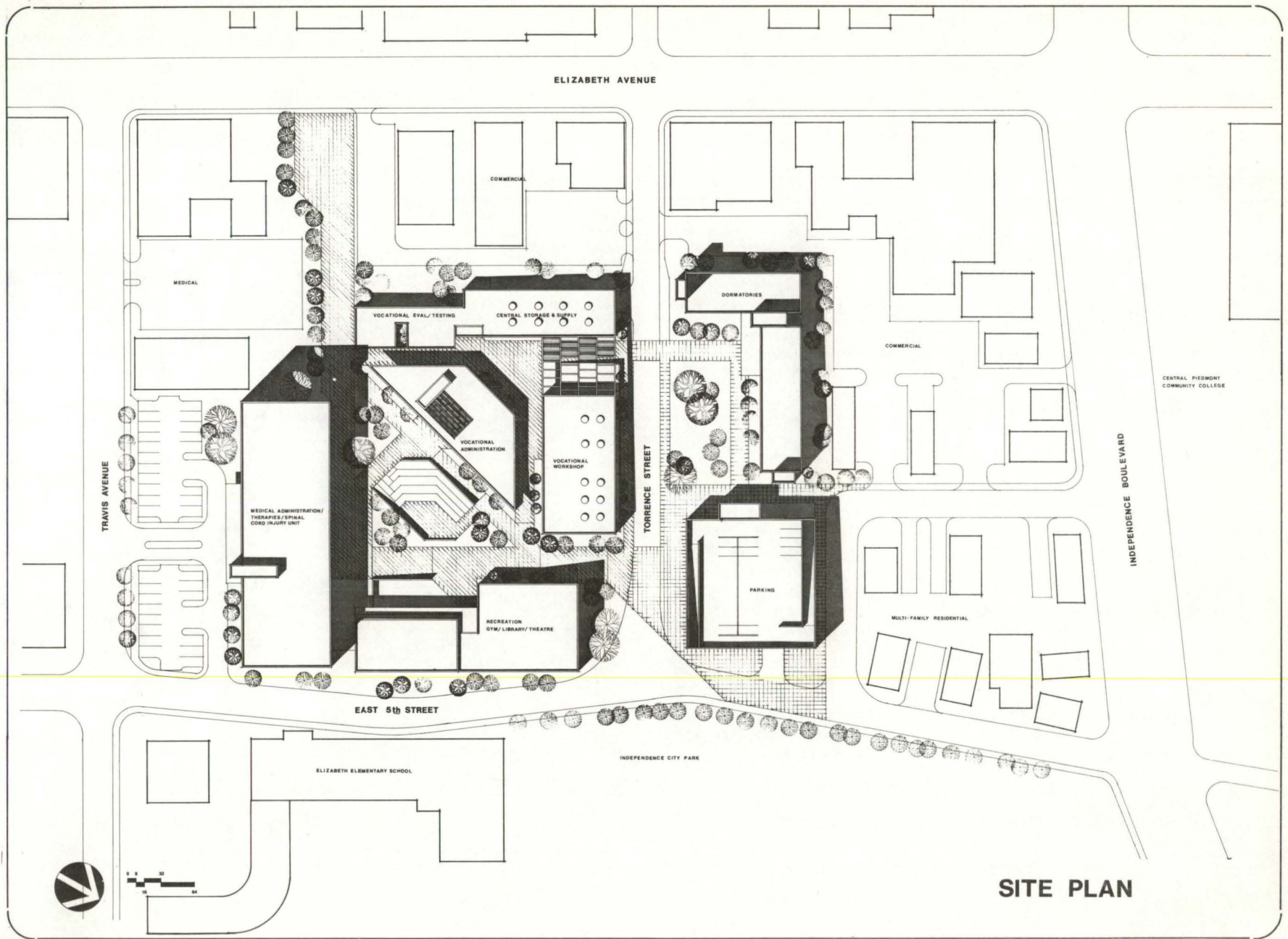
**problem
solution**



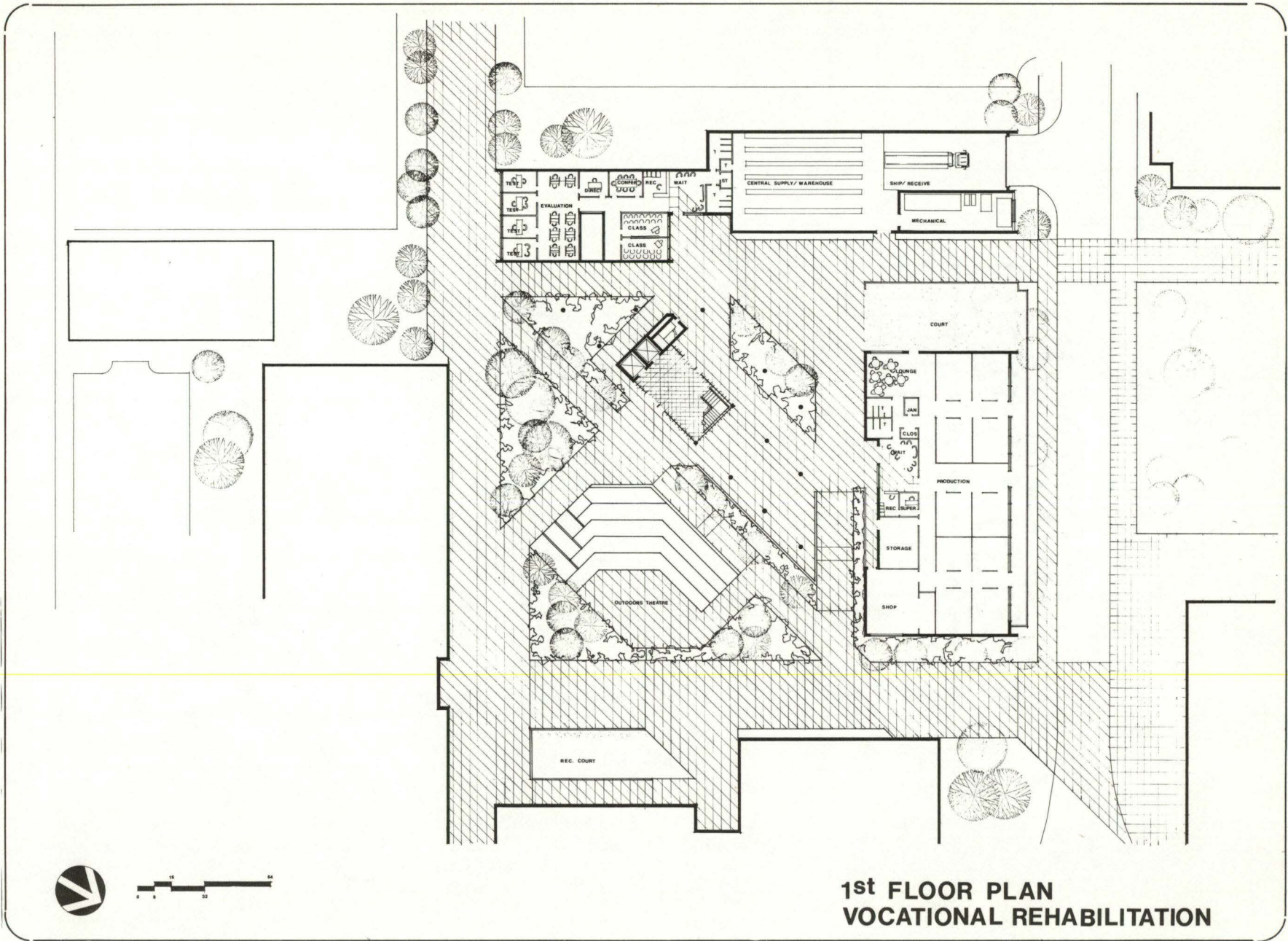
**A COMMUNITY ORIENTED REHABILITATION
CENTER FOR NEWLY DISABLED ADULTS**

— A CAMPUS CONCEPT —

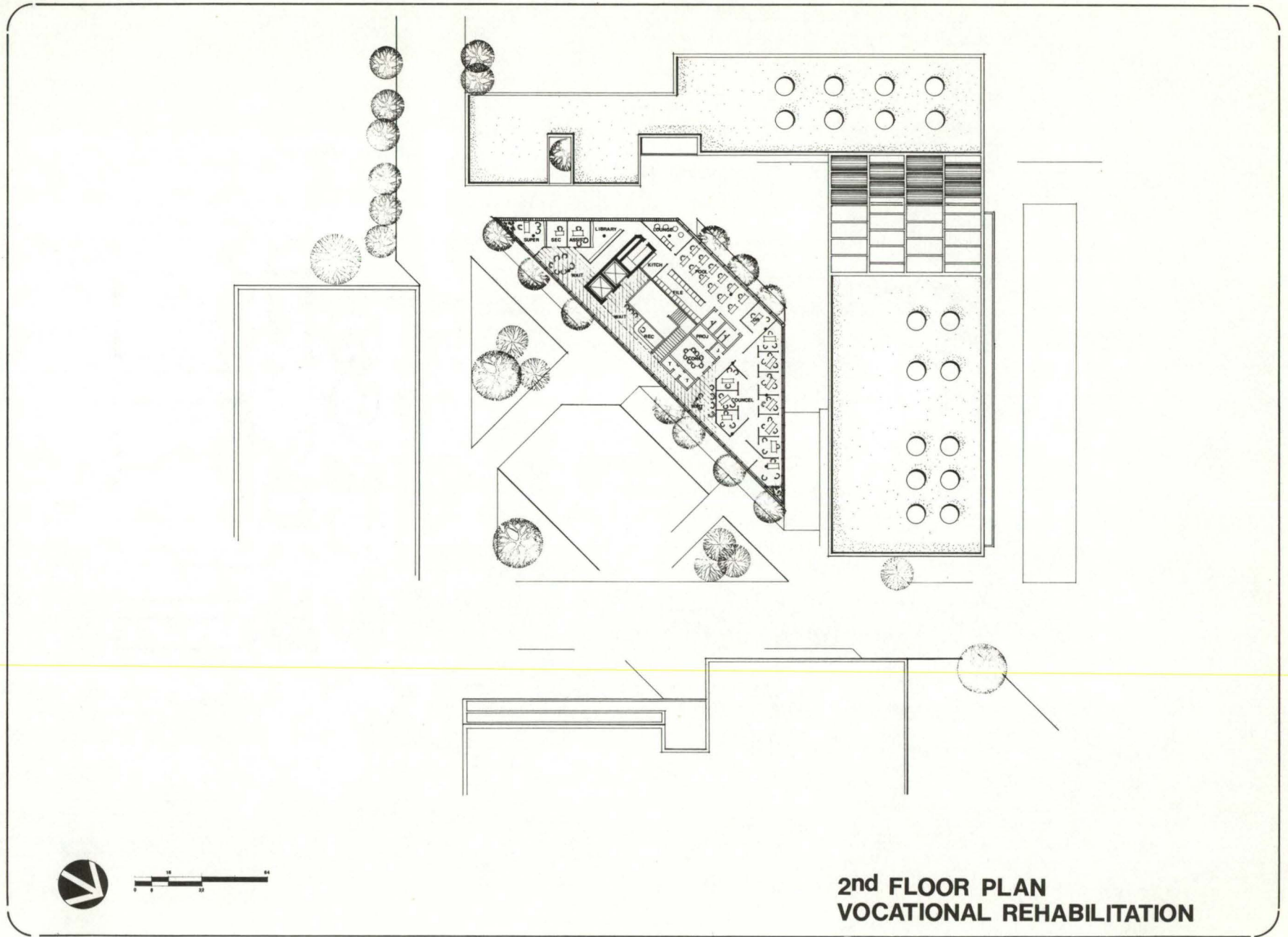
WILLIAM C. MEANS FALL 1977



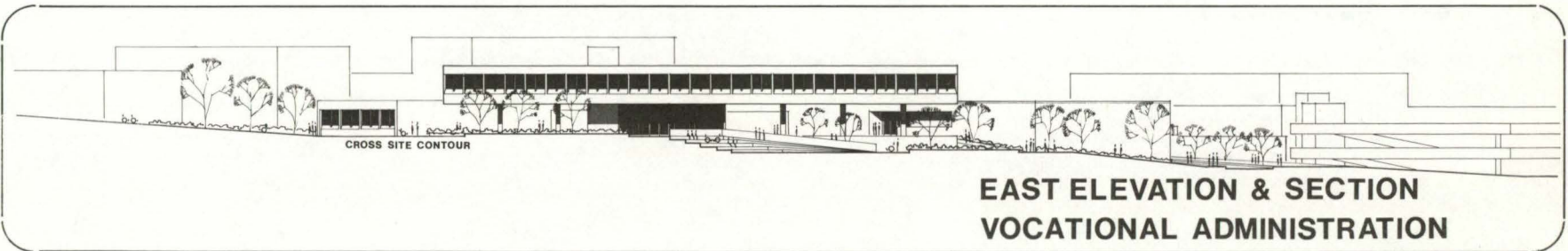
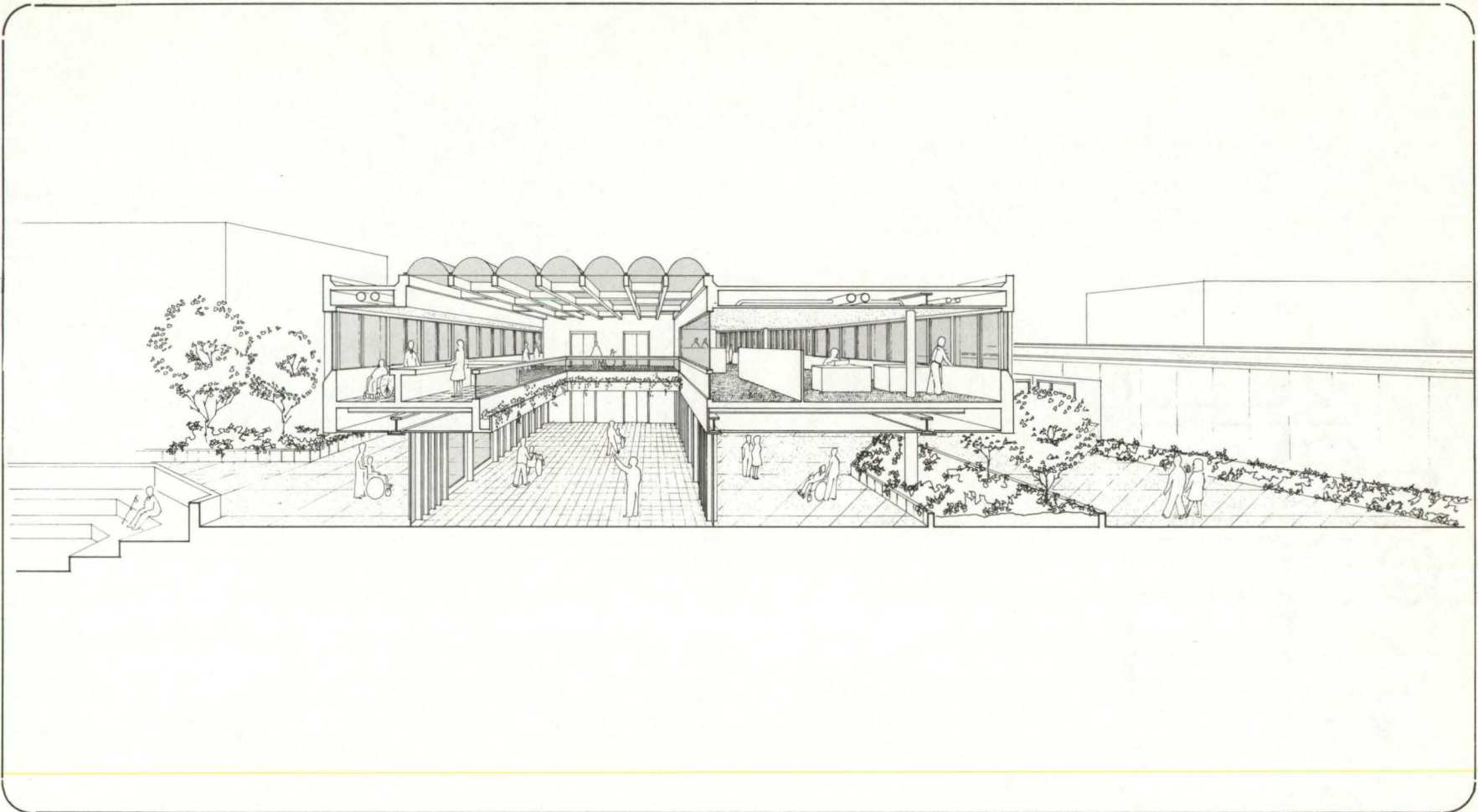
SITE PLAN

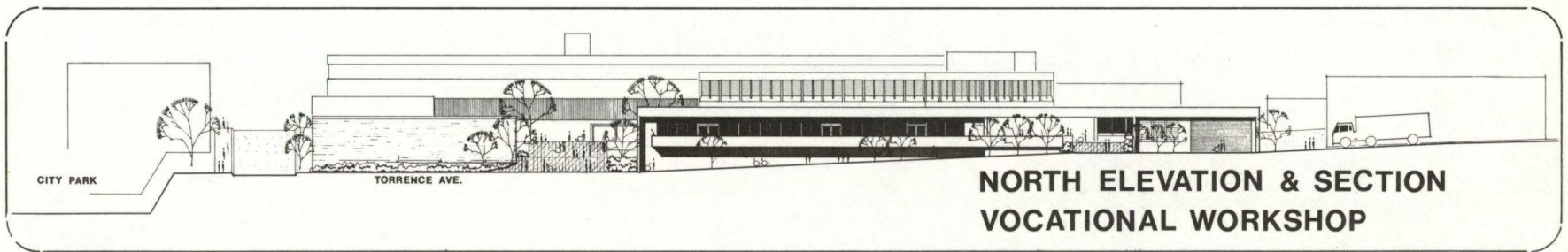
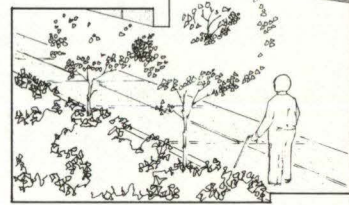
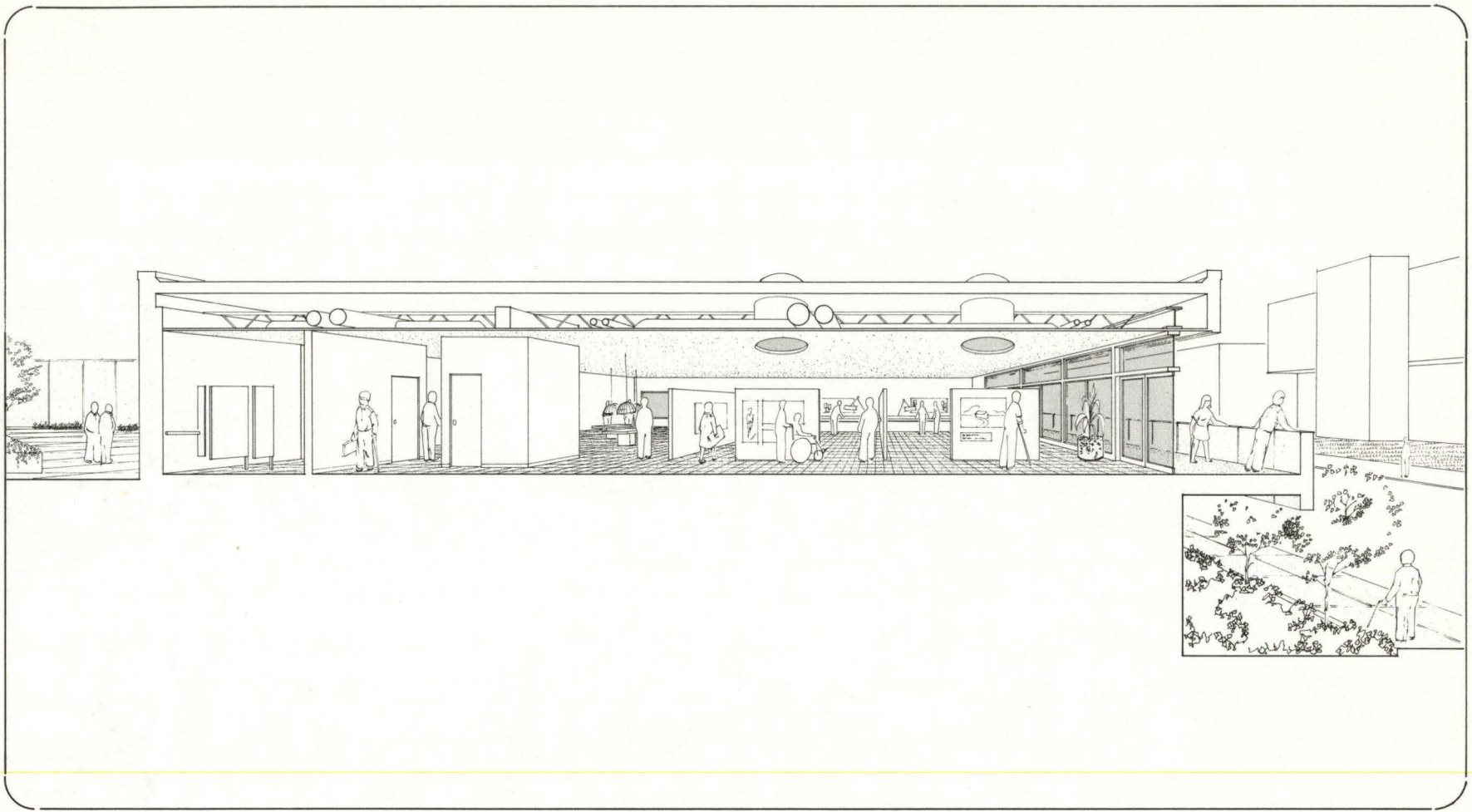


**1st FLOOR PLAN
VOCATIONAL REHABILITATION**

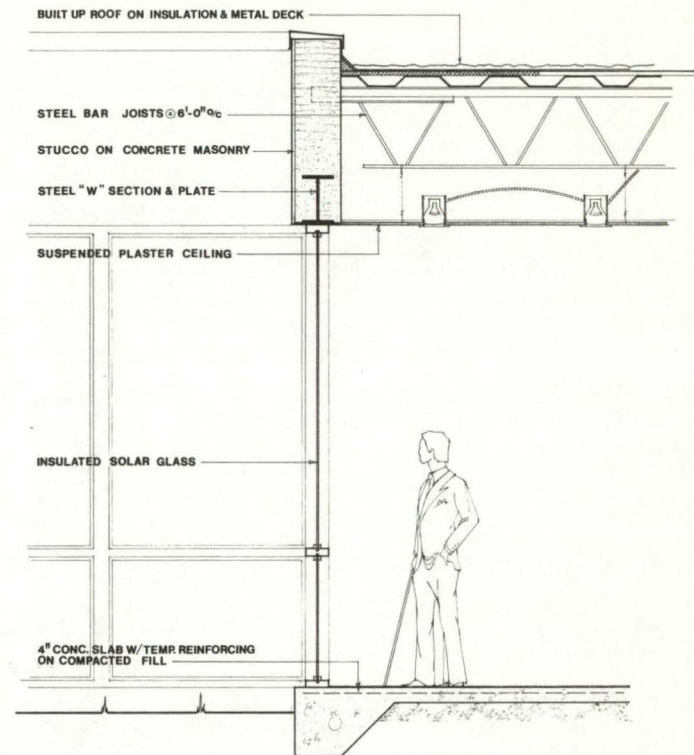
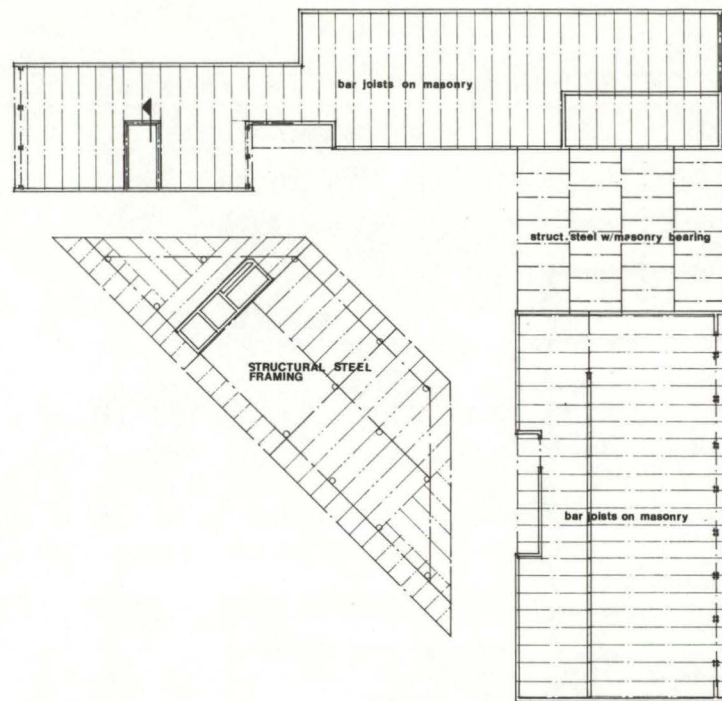


**2nd FLOOR PLAN
VOCATIONAL REHABILITATION**

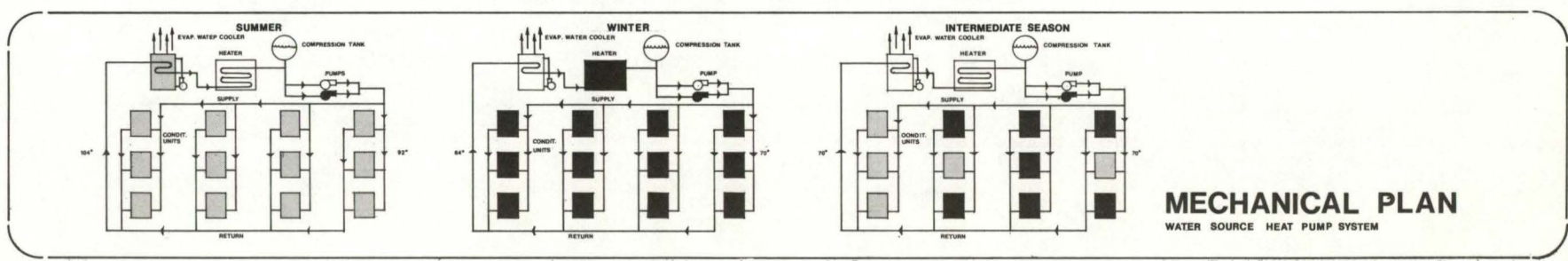
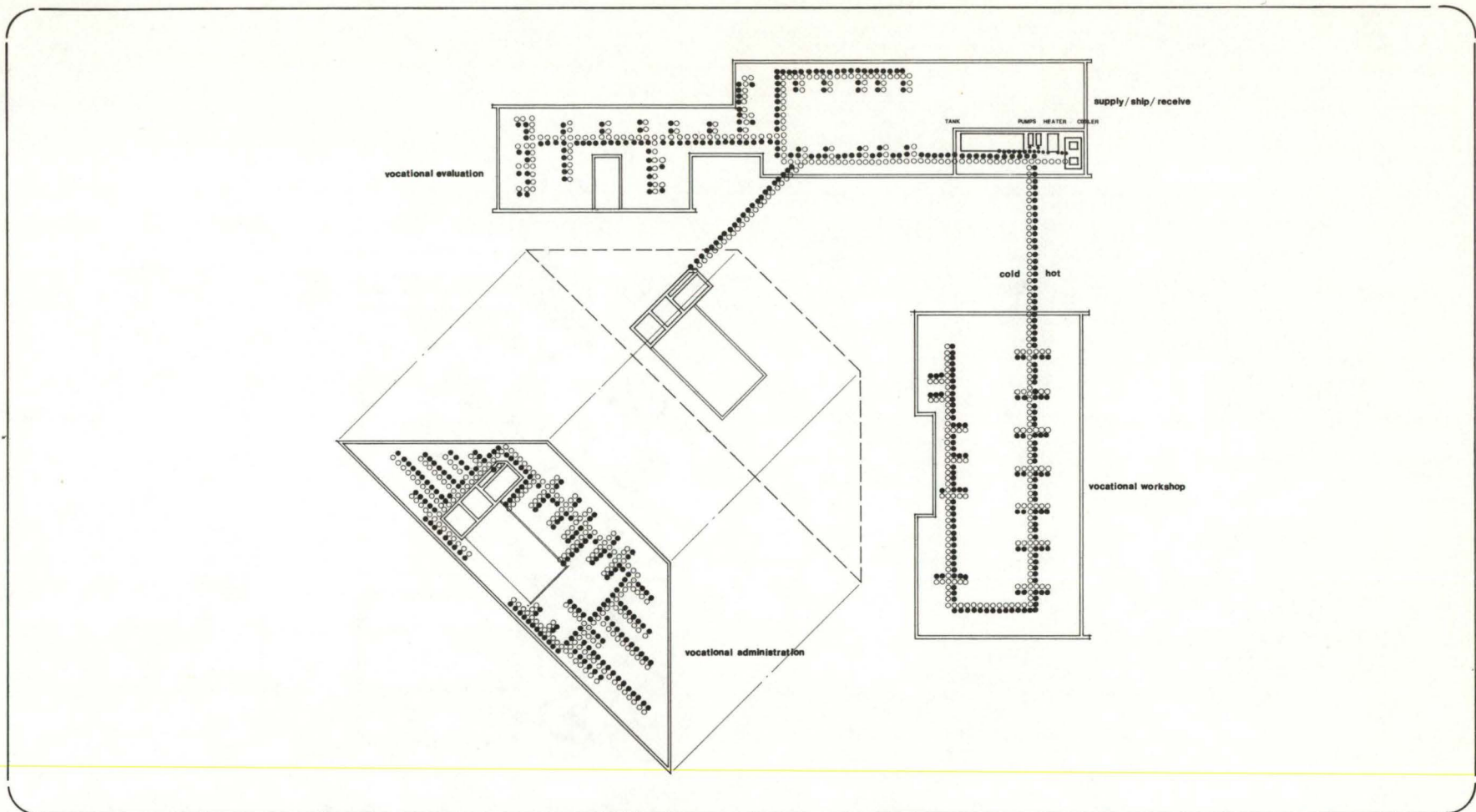




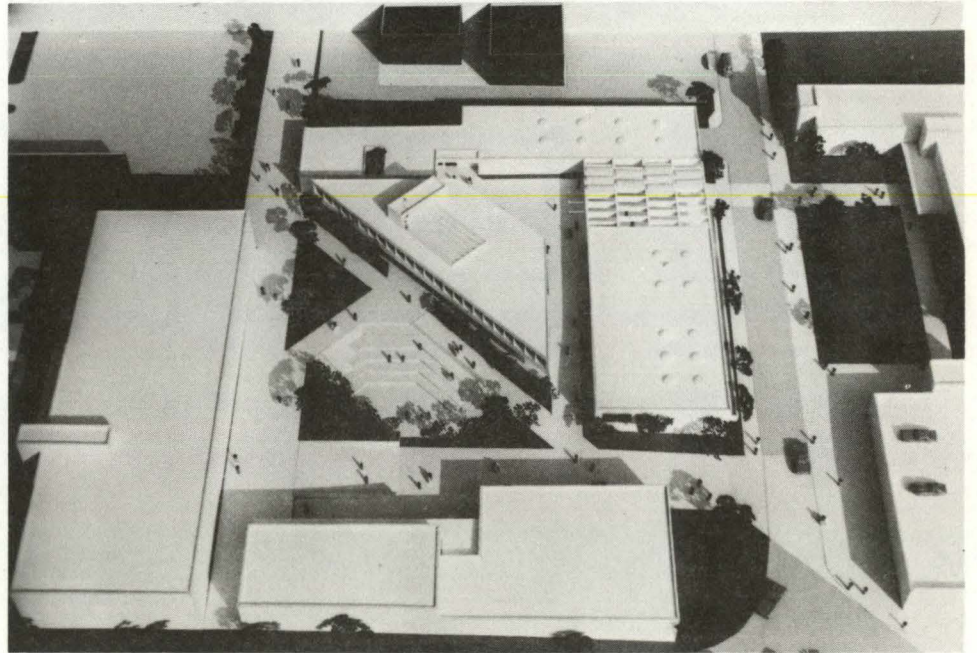
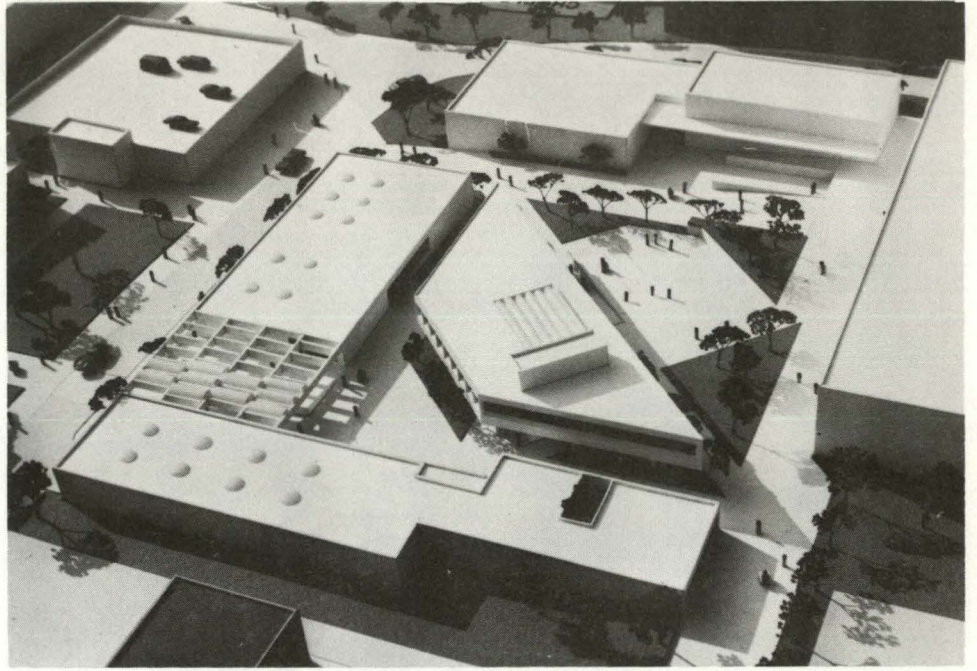
**NORTH ELEVATION & SECTION
VOCATIONAL WORKSHOP**

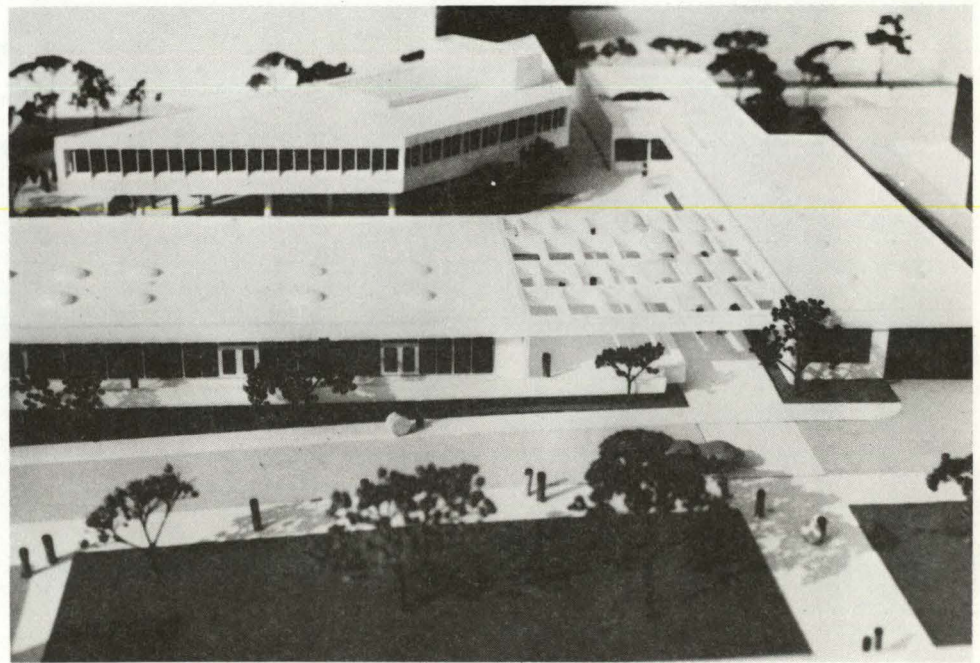
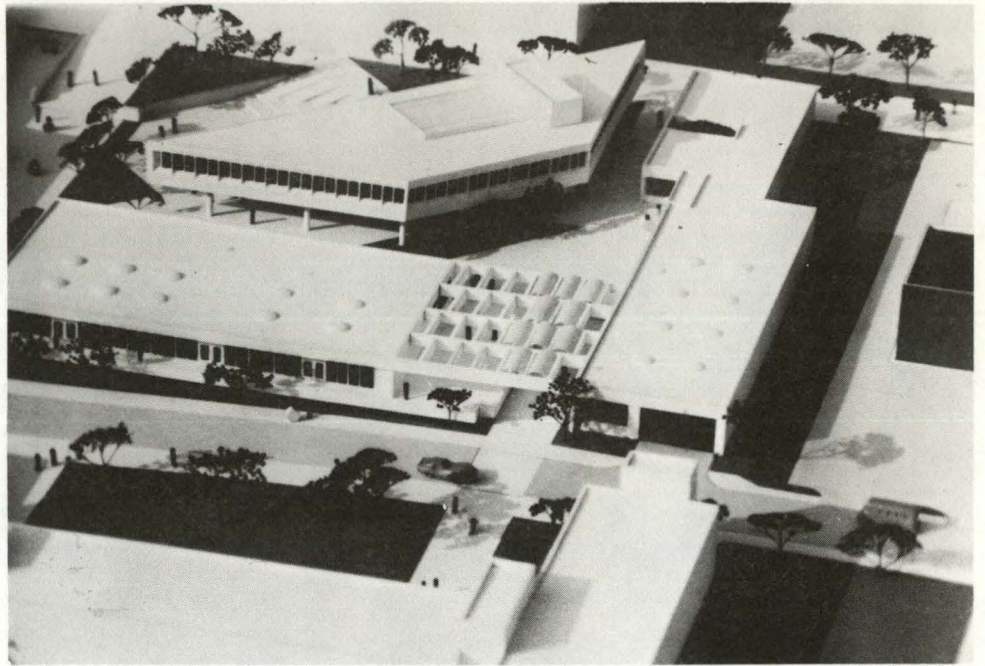


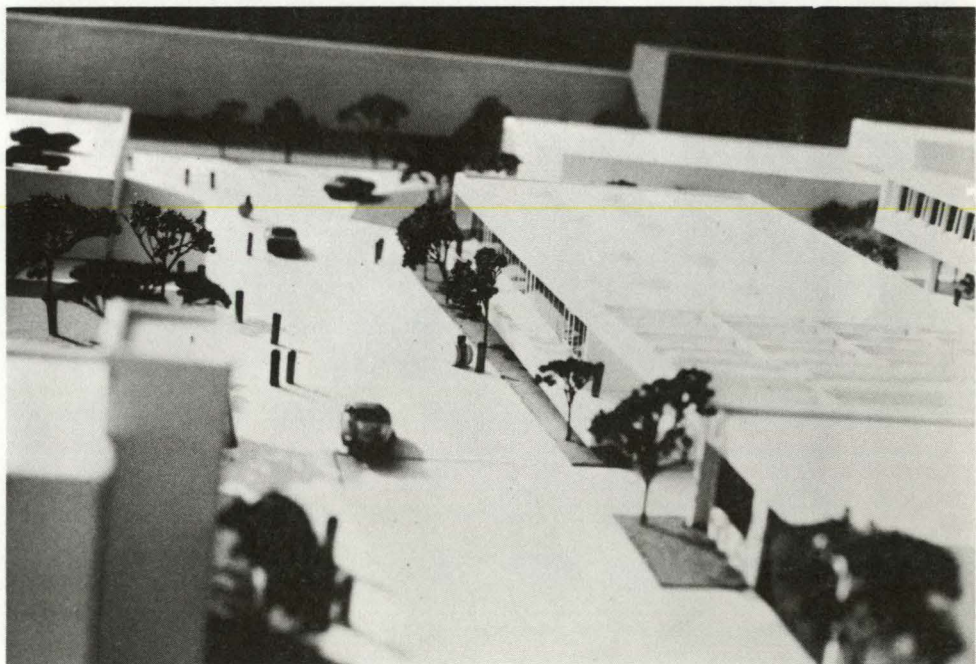
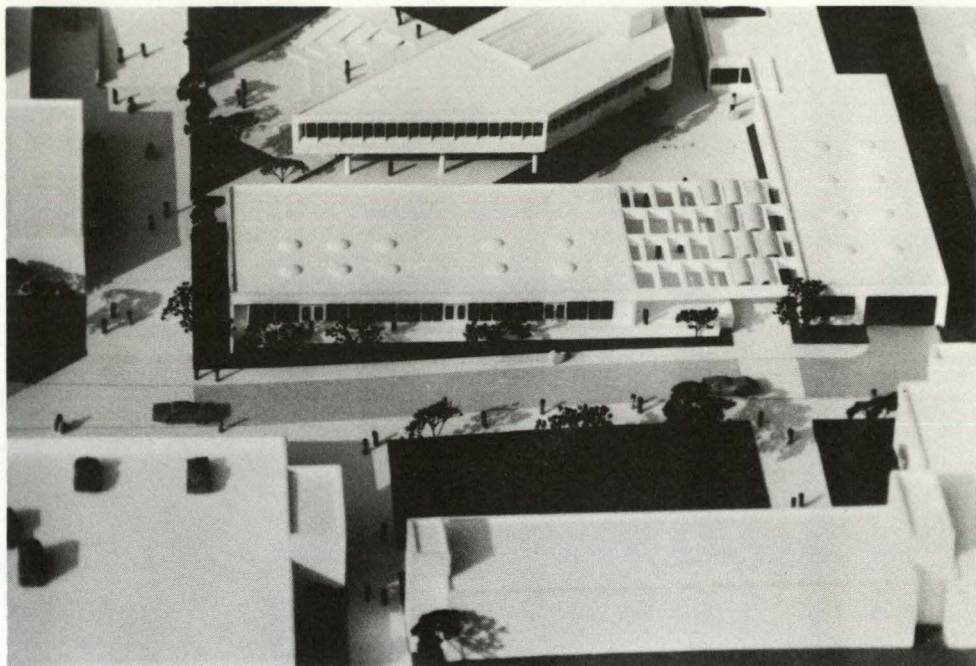
STRUCTURAL PLAN & SECTION

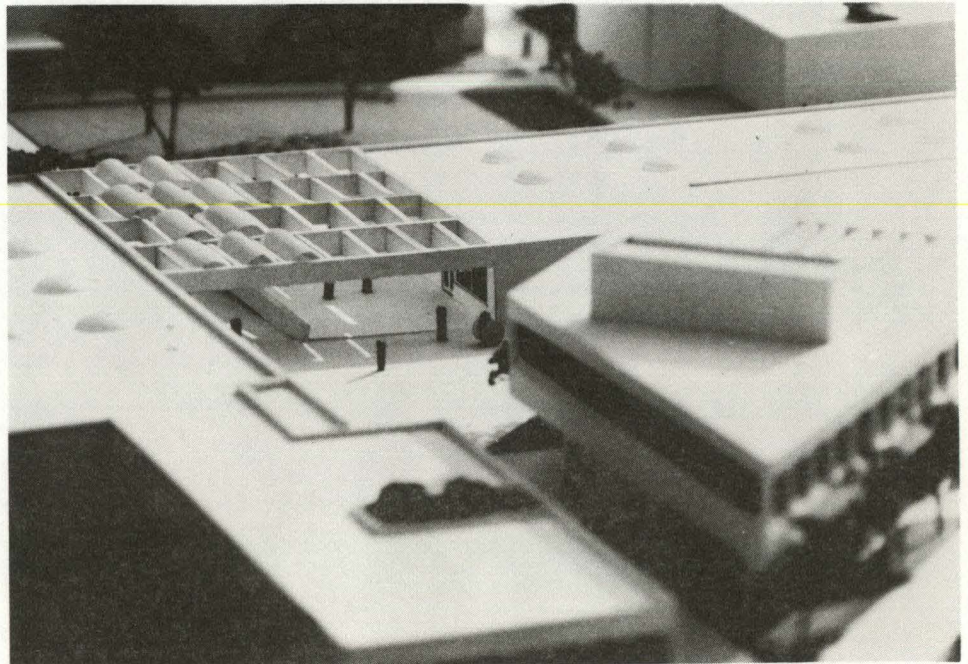
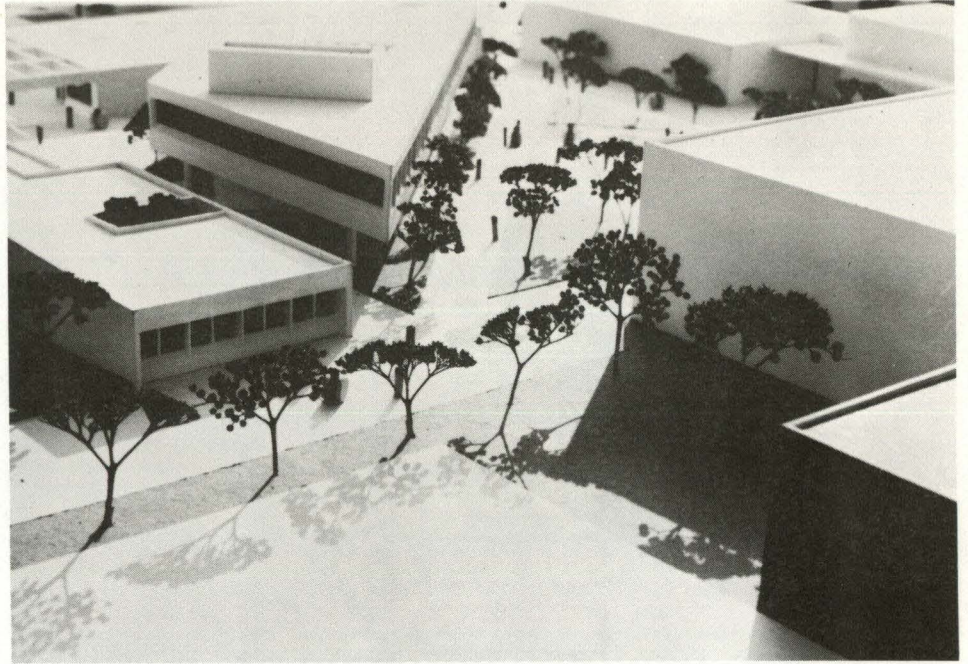


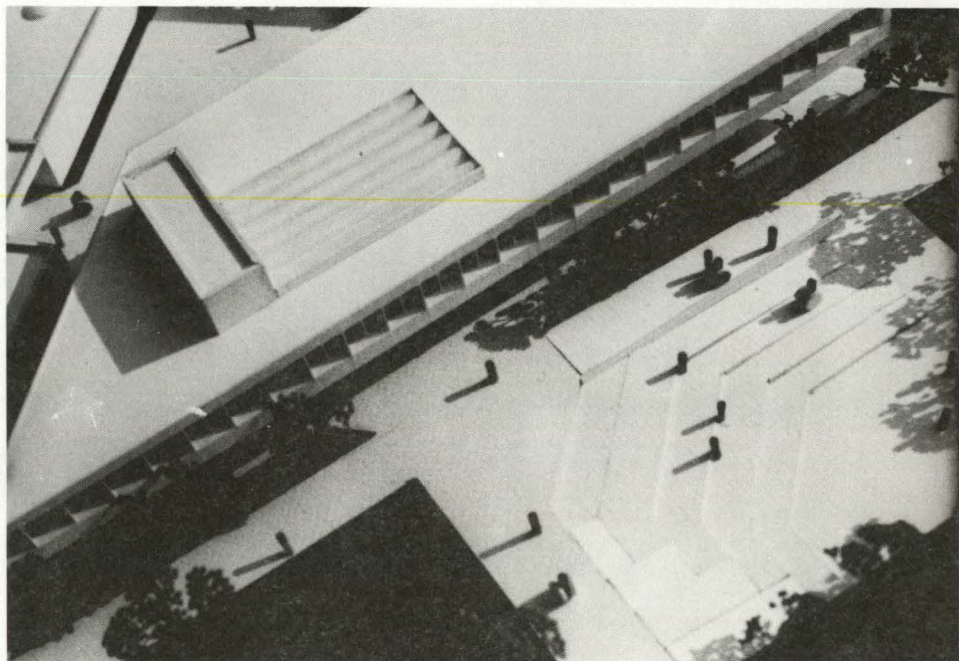
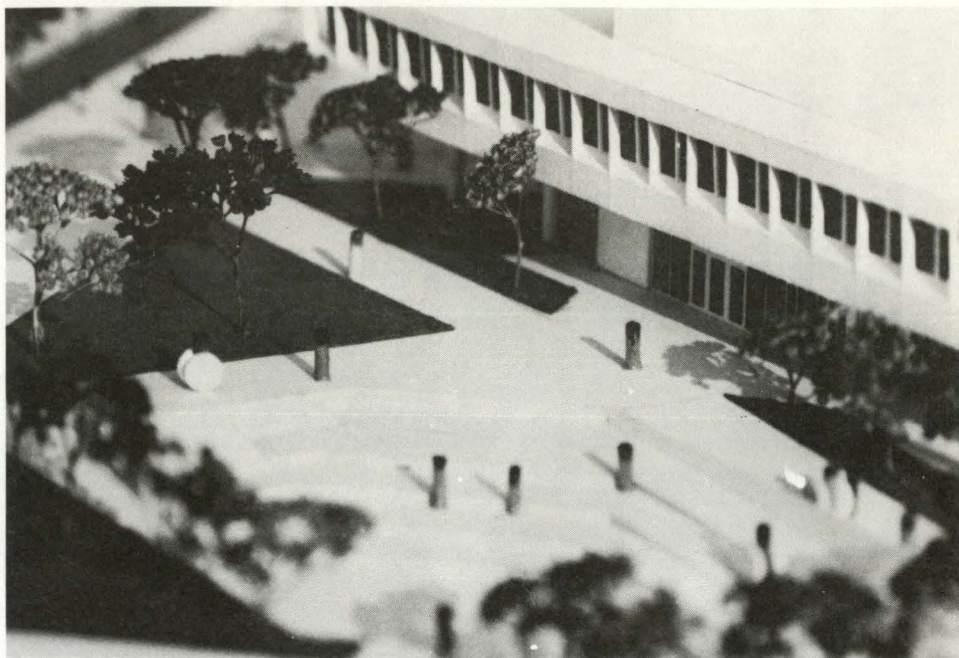
MECHANICAL PLAN
WATER SOURCE HEAT PUMP SYSTEM

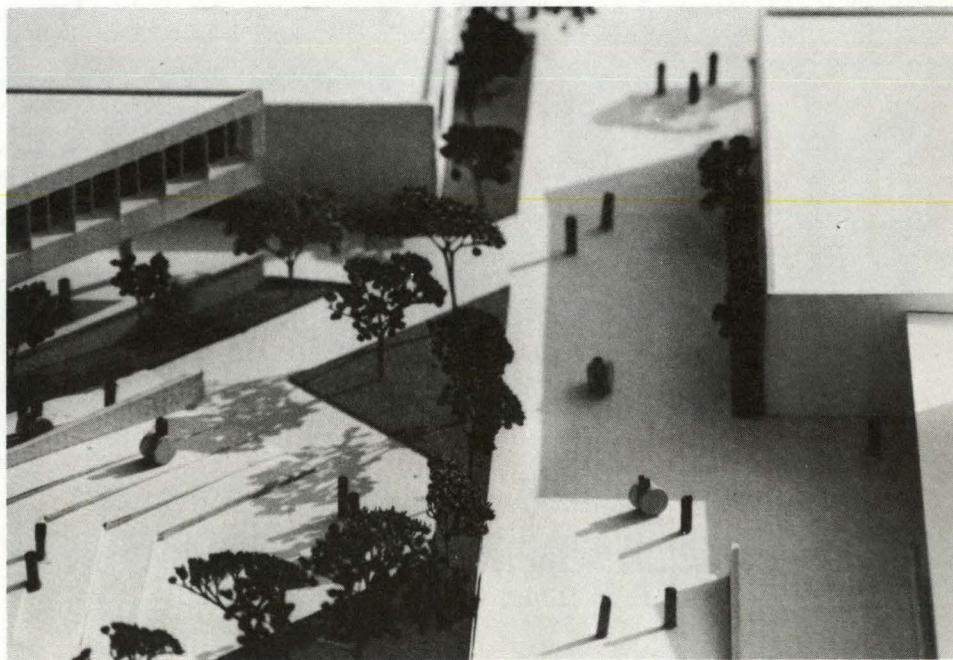
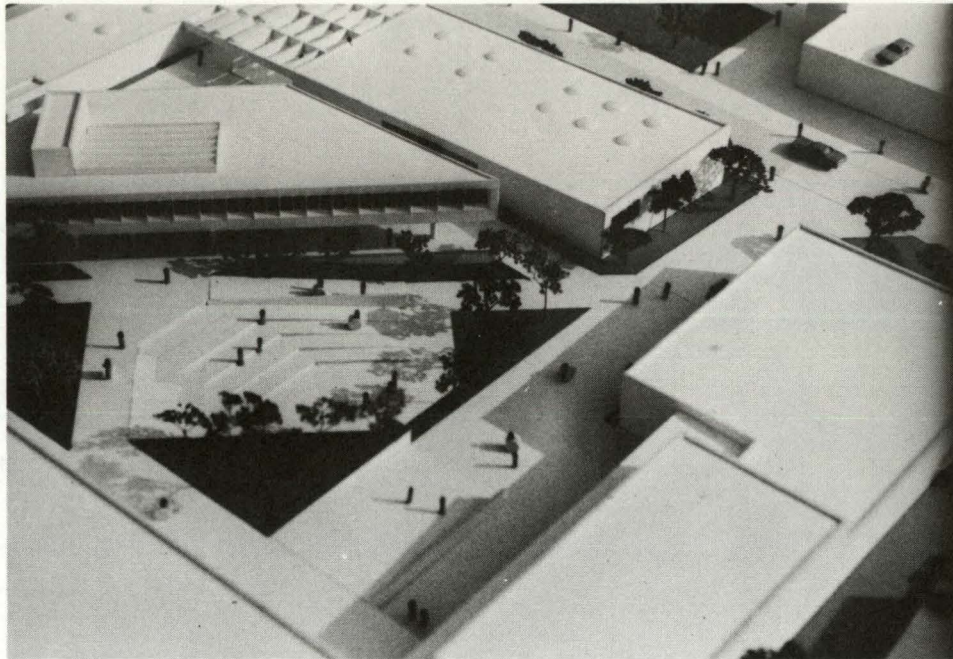












conclusion

The primary influence upon the design of this facility is the user's personal mobility. Independence is a direct derivative of increased mobility for the disabled individual. Since the promotion of independent living is the objective of any rehabilitative center, mobility must be a major criteria.

The facility is designed so as to promote personal mobility no matter what the individuals stage of development might be. While in nursing care the individual's environment must be sympathetic. However, as he progresses to seek opportunities such as increased recreation, he must begin to encounter challenges to his mobility. Such challenges include surface textures, natural elements, and uneven ground work. With a mastery of these experiences and an advancement towards vocational training, his list of challenges begin to include distances, scale, and increased social contacts. By the time he has completed vocational training he should be advancing to a state of controlled independent living, or dorm life. Dormitory living not only brings the client closer to home, but it brings him again in touch with his community. From the dormitory, the client begins his first confrontation with unsympathetic motorists and their vehicles,

pedestrians other than other disabled, unsympathetic ground work and a variety of other community elements all designed without consideration for his special problems.

It is the individual client product of the rehabilitative setting who must learn to contend with the "real world". No amount of restrictions, codes, or social training will change his community to be sympathetic towards him. Even the Handicapped Building Code of North Carolina which is generally accepted as one of the best nationally is occasionally relaxed by local authorities.

The rehabilitative personnel, programs, and settings must take the responsibility for preparing the disabled to accept their communities. The "Campus Concept", which is designed in this light, is today one of the forerunners in innovative ideas for adult rehabilitation.

**literature
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