A PROPOSAL BY AND FOR HANDICAPPED STUDENTS

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OPENING STATEMENT

Let me begin by expressing my gratitude for the opportunity to relate with you today on a matter which myself and many other concerned citizens and educators feel is extremely important. My topic concerns a model campus specifically designed or otherwise altered to meet the needs of the handicapped. I am speaking of a campus which will facilitate unhindered mobility for the general handicapped student, a campus designed or otherwise altered to meet the needs of the more severly handicapped student, a campus which actually provides a chance for some to further their education beyond the secondary or "special" school level. Indeed, I am speaking of a campus which would set the tone and pace for the removal of "barriers", architectural or otherwise, from the educational institutions of Texas. My only hope is that what is placed before you today will be feasible in nature and if I can do that then I have no doubt that there will soon be such a model school in Texas. Should much of my material seem redundant, let me assure you that the reason is to drive home a very pertinent point.

I am not an expert on physical impairements by any measure of the term. I am handicapped and because I am handicapped I can see barriers which are normally hidden to the "average" eye. Most people, fortunately, do not have to contend with mobility-impairement as does a disabled person and as a result most people take these barriers for granted. Most, for instance, do not realize the consequence of one or

two feet, or one or two steps, or a four or five inch curb, or cramped restroom facilities, or crowded elevators, or the lack of elevators, or a rather narrow parking place- though I may be challenged on that statement by the Automobile Insurance companies. It simply doesn't occur to most people that the construction of these facilities poses a problem for some citizens. The consequence of the construction certaintly didn't occur to many arhhitects before the United States Congress passed Public Law 90-480 which brought into focus some of the problems that handicapped people encounter. Educators and college administrators were among the lot who knew very little about facilitating for the handicapped. In 1967, 46 states had taken some form of action concerning the removal of architectural barriers. Texas was one of the four states which had taken no action. The result is that Texas is going to be behind the majority of other states for quite a while. The thinking and planning stages of the effort are also behind, signifying further delay. The message is clear that there is alot of catching up to do and that will necessitate bold steps on the part of Regents and similar governing bodies of our educational systems. I am asking you today to take the necessary bold steps that will provide Texas with a followable example; that is, a model campus.

To my knowledge, there is no <u>model</u> school in Texas at this time and as far as I know, there are no plans to create one. This means, of course, that there is no visable uniform model on public display to show methods of alleviating architectural barriers. It also means that there are many young people with the capacity of doing well in the scholastic upper-levels but because of a lack of access to the campusses around the state, those college age citizens will never really have the opportunity to develop themselves in the only manner

that they can. Let me drive home the point that a quality education is the only way these individuals can become useful and productive citizens. To continue to be negligent when facilitating for the handicapped is to sever their very life-line. Simply because our campusses are not adequately prepared for the more severly handicapped, people with potential have their key to a better informed life and indeed a more productive life broken off in the door lock. Whats' more, society may very well have to finance their livelihood with our taxes. Society has in reality demeaned that person by not allowing him to become a useful, productive, and individual citizen. I am not trying to blame society for everything, but I can tell you that it took a United States President who suddenly and tragically found himself mobility-impaired to finally order the construction of ramps to facilitate an entrance into the nations' capitol. The President was Franklin Roosevelt. My point is that you almost have to experience the difficulties to realize their extent. If I may, I would like to suggest that every member of the board select a campus at random and rent or borrow a wheelchair and traverse that campus in its entirety. You will be amazed at the troubled areas which you encounter. I think you will also agree that you have ~~always~~ probably taken architectural barriers for granted.

Let me emphasize the fact that no upper-level campus in Texas even comes close to meeting all of the needs of the handicapped. This includes The University of Texas at Austin, The University of Texas at El Paso, and the University of Texas at Arlington, all thought of by many as the leading universities throughout the state of Texas.

The reason for this lack of facilities is very simple. Buildings and institutions have been designed over the years for the "average" man. The problem is that there exists no "average" man. Everyone has been endowed with limitations and problems. The concept of "average man" buildings has resulted in habit forming architecture. For example, Restroom doors are small because it was found that 50 years ~~or so~~ ago that it wasn't a necessity to move the facilities too often. The precedent resulted in these doors being narrow ever since. Old habits don't break easily and this is one reason why Texas needs a model campus. There are a great number of justifications for this type of model school and I'm sure that you are aware of most but let me say that the demand for the facilities is the foremost reason.

DEMAND FOR THE FACILITIES

One very good reason for the necessity of a model campus is the number of handicapped persons who could utilize the facilities; in other words, the demand.

Approximately one out of seven people in our nation has a permanent physical disability. According to figures published in the Denver Post in 1967, there were some 332,000 veterans of World War II, Korea, and Vietnam who have serious and permanent disabilities. At that time, there were some 200,000 paraplegics; that is, paralyzed from the waist down. There were 1,200,000 youngsters and adults with disabling injuries in 1967 alone as a result of automobile accidents. There were 2,000,000 youngsters with orthopedic handicapps and perhaps most tragic, there were recorded 100,000 babies born each year with congenital impairements.

Now, lets think about those figures for a moment. By the time one of those 100,000 babies born with a congenital impairement is old enough for a college education and if there is stability in the growth of population, there will be 1,800,000 people to be educated as far as is feasibly possible. With the present facilities, the demand cannot be met as most campusses are not equipped for them. We have not included in this number the staggering rate of disabilities caused each year by automobile accidents, or the number of disabled veterans who will be rehabilitated enough to merge back into society and who have only their G.I. Bill which will fund their education, or

the youngsters who develop orthopedic disabilities during their childhood, or the varying disabilities caused by unnatural or "freak" events each year.

Let's face it, we are not living in a very safe world. A car wreck can rob any one individual of his mobility as they drive around tending to their normal daily routines. Such accidents also happen to Regents. If you were of college age and needed to develop your minds instead of your limbs to sustain your livelihood and there simply weren't college campusses equipped for you, I doubt very seriously that you would have a prospereous futures. If you wanted to become a Regent, such would be impossible because you would have lacked the proper training that only a college or university could offer.

The mounting figures that I have mentioned are indeed an indicationthat this problem cannot be ignored for long. As tax-payersm you have a choice: You can plan for adequate facilities so that these people can develop their minds and become productive citizens or you can continue to sustain their livelihood with your and their taxes for the duration of their natural life span.

Of course, not everyone contained within the context of these figures will seek a quality education beyond the customary 12 years offered by the public school systems of Texas. And many of them will be restricted by an inadequate mental capacity. But many, probably the majority, will be able to and will desire a college education. Our colleges and universities must prepare for them without hesitation because that education is their only way of becoming productive citizens.

THE MODEL CAMPUS

When beginning to consider the make-up of a model campus, it is perhaps wise to first focus our attention on adequate housing. There is little doubt that the current facilities are not adequate and to back up that statement, let me cite a very realistic example. Mr. Sam Provience, a graduate student at The University of Texas at Arlington and Chairman of the UTA Handicapped Student Association, is a quadraplegic and requires better and more specialized facilities than most handicapped students. Sam is an individual with one of the finest minds that I have encountered for a long time. But Sam was denied admission to a Texas Law School because the Texas Vocational Rehabilitation Commission would not fund his education unless he could reside in the dorm. The dorm wasn't equipped for Sam and he consequently returned to UTA for a secondary choice of graduate work. The tragedy of it all was that Sam was forced-for better or worse-to compromise on his education because of a lack of facilities. UTA was not adequetly equipped either but it was less hazardeous than most. Indeed, adequate housing is a must when preparing for the handicapped student.

HOUSING FACILITIES

There exists a need to construct adequate housing facilities for handicapped students. The existing facilities are not capable of handling the more severly handicapped student as many of the existing housing space is non-negotiable by the mobility-impaired student. The majority of the existing facilities are far too small and cramped to allow for mobilization of a wheelchair within the confines of the dorm rooms. To remedy this lack of housing facilities for handicapped students, particularly mobility-impaired students, we would like to propose that the college undertake construction of a new housing complex which would be accessible to handicapped students.

The housing complex which we propose entails the construction of two new buildings, one for male students and one for female students. The complex should be located relatively close to the mainstream of the general academic buildings on campus. The chosen cite for the construction should be in an area which is barrier free or which can easily be made barrier free to allow smooth approach and departure routes for the mobility-impaired students and all other handicapped students.

The housing complex should be constructed to comfortably house 150-200 students in each building. Our reasoning for this amount of living space is composed of three separate but equally important points.

First: It would be of little or no benefit to facilitate a small dwelling for only handicapped students as their would be applied to the building a stigma of "the handicapped dorm".

This stigma would tend to keep handicapped students from investigating and utilizing the facilities because no one wants to bear a label- a stereotype. Handicapped students want to become as independent as possible. One of their main objectives is to merge into the mainstream of society as an individual. To construct a "handicapped" dorm or to convert an existing dorm into a "handicapped" dorm would be defeating this objective and these handicapped students know it. To remove architectural barriers by constructing psychological barriers is meaningless. A building of this size would be conducive to a meaningful social and intellectual environment as it would house both handicapped students and non-handicapped students. It would allow for a social and intellectual interaction between those with handicapps and those without handicapps, thus facilitating a good atmosphere for a medium of exchange if ideas, common interests, and ideal student community relations.

Second: It would facilitate for a natural growth pattern of a handicapped student population. As more and more mobility-impaired persons seek a quality education, it subsequently follows that the demand for adequate facilities will steadily increase. A housing complex of this size would easily satisfy the demand for a number of years. Of course, a question comes to mind in that if there is a steady growth pattern among mobility-impaired persons seeking a quality education, will the housing complex become filled with only handicapped students over a period of years. The answer is no because it has been found that the handicapped student population grows in direct correlation with the over-all student population. And should the over-all student population growth be substantial, it would be necessary to

construct new housing facilities which should also be equipped to handle the handicapped student. This would obviously allow for the same "mixed" student community.

Third: Should the new housing complex be built in a manner which is attractive, as we feel it should be, there would be more and more students wishing to utilize the facilities. At UTA, for example, there is a flow away from the campus in which the students are seeking apartment-type settings. We feel that this flow would be slowed down substantially if the living quarters were attractive. Attractive room space on campus is desirable by the majority of students who do not commute to the campus and if the new housing complex is built in this manner, there would be absolutely no difficulty in filling it the very first semester. At UTA, there exists only one womens dorm. This dorm, Lipscomb, has a history of waiting lines and this overflow could be relocated in the new building, thus satisfying the existing demand.

We feel that if the college is to maximize the usefulness of the space required to construct a new building, then the facility must prepare for at least that many students.

The buildings should be constructed in a manner which would allow both single member occupancy and mulitple member occupancy. It is very difficult for a handicapped student to mobilize himself in cramped quarters in the first place and should it be attempted to place two handicapped students in one room along with the assorted mobility-apparatus which are necessary to a handicapped students' daily routine, the endeavor would border on impossibility. It would be desirable to construct sizable rooms which could handle two handicapped students with

little or no difficulty. However, based on past precedent of room sizes on any given campus and if this room size continues to be the norm, single member occupancy is a must for the mobility-impaired student.

THE DORM ROOM

There seems to be an established precedent among builders of dorms and other housing complexes that dictates a small area for moving around. In the past, this has been an intricate reason why handicapped persons, particularly mobility-impaired students, have refrained from using the dorms. A certain amount of space is required to turn a wheelchair around or otherwise maneuver a mobility apparatus. To facilitate a dorm room for the handicapped, this must be the first problem that is solved. The following guidelines may be helpful in such an endeavor.

I. TURNING SPACE: It is extremely important to allow for turning space between objects in the room. For instance, a wheelchair must be able to parallel a bed in order for the handicapped student to transfer to the bed. Thus, it is necessary not to place other beds or objects within 32" to one side (legnth wise) of the bed. This is a very good arguement for single member occupancy. However, it is possible to arrange the objects in such a way that would allow two wheelchairs in the same room. But we must remember that we are talking about a minimum space (width) of 32" per wheelchair. Thus if two beds were parallel to each other, we are talking about 5'-4" of dead space.

II. DOORS: The doors into the various rooms must swing outward and be at least 32" wide. In addition, there should be no objects which partially block the entrance. For instance, there should be no hangover from beds that are too long for the room. The door knob and lock must be

placed within reach of a student in a wheelchair.

III. SWITCHES AND CONTROLS: All switches and controlls should be placed at a height which is reachable by a handicapped student. Careful consideration must be given to the placement of these controls as most are generally placed above a desk or bed or other object. There is difficulty involved in trying to reach over an object to operate a switch or control.

IV. ROOM FURNITURE: The furniture that is to be chosen for the rooms should be chosen on the basis of accessibility to the handicapped student. Far too often, study desks are too low to the floor to allow a student in a wheelchair use of the desk. Some have underneath space which is less than 32" in width and the student, therefore, cannot get close enough to the desk to use it. If bed side lamps are employed, they should be placed on a table or otherwise mounted within reach of a handicapped student. Dressers should be chosen for their low-height qualities. It would serve little purpose to have two drawers which cannot be used.

V. WINDOWS: The very expression "mobility-impaired student" implies that the individuals' mobility is curtailed. For this reason, it is almost imperative that each room have a window which is installed at a level which can be used by that person. Frankly, the bigger the window, the better. Windows serve as psychological boosters to the mobility-impaired student as most necessarily limit their outside activities. Subsequently, the controls for the curtains or

other window covers must be strategically placed for use by the handicapped student.

VI. CLOSET SPACE: As you are well aware, mobility-impaired students, particularly those in wheelchairs, have limited arm reach. For this reason, consideration needs to be given to the height of the hanging apparatus for the individual.

The restrooms themselves should be built with the handicapped student in mind. This entails several points which are as follows:

I. BATHING FACILITIES: In regard to bathing facilities for the handicapped student it must first be noted that maneuvering space is a necessity. If, for instance, the restroom facilities have a shower arrangement, there should be enough allocated approach space to allow a wheelchair to get close to the facilities. If there is a tub facility, there should be enough space to allow a wheelchair to parallel the tub. Figures I and II will serve as illustrations for these two concepts of bathing facilities.

Figure I pictures the tub arrangement and it shows that a wheelchair can parallel the facilities. In addition, the position of the tub will not negate the use of the other facilities. The tub itself should be no higher than 1'-7" and should have an accompanying handrail 1½" in diameter and 1½" space between the rail and the tub.

Figure II shows the shower arrangement which is actually requiring alot less space. The surrounding area is not conjested with other facilities and that allows a wheelchair to negotiate the facilities easily. The shower arrangement has a hinged stool which is 1'-7" from the floor of the shower and which has handrails on each side, 33" high and parallel to the floor, 1½" in outside diameter, with 1½" clearance between the rail and the facility, and fastened securely at ends and centers. It is feasible to establish a suite situation in regard to shower facilities and we are all far maximizing the use of space. However, I would like to stress that trying to cut down on space may negate the usefulness of the facility for the handicapped student.

II. LAVATORIES: The lavatories in the dorm should be placed in a manner which is accessible to a handicapped student. The lavatories should be no higher that 2'-7" from the floor, should have narrow aprons, and all adjoining pipes should be covered to prevent burns. Fig. VII may be helpful to illustrate the suitable position of lavatories.

III. TOILETS: The toilets should be installed with the handicapped student in mind. This includes proper height (1'-7"), proper width surrounding the facility (3'-3"), and proper handrails on every facility. Great care should be given to location of toilets to allow usage by the handicapped individual. Figures V-A,V-B,V-C, and I and II will afford a visual placement of the facilities as they should be installed.

IV. CABINETS AND MIRRORS: Mirrors and shelves and cabinets should be placed above lavatories in a manner which they can be used by a student in a wheelchair. The maximum height on the mirror should be no more than 40" from the floor. Cabinets should be reachable by a handicapped student and their accompanying door handles placed within reach.

V. SWITCHES AND CONTROLS: All light switches, water controlls, and AC outlets, in addition to curtain controlls and thermostat controlls throughout the dorm room should be placed within reach of the handicapped student. To place these controlls above objects could very well negate their usefulness. It should be noted that the average unilateral verticle reach is 60" for individuals in wheelchairs.

VI. DOOR WIDTH: The door width into the restroom area must be at least 32" and must swing outward. Figures I and II will be beneficial for illustration of door widths.

FOOD FACILITIES

The availability and usefulness of food facilities that are adequate is a very important point that handicapped students consider when choosing whether or not to live on campus. It is not very practical for a student who is in a wheelchair to have to traverse a campus in undesirable weather in order to get a meal. Even though Texas is located in the warmer and drier part of the nation, it still gets very cold and wet during the winter and spring months. Such conditions are not only undesirable but at times very dangereous to the health of the individual. It is almost virtually impossible to hold an umbrella and manipulate a wheelchair at the same time. For these reasons, it is necessary to work out an eating arrangement for the more severly handicapped student. There are three methods of alleviating this problem.

I. An arrangement can be made with the existing cafeteria whereby meals could be catered to the dorm area. This system has been employed on some campusses and has worked reasonably well. There is one substantial drawback, however. Very few campus cafeterias on any given campus stay operational throughout the weekend. The handicapped students who locate themselves in campus living quarters are generally a considerable distance from their homes and weekend travel presents problems. Many of these students cannot go home every weekend but they still must eat. Since a great number of mobility-impaired students don't drive, the only logical alternative is to provide them with a means of preparing their

own meals.

II. To handle this problem area, the dorm could be designed to handle kitchen facilities in the form of a mini-cafeteria. This cafeteria could be charged with the responsibility of preparing meals for the students living in the dorm. If this system is employed, it should be operational throughout weekends and should be flexible enough to handle special diet orders for those who need the service. I am convinced that should this eating facility remain open and operational throughout the weekend, that students who reside in other dorms would utilize the facilities.

III. The third approach is really a compromise between the first two approaches. The residents of the dorm could employ the services of the main cafeteria on campus by having their meals catered to the dorm during operational hours of that cafeteria. On weekends when the main cafeteria is not open, the residents of the dorm could employ a local kitchen facility to prepare their own meals. I am told that full kitchen facilities (comparable to those built into apartments) for handicapped individuals can be purchased. If the dorm were equipped with this kitchen arrangement, the handicapped residents could prepare their own meals on weekends-including those with special diets.

As you can see, the construction of two new buildings to be used for both handicapped and non-handicapped students has a great deal of merit. As you can also see, there is very little extra expense involved in facilitating for the handicapped. The main theme when facilitating for handicapped fndividuals is arrangement. It is true that a new housing complex is costly in terms of dollars but we firmly believe that the cost of renevating existing facilities would in the long run cost as much and possibly more to remain adequate.

This segment of our population whose only hope for becoming useful and productive citizens is quality education represents human resources of inestimable value and is of great economic significance to the state of Texas and the entire nation. Regarding the UT System, it is important to point out that these students also pay a building use fee and the majority pay taxes which support our institutions of higher education. Our campusses are giving very little in return. These people have over the years payed enough taxes and building use fees to finance the proposed facilities and the time has come that this be recognized by those in charge of our institutions of higher education.

ATTENDANTS

The time has come for society to realize that there are severe handicapped citizens who cannot because of the degree of their particular disability adequately attend to their personal hygiene and bodily functions but who, conversly, have the ability, mental capacity, and drive to sucessfully absorb subject material. This problem is solved by the use of attendants.

The Texas Rehabilitation Commission provides funds for the hiring and maintaining of attendants for their more severly handicapped clients. Up to now, the individual student has been responsible for locating the attendant and arranging working schedules.

I would like to suggest that our colleges and universities check into the possibility of a working agreement with other colleges and institutions who have nursing programs. It would seem to me that practicle application of the nursing curicullum would be desirable on a mutual basis. Many schools such as Texas Christain University and Tarrant County Junior College have such nursing programs and I believe that praticle application is a portion of their curicullum.

Whether the college decides to integrate a program as suggested or whether they accept the existing one, some arrangement for the attendants to enter the dorm area when necessary must be worked out and instituted. Also, the college should help locate attendants should the individual attendant be unable to locate one.

THE CAMPUS IN GENERAL

Once the handicapped student has been facilitated for in regard to living quarters, the accessibility of other buildings such as academic cloassroom buildings, Administration building, and so on designed for use by students becomes the focal point of attention. It would serve little purpose to facilitate for the handicapped students' residence if those students cannot utilize facilities around the campus. It therefore becomes necessary to construct an adequate number of curb-cuts and ramps in conjunction with the needs of mobility-impaired students. It becomes necessary to facilitate restrooms around the campus for these students, to provide parking areas close to the mainstream of general academic buildings and living areas, to install lowered water fountains and telephones, to provide elevators which are accessible to and usable by the handicapped student, and to provide these students with access to activities which round out a students life on campus.

RAMPS AND CURB-CUTS

To begin this portion, let me say that I have never seen a campus which does not have the need of installing and maintaining ramps and curb cuts to facilitate for handicapped students. There are many areas on campusses which are non-negotiable by a mobility-impaired student and yet to construct and install adequate ramps and curb-cuts is the easiest and least expensive of all facilities designed for use by handicapped students. Ramps and curb-cuts which have been installed on the various campusses have since been eroding and chipping off and because they are generally neglected by the maintenance personnel, they become hazardeous or non-negotiable.

For the purpose of definition, ramps are objects with gradients which facilitate smooth entrance into buildings and objects which allow smooth approach and departure up and down hills, ridges,,and other rises. Curb-cuts are objects which allow for smooth approach and departure from streets onto sidewalks.

There should be at least one curb-cut on each corner of the land segment which buildings are constructed. There should also be a curb-cut positioned as close as possible to the ramped entrance of the buildings. There should, in addition, be an appropriate number of curb-cuts strategically placed on all areas of the campus where the handicapped student will come into contact with a street-curb negotiating problem.

There are a number of common problems related to the construction of and installment of curb-cuts and ramps. Most of the curb-uts that I have seen are not equipped with a drainage pipe to allow water from the gutters to flow under the ramp. The result is that the water flows over the curb-cut and damage is sustained because of the erosion factor of running water.

One large mistake that is commonly made concerning curb-cuts is the placement of "lips" or ridges on two sides of the facility. While this presents no substantial difficulty for the student in a wheelchair (that is, if the surface area is wide enough) it is hazardeous for those with visual impairements. It is very easy to trip over the ridges.

Another common problem is that the installers tend to sacrifice the legnth of the curb-cuts to save space and materials. The problem which arises is that far too often the curb-cut turns out to be too steep and is therefore hazardeous. Figure IV will afford a pretty good illustration of how curb-cuts should be constructed. You will notice a variable in the legnth of the curb-cut. This variable is in direct correlation to the height of the existing curb. Should the curb be higher, the legnth will increase, and so on. The curb-cut should be about 40" wide at the top of the curb. The distance straight out from the curb should be about one foot for each inch of curb height. A five to six foot legnth is sufficient for most sidewalk curbs.

Similar problems also exist with interior ramps and ramps which lead into the entrance of buildings. It must be understood that this is the only method which will allow a handicapped student to enter and therefore use the interior facilities, such as classrooms. It is a mistake to consider one ramped entrance into a building adequate. The large majority of academic buildings are of substantial legnth and their is much difficulty involved when a student must traverse the outside peremeter of the building to utilize the existing ramp. There is also a safety factor involved with this. If, for instance, a handicapped student is attending class at one end of a building and the ramped entrance is at the opposite end and a fire breaks out betweeh them, danger is imminent. There should be at least two ramps accompanying every classroom building on campus. These ramps should be placed on opposite sides of the building-one on the North side and one on the South side or one on the East side and one on the West side. These ramps should, in addition, be located toward the middle of the building if at all possible.

All entrance ramps must be accompanied by handrails which are, of course, needed safety devices. The ramp should have a handrail on one side, preferably two sides, that are 32" in height, measured from the surface of the ramp, that are smooth and that extend 1' beyond the top and the bottom of the ramp.*

* Taken from the American Standard Specifications For Making Buildings And Facilities Accessible To, And Usable By, The Physically Handicapped. Page 8.

In order for the ramps to be safe and usable devices, they must have a gradient which conforms to the standards set forth in the American Standards Specifications For Making Buildings And Facilities Accessible To, And Usable By, The Physically Handicapped. The gradient is really the most important aspect of ramps and curb-cuts and to borrow an inch here and an inch there could very well negate its use, especially by the more severly handicapped. Fig. III offers a visual projection ofnthe specifications established for ramps.

RESTROOM FACILITIES

A major problem for the handicapped student is restroom facilities around the campus. The majority of these facilities on the various campusses are non-negotiable by mobility-impaired students because of the size of the room itself or because of the arrangement of the facilities. It is no secret that almost all restroom facilities are designed and arranged for able bodied students and little or no thought goes into the needs of the handicapped. These mobility-impaired students have a need for doors that open into the restrooms to be wide enough so that they may enter the area and have enough space between facilities providing for maneuverability and therefore access to the facilities. Far too often, toilet stalls have doors which are too narrow and consequently denying a wheelchair entrance. Far too often, there are multiple doors into the facilities which negate any usage of the facilities. Far too often, these facilities are built in a manner which prevents use of the facilities because there are turns and short hallways which a wheelchair cannot negotiate. The lavatories are generally too close together and raised at such a level that they cannot be used by a mobility-impaired student. The adjoining pipes are generally uncovered and the result is that a person with little or no sensation may well be burned. Towell racks are placed at such a height that the mobility-impaired student cannot reach them. Mirrors are for the most part placed too high and cannot be utilized. There are very few existing toilet facilities which have necessary handrails which allow use of the facilities by the handicapped student. And doors always swing inward cutting down on the passage space required by a mobility-impaired student.

The solution to these problems can only be careful planning by someone who knows the pitfalls of the handicapped and by someone who is aware of the established remedies for the problems and by someone who is willing to make innovative changes as they are needed. It is imperative that the buildings and grounds people become acquainted with these problems and their respective solutions and that the physical plants of the various institutions incorporate into their plans and construction procedures specifications for the mobility-impaired students.

For the purpose of illustration for model campus facilities, the following schetches may be helpful as they are encompassing of the needs of handicapped students.

FIGURE V. TOILET SPECIFICATIONS

Fig.V-A illustrates the proper height of toilet water closets. This height is arrived at by measurement of the seats in wheelchairs in relation to the facilities and taking into consideration the most trouble free and safe way of negotiating the facility. To raise or lower the facility would be dangereous for the student when transfering from the wheelchair to the closet and may, in fact, negate its use.

Fig. V-B illustrates both the inside width of a toilet stall and the adjoining handrails as they should be constructed. Handrails should be 1½" in outside diameter, should be 1½" from the rail to the wall, and should be mounted parallel to the floor. These handrails must be fastened securely at

both ends and the middle. The overall width of the stall (3'-3") will allow a wheelchair entrance to the facilities. To attempt to shorten the width as has been done on several occassions would negate usage of the facilities bybthe handicapped student. (Note: The entrance door must swing out.) Fig. V-C illustrates the overall dimensions of a toilet stall. It should be noted that these dimensions are bare minimums when facilitating for the handicapped student. The 4'-8" depth of the stall allows a wheelchair to enter the facilities and shut the door. The 2'-8" door is wide enough to allow entrance by a wheelchair only because the door swings outward. If the door was hinged to swing inward, the passage space would not be enough for a wheelchair. It is imperative for the door to swing outward and it is equally important for the door knob or latch to be installed at a height which is reachable by the handicapped student.

FIGURE VI. URINAL SPECIFICATIONS

Restrooms for men should be equipped with urinals which are accessible to handicapped students. Fig. VI illustrates the proper height and width specifications which should be taken into consideration when facilitating restrooms. The 1'-6" height from the floor to the opening of the urinal is both a minimum and maximum height. To raise or lower the facility would present difficulty for the handicapped student. The 2'-8" width allows a wheelchair to get close to the facility and is a must if a series of urinals are employed.

FIGURE VII. LAVATORY SPECIFICATIONS

Fig. VII illustrates the correct height and width in which lavatories should be installed. The 2'-7" height measured from the floor to the opening of the lavatory allows a person in a wheelchair to get close enough to wash his hands and operate the controls. It is important to note that the adjoining pipes should be covered with a substance which would keep the student from sustaining a burn. The 2'-2" width is necessary if there are to be multiple units employed.

We believe that every building which is used by students should have an equipped restroom on the ground floor that is completely usable by handicapped students. It is not necessary to alter every restroom facility for the handicapped as we realize that some buildings simply do not have the space for such construction. However, it is imperative that at least one restroom, preferably on the ground floor, be equipped for the handicapped.

There are two very important points which can be made about these facilities. First, the facilities do not restrict non-handicapped individuals from utilizing them. And second, the additional cost of the construction would be the cost of the handrails, only.

WATER FOUNTAINS

Another problem area which handicapped students encounter is the height of water fountains. Most of these facilities have been installed at such a height as to negate their use by individuals in wheelchairs. We feel that every building which is utilized by handicapped students should have at least one lowered water fountain. These water fountains should be located on the ground floor and positioned far enough away from other objects to allow approach of a wheelchair. The style of the water fountains is important because itvis necessary to have the bubbler toward the front edge of the water cooler and the controlls must be hand-operated. Figure VIII shows the correct way of installing water fountains for handicapped students.

LOWERED TELEPHONES

There should be at least one telephone which is lowered and otherwise usable by the handicapped student in every building, preferably located on the ground floor. Booths for the telephones should be avoided if at all possible. If booths or shelves are to be employed, they should be both wide enough to allow approach of a wheelchair and low enough to allow the handicapped student use of both the dials and the coin slots. Quite often, these facilities are also installed in a manner which utilizes shelves and the base of the shelves are so low that the handicapped student cannot get his wheelchair under them, thus the telephones are not usable because the student cannot get close enough to the dials and/or coin slots. We

also feel that these lowered telephones, particularly push-button models, should have raised letters to allow use of the telephones by blind stidents.

PARKING FACILITIES

There should be on the model campus an area set aside for handicapped parking. This area should be located fairly close to the mainstream of the general academic buildings and should be utilized by only handicapped students. The parking slots necessarily have to be wider than "normal" parking slots to allow wheelchairs and other mobility apparatus to be unloaded and allow for smooth transfer of the handicapped student.

In addition, every parking lot around special buildings on campus such as theatres, administration building, and so on, should have designated areas for handicapped parking. There should also be a ramp or curb-cut nearby allowing access to the adjoining sidewalk or building entrance.

A good rule for the width of these parking spaces is to add on the operating width of a wheelchair (32") to the "normal" sized parking places. Adequate parking places, the correct width, should be constructed close to the housing facilities for the handicapped, also.

ELEVATORS

For classrooms and other multiple story buildings which are utilized by students, there should be an elevator which is large enough to facilitate a wheelchair, which has a stop button, which

has buttons and other controls that are lowered which the handicapped student can reach, and which has controlls and buttons that have raised letters to facilitate use by those students with sight impairements. The elevator should not be placed in a position which would negate its use because of too narrow halls, etc.

ABOUT THE BLIND

When we begin considering facilities for students who are blind and those with "legal" or partial sight impairements, we are talking about relatively few alterations in existing facilities. The facts are clear that when architectural barriers are removed from facilities with the purpose of facilitating freedom of movement for a wheelchair or crutches or other mobility apparatus, we are also facilitating the campus for the blind. The blind actually require very few changes, especially on college campusses for the simple reason that an intricate portion of their rehabilitation is to learn how to manage themselves around hazardeous areas. Every building of any one campus is structually different and therefore preparing a model situation for the blind student is virtually impossible without sacrificing the needed education of adjusting to every building, every vending machine, every facility as they will have to do in life.

But, there are several things which need to be done for the blind students who attend our colleges and universities. Each building should have a building marker on its outside peremeter so that a blind student can identify the building without having to go inside of that building. These building markers should be constructed with raised letters and should be placed strategically and uniformly around the campus. Each room inside the various campus buildings should have identification plates so that the student can readilly identify the room number. These door plates should have raised letters and should be placed on the outside wall of the room in accordance with section 5 of the American National Standard Specifications For Making Buildings And Facilities Accessible to, and Usable by, The

The Physically Handicapped. Needed also are elevator and telephone switches and other controls with dials which have raised letters and numerals.

Most campusses of large universities have several streets which must be crossed by students in order that classroom buildings may be reached. At UTA, for example, we have a very busy and dangereous Cooper street which divides the campus and which separates the dorms, the Administration building, the theatre, and other buildings from the lecture halls. There exists a light at the crosswalk which temporarily holds the traffic allowing students to cross the street safely at intervals. However, there needs to be installed at the traffic light a buzzer system which would notify the blind or partially blind student of a change in the light. I am told that such buzzer systems are available and I believe that they are needed to insure the safety of the blind students on campus.

In addition, I am told by one of the counselors for the Texas Commission for the Blind that one of the most frustrating problems that blind students have to face is finding a place on campus where they can study and prepare for upcoming classes. There is a need to convert a room whereby these blind students may take their recorders and braillers to study. It would be desirable to set aside a room which is centrally located on campus-perhaps the library- and equip it with facilities for the blind students. It would seem to me that a room in the Library could be set aside and equipped with the same basic facilities that are built into language labs. The practicality of language lab set-ups is obvious in that there are tape recorders and play back units built into individual booths. The booths will allow several students to use the facilities at one time

without bothering each other because the booths are also equipped with headphones. Again, this type of system is very praticle.

Perhaps the greatest and most significant trouble area for the blind and partially blind students is adequate library resources. I am sure that each of you are aware of the number of text which have to be read and studied each semester by students, the number of periodicals which have to be reviewed in order that a student can stay abreast of current events and prepare for term papers, the number of required reading courses. In general, the reading load necessarily placed on students as demanded by a quality education. Every student has the problem of keeping up with his or her reading assignments but the blind student has the additional problem of locating these readings in brail or on tape.

I am told that the Library of Congress provides what is called "talking" books which are available to the blind, the legally blind, and the partially blind citizens,at no charge. The state counterpart is the Texas State Library which funnels the reading material to the residents of Texas who utilize the services. However, it occured to me that the institutions of higher education also need to do much work in this area in order to have on hand the necessary material for their blind students. What I would like to propose is a program which would allow every college and university to have adequate library resources in the form of tapes for their blind students. For the purpose of explanation, let's use the UT system as an example.

The University of Texas at Austin could begin a concentrated program of recording all text books on tape with the intent of stocking

a library with multiple copies of each tape that a student might come into contact with during a semester for a particular course. These copies could be floated to the various sister colleges as the demand for the tapes dictates. In other words, UT could be the central library of the system and could funnel the material to UT El Paso or UT Arlington upon request. We are talking about a tape floatation system; a floating library for the blind students. I think that it is important to stress the point that we are using UT as only an example. But, I think it is also necessary to drive home the point that the UT system and all other colleges and universities of Texas need a central library which would dissiminate taped course material to the campusses within a given system or around the state.

Each college or university could also serve as an input into the taped library by sharing the load and the expense of the tapes by funnelling tapes of special and pertinent lectures to the central library. I am speaking about lectures such as UTA's Webb lectures or the Barksdale lectures or taped performances by guest speakers and so on.

There exists two established programs which could serve as aids to such an endeavor. The Texas Commission for the Blind allows for and budgets for readers-a certain amount for each case. This personnel could be utilized to transfer the content of books onto the tapes. There is also the work study program which provides campus jobs for students whose financial background is insufficient. The creation of meaningful jobs would enhance the productivity of the work study program and I cannot think of a more useful and productive function for these students to serve.

So basically, when we speak of the costs involved in such an endeavor, we are speaking of the costs of the tapes. And there may well be funds available from the Texas Commission for the Blind and similar agencies and foundations which would limit even these costs.

CLOSING STATEMENT

Fundamental in determining whether or not universities and colleges should adopt massive programs designed to completely facilitate for their handicapped students is an acknowledgement of laws legislatively passed in behalf of handicapped individuals not only in Texas but throughout the nation, acknowledgement of precedent established when the various courts throughout the land rule in behalf of its handicapped citizens, and acknowledgement of state and national endeavors designed to reconcile the inequities of barrier ridden buildings and informative matieral printed and distributed for the purpose of alleviating misconceptions about handicapped citizens and requirements for their mobilization.

Many years of research and observation of our disabled citizens has resulted in an acknowledgement that the problem of alleviating barriers at all monetary cost is paramount. Volumes of testimonies and committee reports on state and national levels have been devoted to the handicapped and their mobilization. These include testimonies offered to Federal Senate Sub-Committees. Presidential Commissions. State Senate and House Committees, and so on.

Court cases are being won in behalf of handicapped citizens as the courts have acknowledged that constitutional rights have been violated because public buildings have not been accessible to handicapped citizens. The case of Jeffrey A. Friedman, Plaintiff, V. County of Cuyahoga, et al., Defendant, No. 895,961 is but one example.

Designs and specifications have been established across the nation. Two examples are the American Standard Specifications For Making Buildings And Facilities Accessible to, And Usable By, The Physically Handicapped, and Senate Bill III. Article 678G, passed by the legislature of the state of Texas in 1969.

These endeavors have established the foundation for the removal of barriers. The message from the endeavors is that every facet of facilitating for the handicapped has been done except the actual construction and the order from Regents and similar groups to begin that construction.

There has been much material offered in this proposal in behalf of handicapped students. Much more could be offered. But the one point that stands out above all others is that a quality education is all that these citizens have going for them and our institutions of higher education are the only means for obtaining that education. It is now up to the Regents of the UT System to take bold and necessary steps to provide educational opportunities which will afford society with productive citizens instead of tax burdens.

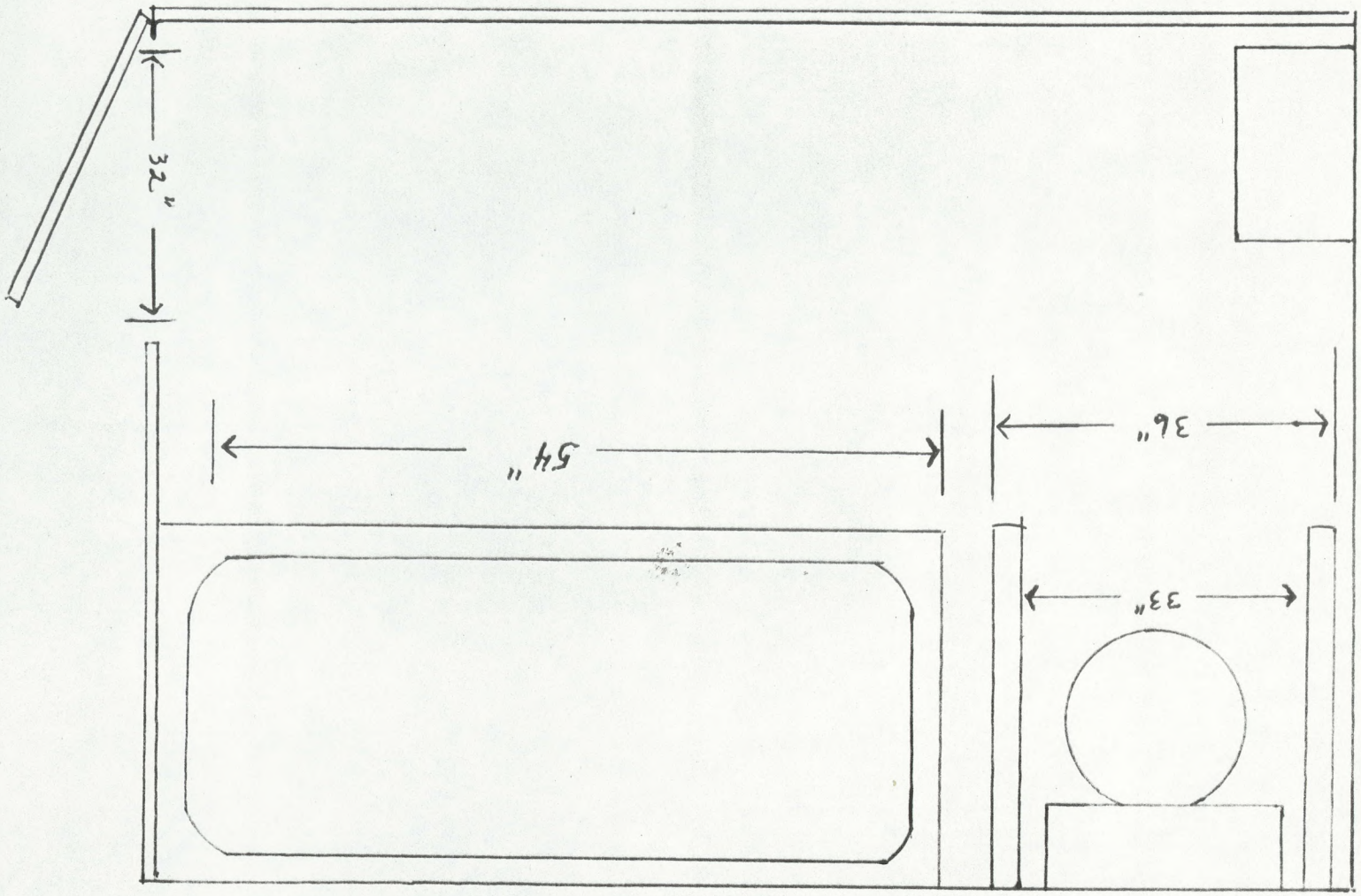
Our universities are institutions which allow young people intellectual and social growth. Our universities mold young people into the leaders of tomorrow and thus foster a sound citizenry. Educational opportunity is a key to the future of this nation.

It is not enough only to consider the increased educational opportunities our proposals will afford the handicapped student. We must also explore the psychological environment that will be realized at an institution altered as suggested.

Beyond adjustments to compensate for lost abilities, the handicapped individual must psychologically come to grips with a much different role in society. However, in far too many cases, the latter adjustment is precluded by a complete withdrawal from normal social life; the handicapped individual constructs psychological walls or barriers between himself and the rest of the world. Negative answers to questions about abilities and worth to society can result in a life of despondency and alienation for the handicapped person. The institution we have proposed will establish facilities catered to the needs of the handicapped students, facilities that will draw such students. The handicapped student at such an institution will have a greater opportunity to interact socially and intellectually with those having similar physical and psychological problems. The social environment so realized will be highly conducive to the mutual exchange of positive reinforcements among those that best understand the frustrations and ambitions of one another. From such interaction, the handicapped student can realize a more positive sense of belonging, an affirmation of a non-vacuous role in society. The ensuing emotional benefits that will occur to the handicapped student are too many to ennunciate; however, let me stress a couple of points I consider of extreme importance. The physical plant that we've proposed and the social structure that will result will offer the handicapped student the opportunity to become more independent, both physically and emotionally. The increase in physical self-reliance along with educational advancement, will allow these students to develop a real sense of accomplishment. The contributions that independence and confidence can make to a handicapped individuals' self-esteem can't be over emphasized. In turn, the significance of

self-esteem to an individual, handicapped or otherwise, doesn't need to be pointed out. The result for the handicapped student will be a positive introspective view of his abilities, aspirations, and worth to society. This affirmation of a real role in society will foster an emergence into the mainstream of social life. Thus, our proposal encompasses two essential goals; the provision of higher education and the curtailment of social estrangement.

FIGURE I



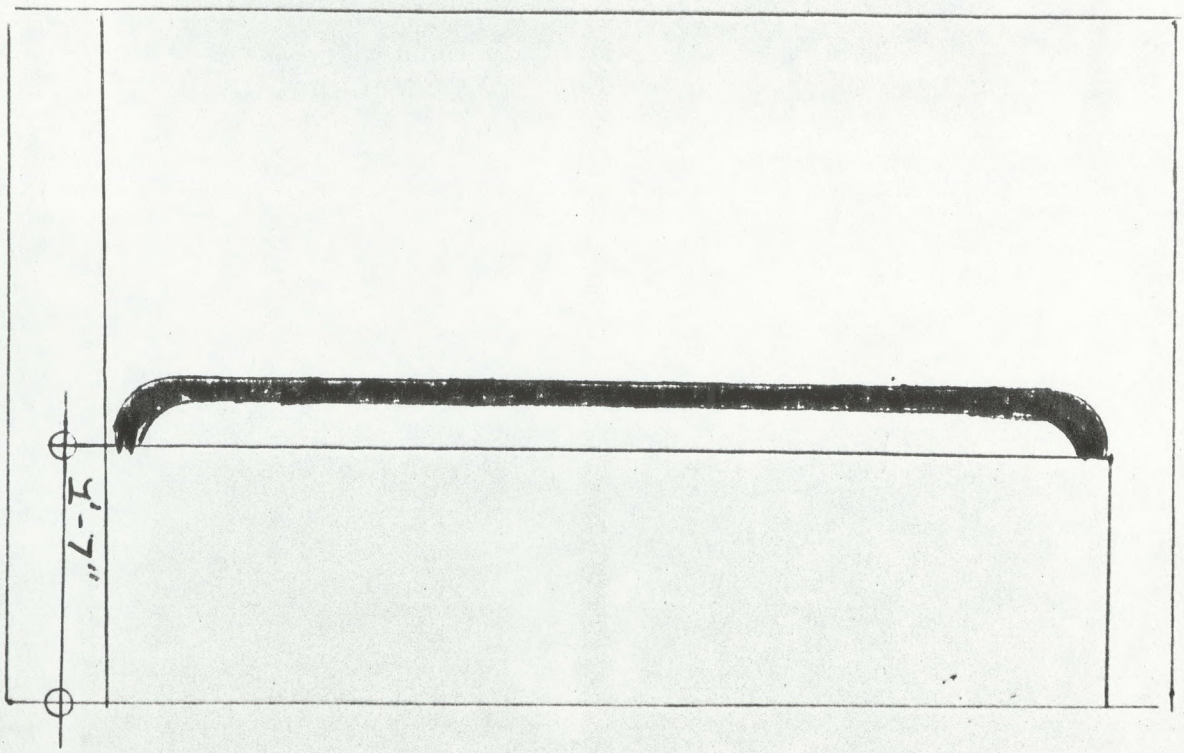
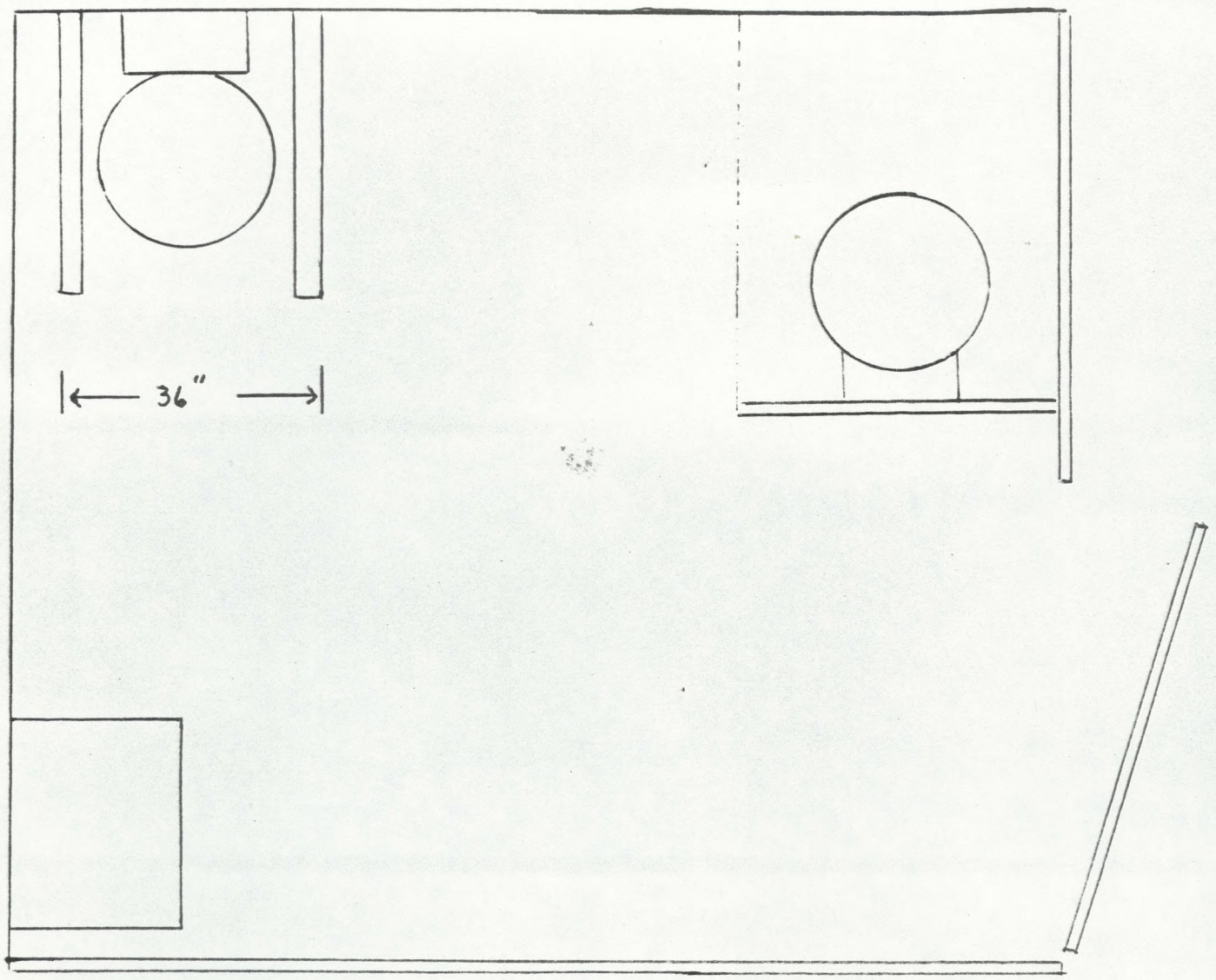


FIGURE II



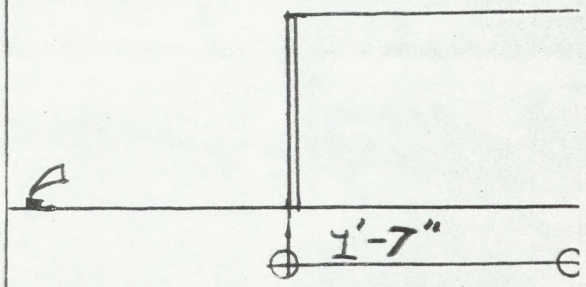
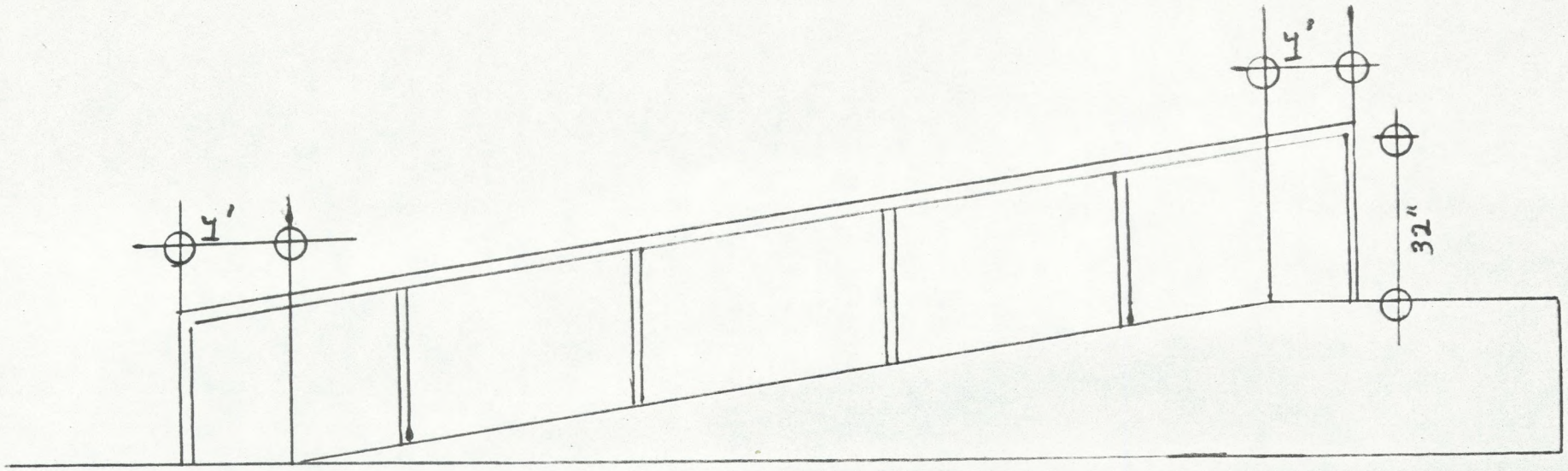


FIGURE III



4' RISE IN 48'

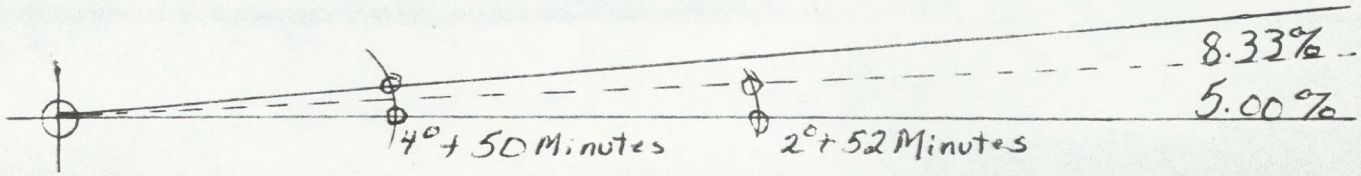


FIGURE IV

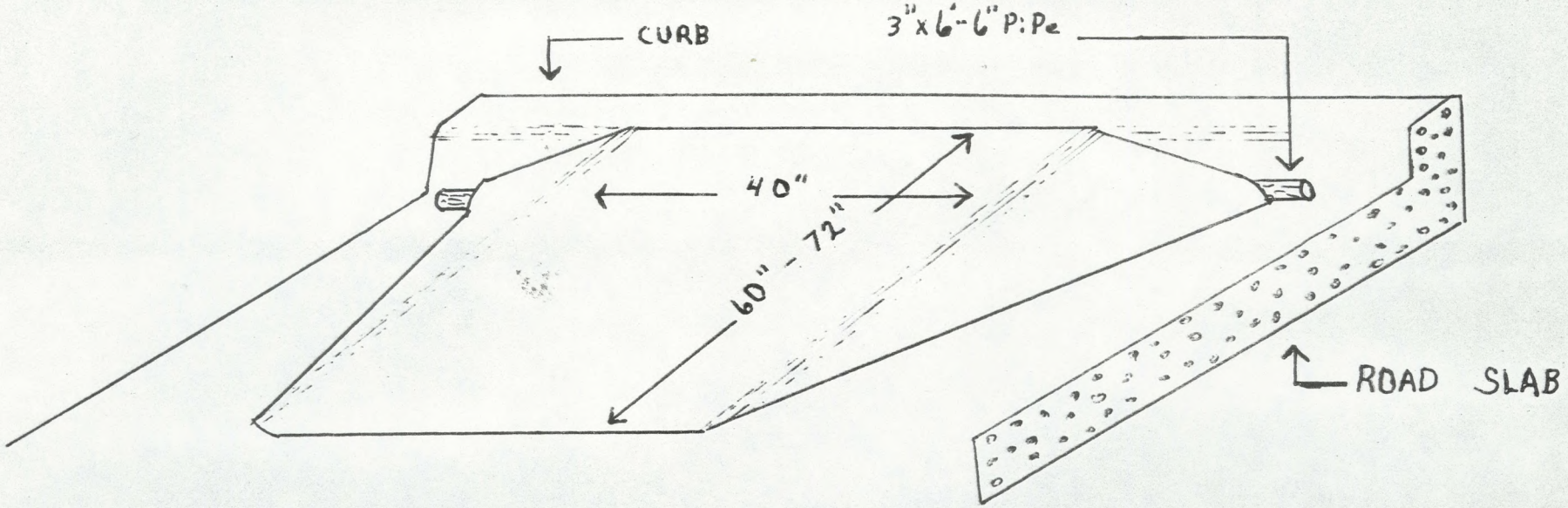
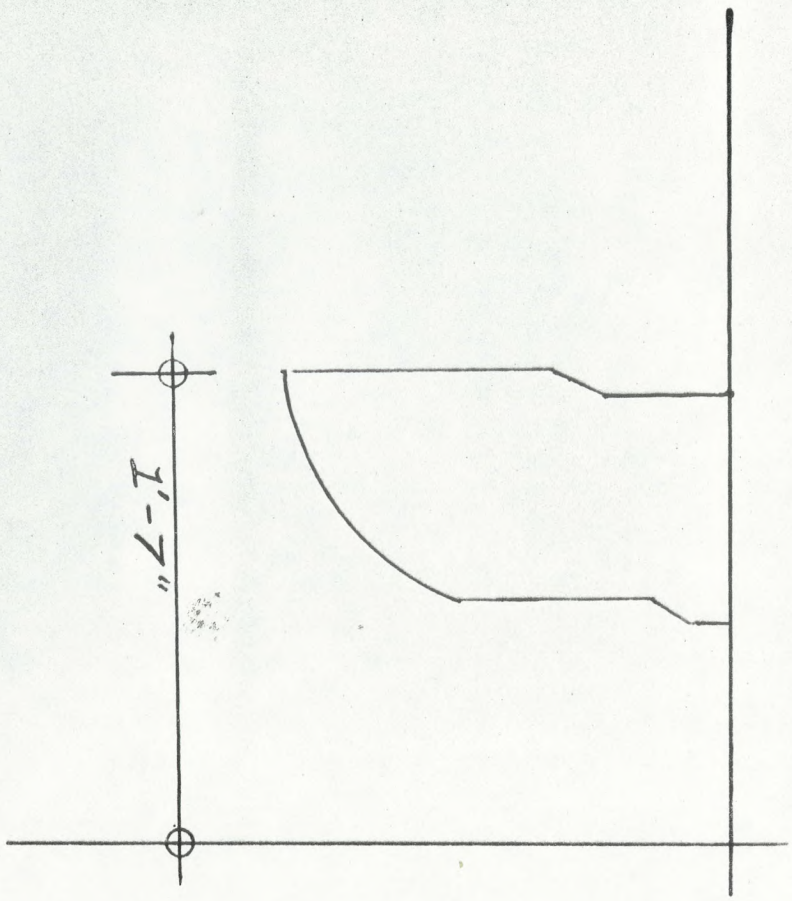


FIGURE V-A



NOTE: The design and mounting of the water closet is of considerable importance. A wall-mounted water closet with a narrow understructure that recedes sharply is most desirable. If a floor-mounted water closet must be used, it should not have a front that is wide and perpendicular to the floor at the front of the seat. The bowl should be shallow at the front of the seat and turn backward more than downward to allow the individual in a wheelchair to get close to the water closet with the seat of the wheelchair. *

* Taken from the American Standard Specifications For Making Buildings And Facilities Accessible To, And Usable By, The Physically Handicapped Page 10.

FIGURE V-B

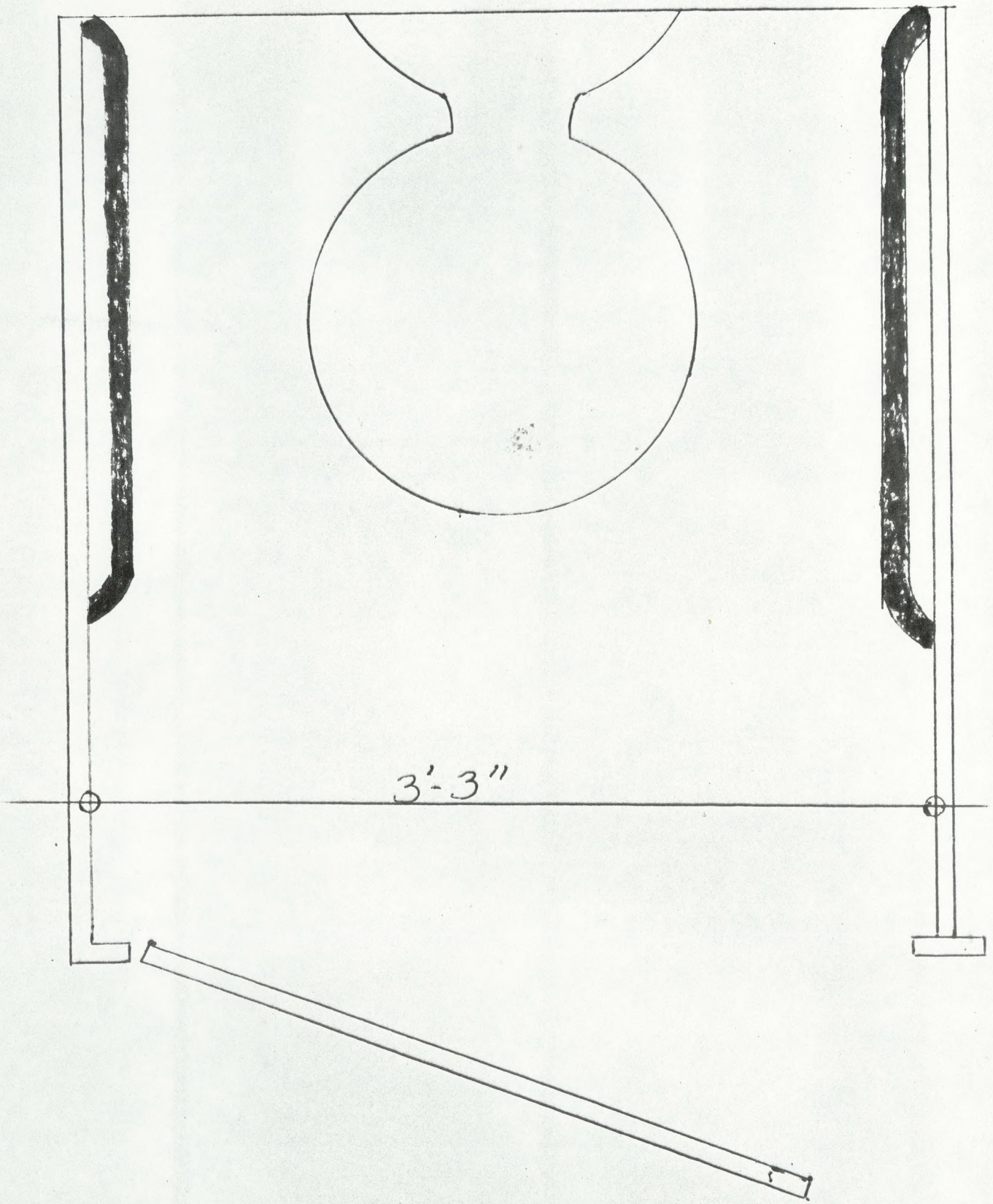


FIGURE V-C

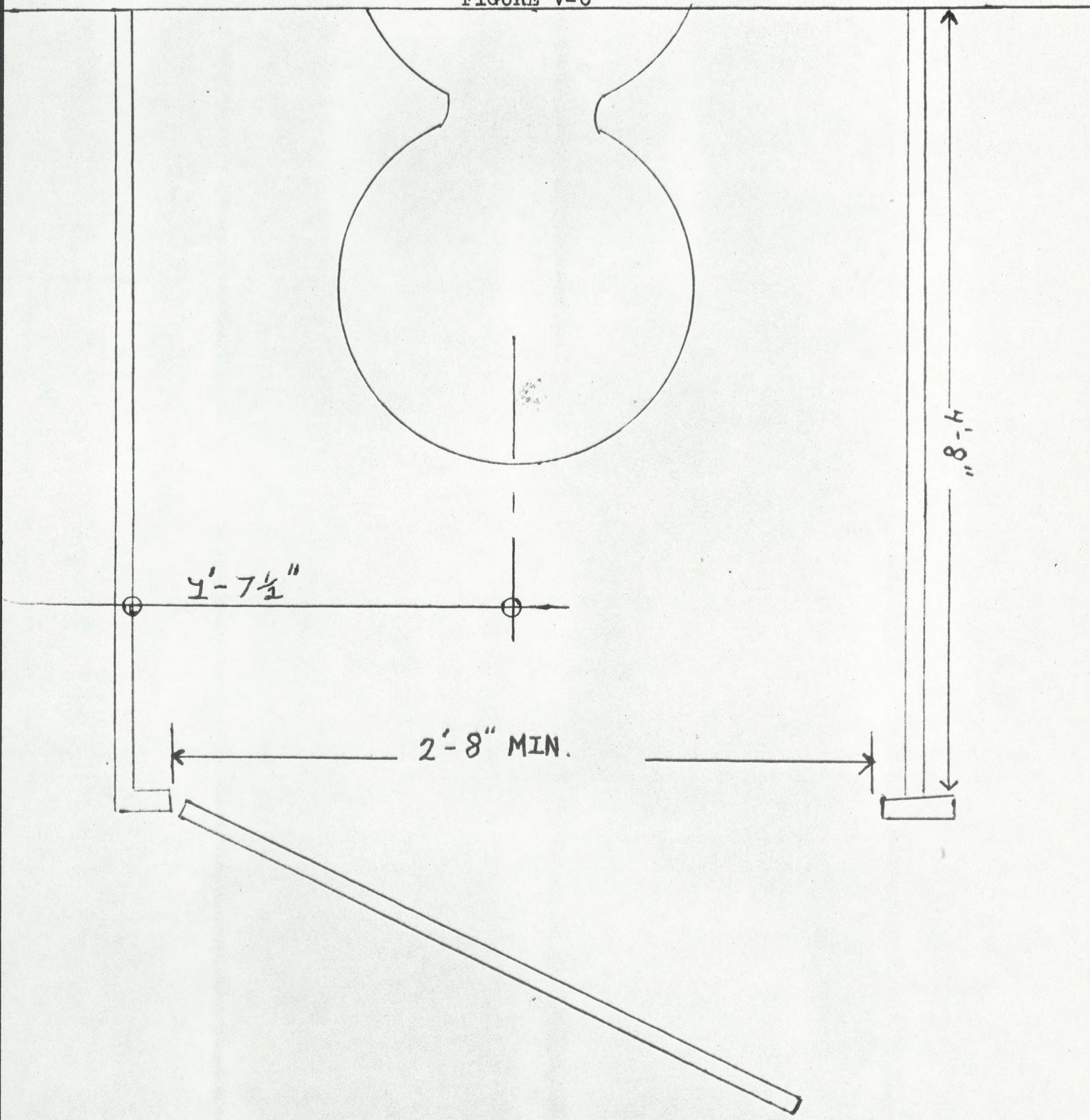


FIGURE VI.

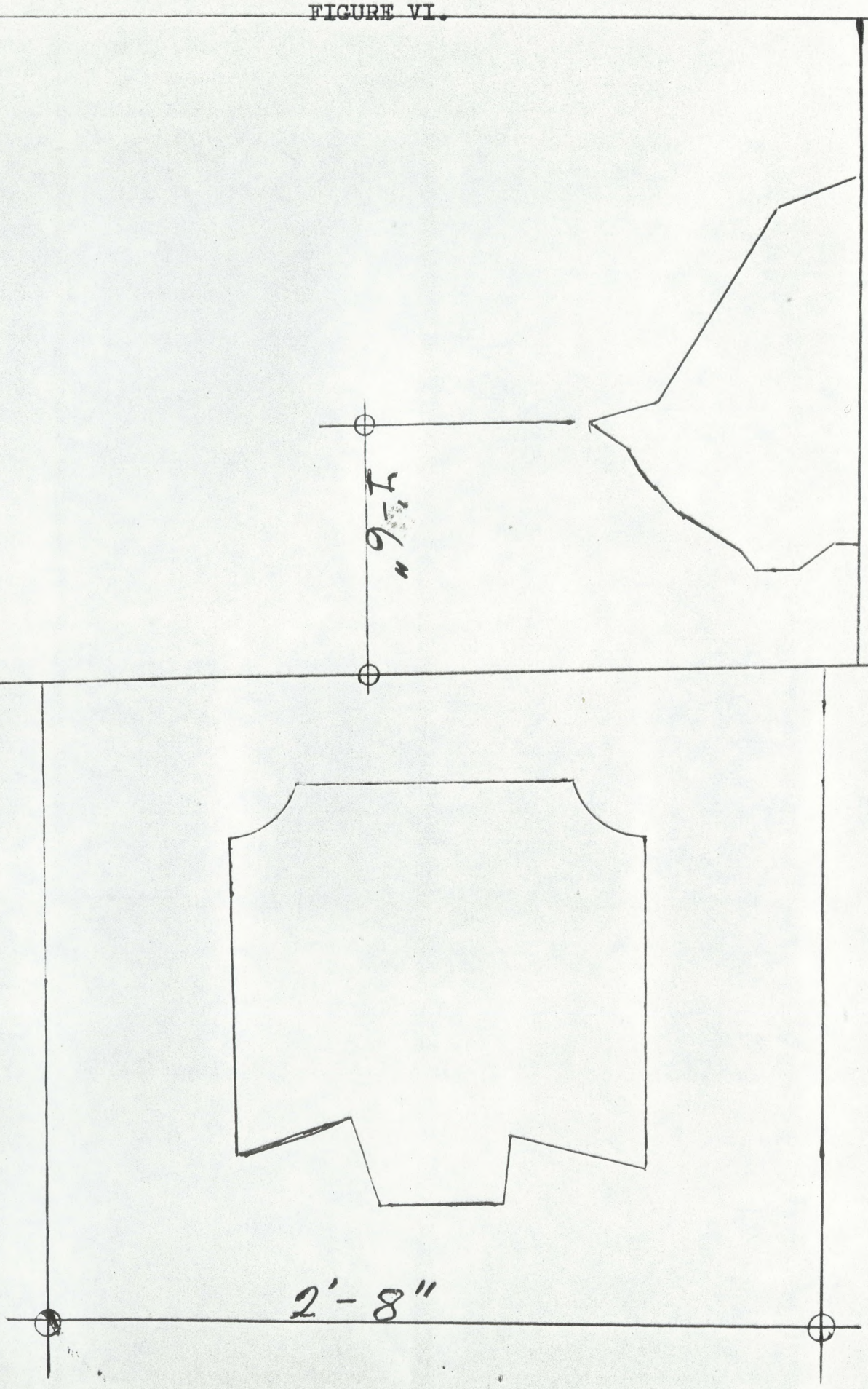
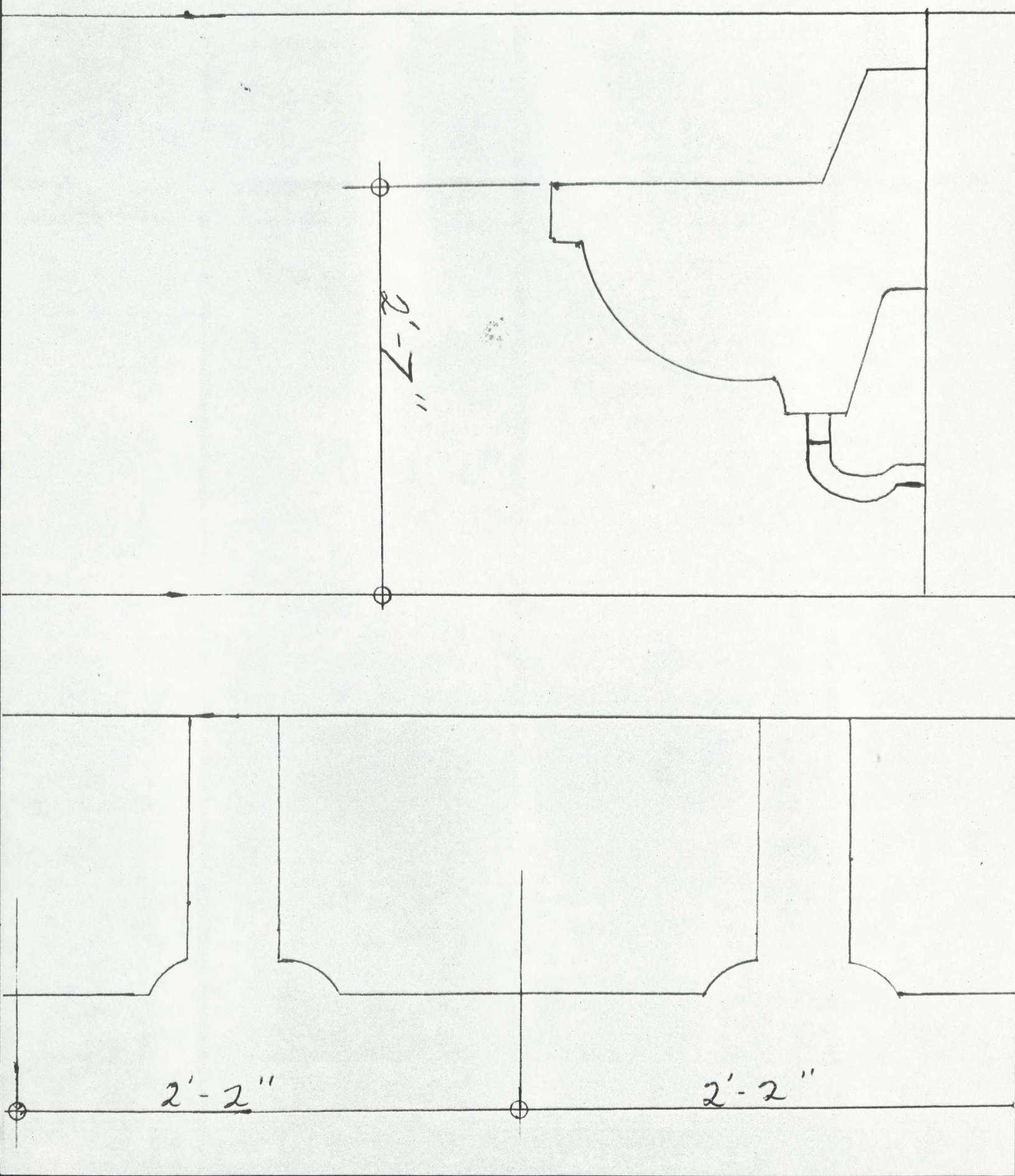


FIGURE VII



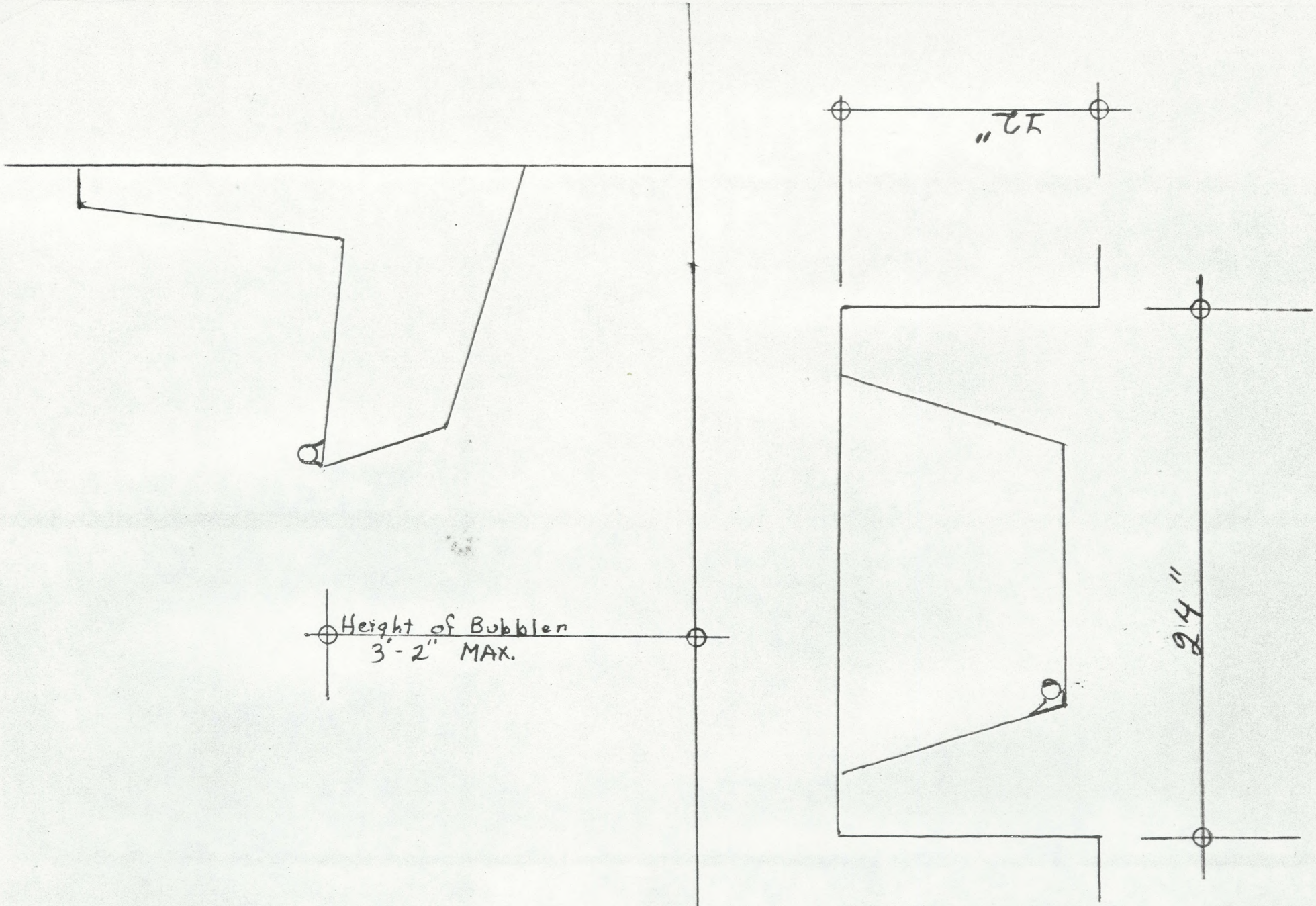


FIGURE VIII