A SIXTY-BED COMMUNITY HOSPITAL
FOR
PRESCOTT, ARIZONA
December 12, 1960

By Earl H. Booth
Candidate for Degree
Bachelor of Architecture

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Dear Dean Little:

This report is submitted as partial fulfillment of  
the requirements for the Degree Bachelor of Archi- 

tecture.

Respectfully yours,

Earl H. Booth

EMB: hsb
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ACKNOWLEDGEMENTS

To my Wife for her assistance.

To Mr. Charles Arends, Community Hospital Administrator, Prescott, Arizona.

To Mr. Jack Bromm, City Manager, Prescott, Arizona.
ABSTRACT OF REPORT

This report includes a short history of the hospital. It then discusses the need for a new 60-bed Community Hospital for the City of Prescott, Arizona. The site is discussed next with a decision stated and justification for that decision shown. Then the proposed hospital is broken down into departments and discussed with respect to location and circulation. Character is also discussed as is the relation of separate departments to the total hospital. The program is presented next with the facilities required and their square foot areas.
CHAPTER 1

HOSPITAL HISTORY

Medical treatment has in the past always been associated with religious services and ceremony. Temples of certain religious institutions were used as both medical schools for practitioners and resting places for patients under observation or treatment. In early times the religious monarch was also the healer or physician. This type of hospital dates back as far as 400 B.C. in Greece, Egypt, Babylonia and India.

When the Christian Era came along the hospital became known as an asylum for travelers and victims of disaster. It was in 369 A.D. that St. Basil established a hospital in Cappodocia. In the 4th century a wealthy Christian lady, Fabiola, established a hospital in Rome. These hospitals were places of resting more than they were a place for healing the sick. At that time it was also the religious groups that stressed the care and treatment of the ill and diseased. Sisterhoods and Brotherhoods of these groups devoted much of their time to the care of the ill, and accommodations for the ill were constructed next to monasteries. Later, about 1155 A.D., the first solely nursing order was instigated--the St. Augustine Nuns.

The concept of a need for social assistance to the ill or those of other misfortune was highly developed during the Middle Ages. This was true in the Moslem East as it was in the Christian West and was most apparent in the establishment of hospitals. Religious and social considerations were eminent in the development of these institutions.

The Renaissance period emphasized science in the healing arts, and the Reformation saw the beginnings of secular support of hospitals when Henry VIII endowed St. Bartholomew's Hospital in London.
The Spanish explorer Hernando Cortez established the first hospital in North America in 1524. This was the Hospital of Immaculate Conception in Mexico City. This institution, now named the Hospital of Jesus of Nazareth, still exists.

In the early 1700's European cities and towns started to build hospitals. These hospitals were still mainly for the poor or victims of contagious diseases. The well-to-do did not receive treatment in hospitals.

Early hospitals were over-crowded, dirty and dark. The principles of good sanitation were still unknown. Disease spread rapidly in these poor conditions, and even equipment and patients were not kept clean. Medical discoveries in the 1800's helped to begin the improvements of hospitals. The principles of antisepsis were first practiced in the late 1800's. Hospitals, patients and equipment were then kept clean. X-ray was first used in the 1890's. Nursing was being taught and had become a professional occupation. Serious efforts at isolation and the availability of private rooms helped to diminish the spread of disease. The idea of the charity hospital started to diminish. Patients were now beginning to pay for part of the cost of their hospitalization. Great discoveries in the field of medicine have been made since the middle of the 19th century. The hospital has kept pace and has also greatly improved. It is, today, a complex set of functions working closely together to reduce pain and heal the sick as pleasantly and quickly as possible.
CHAPTER 2

NEEDS

The Community Hospital at Prescott, Arizona, is faced with the problem of not being able to acquire hospital accreditation because of the inadequacies of their present physical plant. All other factors of the hospital are adequate for accreditation. Their present building is an old converted elementary school which has forced the hospital's functions into strange and inadequate spaces that are illogically placed with respect to one another.

Yavapai County, of which Prescott is the vertical center, has need for 153 general hospital beds according to the Arizona Department of Health. At the present the County has only 87 beds leaving a deficit of 66 beds. The Department of Health has not accepted the Prescott Community Hospital in its total of 87 beds. By supplying a new hospital with 10 additional beds the Prescott Community Hospital would eliminate the bed shortage in Yavapai County. This new hospital would serve the population of Prescott which is around 14,000 and approximately 8,000 people from the surrounding communities, ranches and farms. This area is shown in figure 1, page 6.

Ninety per cent of the Hospital's cases are acute. The chronically ill patients are largely handled by the County Hospital which is also in Prescott. One plan to alleviate the Community Hospital's problem is to combine the two hospitals by adding a sixty-bed nursing unit wing to the County Hospital. This scheme has some merit and some demerits. I am thoroughly convinced that the added problems of maintaining two separate functions in the same building, one supported by the County and one
supported by the City, would be an unreasonable burden on the staffs, patients, and all persons concerned with each function. It is agreed that to add a wing to the County Hospital would, at the present, cost less; however, due to the expected population growth in a period of the next 15 years, there would be need for additional basic supporting facilities along with more beds. It is expected that Prescott and surrounding areas will increase at an even rate to approximately 18,000 in the city by 1975 and the surrounding areas to about 10,000 by the same date. Therefore, due to the before-mentioned points, I believe that the best possible solution for the present is: To construct a new 60-bed hospital separate from the County Hospital with the definite intent and provisions for adding the facilities necessary for future expansion to a 100- to 120-bed hospital.
CHAPTER 3

THE SITE

The present hospital is located on the southwest corner of South Cortez Street and East Leroux Street. I have chosen this site for the construction of the new hospital because of the following facts. The site is located in a quiet residential area being bordered on two sides by nothing but rolling hills. See figures 3 and 4, pages 8 and 9. This site is just four blocks south of the city's major east-west thoroughfare and one block west of the city's major north-south thoroughfare. See figure 2, page 7. The site is approximately 100 feet above the city center which offers a panoramic view of the city. It is owned by the hospital, therefore eliminating the need for extra money for the purchase of a new site.

The new hospital should be designed so that during its construction it does not interfere with the operation of the old hospital. If it is found during the design process that this is impossible, then some compromise must be made. To facilitate a removal program in stages, possibly part of the new hospital may be completed and occupied and then that part of the old hospital removed. It may also be feasible to construct the major elements of the hospital, instigate the move, remove the old building and replace the old building with the Out-patient Department or an auxiliary element.

While various methods may present themselves, the paramount factor is to maintain the operation of the present hospital throughout construction. The solution for exactly how this will be accomplished should and will be solved in the design process.
CHAPTER 4

DISCUSSION OF MAJOR DEPARTMENTS AND FACILITIES

I. ADMINISTRATION DEPARTMENT:

The Administration Department is the major public entrance and exit. All ambulatory patients will enter and exit here. All financial transactions will take place in this area. It is the central circulation hub of all public hospital functions. This department will give the initial impression to all that arrive here. This entry should be pleasing, warm and inviting. It should also be located so it can be easily recognized from any means of approach to the hospital.

Although the doctors' "in" and "out" register is in this area by the switchboard operator, it is advisable to provide a separate entrance for the staff and other doctors.

II. DIAGNOSTIC & TREATMENT DEPARTMENT:

Included in the Diagnostic & Treatment facilities are:

1. Laboratory
2. Pharmacy
3. Radiographic & X-Ray
4. Physical Therapy
5. Morgue & Autopsy

Each of these facilities, with exception of the Morgue, should be easily accessible to the main entry, emergency entry, Surgical and Obstetrics Suites and the Out-Patient department. If vertical circulation is utilized, all diagnostic and treatment facilities should be easily accessible to this circulation. The Morgue should be located so removal of bodys from the
hospital can be accomplished as inconspicuously as possible. It is feasible for the Radiographic & X-Ray and the Morgue to be interior spaces without exterior sunlight. If so, these spaces should be designed as warm and friendly as possible with respect to proportion and color. The Diagnostic & Treatment facilities are adequate to support proposed future expansion.

III. NURSING UNITS:

Of the Nursing Units the nurses' station is the central hub of the unit's function. It is most desirable to design the nurses' station in such a way that the nurse or nurses on duty will have complete visual control of all rooms, entrances and exits, any vertical circulation and the waiting lobby. The nurses' station should be located in the center of the Nursing Unit. This is to cut to a minimum the nurses' walking distance and time spent getting to the units' facilities and bedrooms.

The hospital as we know it today is a place where one hopes to regain his health as quickly as possible. One major factor in a patients' recovery is their will to recover. To aid this will to recover, the character of the hospital, basically the bedrooms, may be of great help. Therefore, the bedrooms should have a warm, pleasant, comfortable and somewhat residential character. In the case of wards, the beds should be so placed that each patient may either turn to one side and experience a private space or turn to the other side and experience a public or group space. The patients' beds should not be placed where they would be forced to experience just one view or space. Expansion of the Nursing Units would be achieved by adding a total, complete Nursing Unit or Units to the hospital. This may be an additional story or an additional wing.
IV. SURGICAL DEPARTMENT:

The Surgical department is classified as a sterile area and its entrance should be in view and control of the nurses' station in the Nursing Unit that contains the surgical and orthopedic beds. The nurses' station or Surgical Supervisor's office in the Surgical department should also be a control point. This department should have direct access to central sterile supply, either by being part of the department or by dumb-waiter if the central sterile supply is on a different floor. The Surgical department should also have quick and easy access to the Laboratory and Radiographic & X-Ray departments of the Diagnostic & Treatment department. The Surgical department should also be located in reasonable proximity to the Emergency Suite. This is for quick and easy access when an emergency cannot be handled in the emergency operating room.

For future expansion the minor surgery room would become the second operating room and the recovery room would be the minor surgery. With the addition of additional Nursing Units a larger and more adequate recovery room would be added.

V. OBSTETRICS DEPARTMENT:

The Obstetrics department should be located with easy access to both the main entrance and the emergency entrance. It should have direct or dumb-waiter access to central sterile supply. The Obstetrics department is also a sterile area and should be located with its entrance in visual control from the nurses' station that is in the Nursing Unit which contains the Obstetrics beds and the nurseries. To accommodate the hospital in an expanded condition, the Obstetrics department as programmed will be adequate for future expansion.
VI. EMERGENCY SUITE:

The Emergency Suite must be easily located from any means of approach to the hospital. It must have easy and rapid access from the streets surrounding the site for ambulance and automobile. It must be located near the Radiographic & X-Ray department. It must also have reasonable access to the main entry, Surgical and Obstetrics department. The Emergency Suite as it is programmed will be adequate to handle the expansion of the hospital.

VII. OUT-PATIENT DEPARTMENT:

The Out-Patient department may be a separate wing. It should have its own entry easily accessible from parking and the main entry. This department should be accessible to the Diagnostic & Treatment department for they will be used by out-patients. For expansion, provisions should be made for increased waiting space and the addition of two more exam and treatment booths with dressing cubicles.

VIII. SERVICE DEPARTMENT:

The main kitchen should have outside delivery access and access to central storage and receiving. It should be located adjacent to any vertical circulation and ideally in the center of horizontal and vertical circulation. Complete meal trays will be prepared in the kitchen and taken to the patients on carts.

Hospital staff dining facilities should be serviced by the main kitchen. It should be located near the center of both vertical and horizontal circulation. All medical staff and hospital employees will eat in the same dining room. Adequate space should be provided for expansion.
Central storage and receiving should have outside truck service, and should be located so that it can service all functions of the hospital easily. Adequate space will be provided for expansion.

The laundry service center should have easy access to horizontal and vertical circulation. If a multi-story building is used, a laundry chute should be provided in a protected area near the nurses' station of each Nursing Unit. Adequate space will be provided for expansion.

Mechanical equipment spaces will be provided and will be large enough to handle additional equipment for expansion.

The maintenance shops should be located near the central storage and the service entrance. They should be near the center of horizontal and vertical circulation. These spaces will be adequate for future expansion.

Nurses' lounge and lockers should be easily accessible to a convenient exterior entrance. They should also be near both horizontal and vertical circulation centers. Means for additional space for expansion must be provided in the design of these spaces.

The men and women employees' locker rooms should be accessible to the main entrance and the service entrance. They should be located in the general service area and means for the addition of more space should be provided for future expansion.

IX. RESIDENT PHYSICIAN AND INTERNS LIVING QUARTERS:

The Resident Physician's living quarters may be in a separate building, but covered access to the hospital should be provided. The Interns' living quarters may also be in a separate building with covered access to the hospital. Provisions should be made for the addition of private rooms and baths to the Interns' living quarters for future expansion.
X. PARKING OF CARS:

Visitor and out-patient parking should be in close proximity to the main entrance and the out-patient entrance.

Doctors, nurses and employee parking should be near their respective entrances. Specific preference should be given to doctors parking to insure rapid entrance to the hospital.

Parking by the emergency entrance must be designed to allow rapid entry and exit of emergency vehicles. Approach to this area from surrounding streets must be separate from all other access roads to parking or entrances.

Easy and inconspicuous access and parking is desired for the Morgue and service entrances.
CHAPTER 5

PROGRAM

I. ADMINISTRATION:

This function of the hospital is the initial central core where all business is transacted. Patients check in and out here, and it is the check-point for all visitor traffic. The Administration Suite is where all hospital policies are discussed and made.

A. Administrator's office: desk, chairs, bookshelves, files and a closet. 300 sq.ft.

B. Secretaries office with desk, chairs, file cabinets. 200 sq.ft.

C. Business office to include 3 desks, 1 to 6 file cabinets, a closet, a safe, a place for information and a cashier's window. The hospital telephone switchboard should be in this area as should be the doctors' "in" and "out" register. 550 sq.ft.

D. Admitting and Social Service office: a desk and chair, 2 straight chairs, 2 file cabinets. 200 sq.ft.

E. Medical Record storage room: All recent records will be kept in normal file cabinets, but dead records will be kept on microfilm and in a special cabinet. No provisions will be made at the present time for the hospital to do its own microfilming.
This area should have 2 desks and chairs, and 12 file cabinets.

F. Lobby and waiting space: The waiting area should seat 12 to 16 people and should have a public telephone easily accessible.

G. Men's and women's public toilets: 1 w.c. and 1 lav each.

H. Janitors closet

I. Director of nursing office to contain a desk and chair, 2 chairs, 2 file cabinets, bookcase and coat closet.

J. Staff lounge and library: Book shelves should line 2 walls. There should be a conference table to seat 8 people.

Total 2850 sq.ft.

II. DIAGNOSTIC & TREATMENT FACILITIES:

A. Laboratory 300 sq.ft.

B. Pharmacy 225 sq.ft.

C. Radiographic & X-Ray: In the Radiographic Suite there should be the following facilities:

1. Office and viewing room 150 sq.ft.
2. Dark room and Light maze 120 sq.ft.
3. Water closet and lavatory 20 sq.ft.
4. Waiting space for 4 persons and 2 dressing booths 100 sq.ft.
5. Radiography and Fluorescopy room and control room 210 sq.ft.

D. Physical Therapy Suite shall include the following:

1. Waiting space for 2 persons and a desk area 50 sq.ft.
2. Exercise room 200 sq.ft.
3. Examination room 150 sq.ft.
4. Two therapy booths 250 sq.ft.
5. Hydrotherapy room 100 sq.ft.
6. Linen and storage room 50 sq.ft.

E. Morgue & Autopsy room: The Morgue and Autopsy room can be one single space with a mortuary refrigerator included. 200 sq.ft.

Total 2125 sq.ft.

III. NURSING DEPARTMENT:

A. Nursing Units should have the following facilities:

1. Linen closet 30 sq.ft.
2. Storage closet 50 sq.ft.
3. Space for stretcher and 2 wheelchairs 40 sq.ft.
4. Two toilet rooms: 1 men's and 1 women's to include 1 wc, lav and bath tub each  80 sq.ft. per each
5. Pantry  100 sq.ft.
6. Treatment room to include storage cabinet, sinks, chairs, and autoclave  150 sq.ft.
7. Flower room  75 sq.ft.
8. Utility room  150 sq.ft.
9. Waiting space for visitors  150 sq.ft.
10. One solarium for ambulatory patients  300 sq.ft.
13. Nurses' station  185 sq.ft.
14. One private bedroom and scrub-up area for isolation

B. Bedrooms shall be of 3 types:  150 sq.ft. per bed
1. Private room with 1 wc, 1 lav and personal storage closet
2. Double room with 1 wc, 1 lav and 2 private storage closets
3. Four-bed wards with 1 wc, 1 lav and 4 private storage closets

C. The bed breakdown shall be as follows:
1. Surgical and/or Orthopedic--22 to 26 beds
2. Medical--22 to 26 beds
3. Maternity--10 to 14 beds
4. Nurseries--12 to 18 bassinets

D. The total of 54 to 66 beds should be broken down as follows:
1. 12 to 16 private rooms
2. 9 to 11 semi-private rooms
3. 6 to 7 four-bed wards

IV. SURGICAL DEPARTMENT:

The Surgery department shall include the following facilities:

1. A major and minor operating room with scrub-up and sub-sterilizing space between 640 sq.ft.
2. Anesthesia storage 75 sq.ft.
3. Clean-up room 100 sq.ft.
4. Surgical Supervisor's office 100 sq.ft.
5. Instrument library 20 sq.ft.
6. Sterile storage and nurses' work room 200 sq.ft.
7. Space for 2 stretchers 40 sq.ft.
8. Fracture room with plaster and splint storage 300 sq.ft.
9. Nurses' locker room: 4 lockers, 1 wc, 1 lav, 1 shower 150 sq.ft.
10. Doctors' locker room and lounge: 1 wc, 1 lav, and 1 shower 200 sq.ft.
12. Recovery room 200 sq.ft.
13. Central sterilizing and supply 350 sq.ft.

Total 2595 sq.ft.
V. OBSTETRICS DEPARTMENT:

The Delivery Suite shall include the following facilities:

1. One delivery room and labor & emergency delivery room 800 sq.ft.
2. One labor room 180 sq.ft.
3. Clean-up room 130 sq.ft.
4. Stretcher storage for 2 stretchers 40 sq.ft.
5. Sterile storage 40 sq.ft.
6. Nurses' work room 150 sq.ft.
7. Nurses' station 70 sq.ft.
8. Nurses' locker room with 1 shower, 1 wc, 1 lav, 5 lockers 150 sq.ft.
9. Doctors' locker room and lounge with 1 wc, 1 lav, 1 shower 250 sq.ft.
11. Fathers' waiting room 200 sq.ft.

Total 2030 sq.ft.

VI. EMERGENCY DEPARTMENT:

The Emergency department shall include the following facilities:

1. Office and waiting area 200 sq.ft.
2. Storage for 1 stretcher and 1 wheelchair 30 sq.ft.
3. Private toilet with 1 wc and 1 lav 24 sq.ft.
4. Recovery room 150 sq.ft.
5. Supply closet 80 sq.ft.
6. Operating room 300 sq.ft.
VII. OUT-PATIENT DEPARTMENT:

The Out-Patient department shall include the following facilities:

A. Entrance and waiting area:
   1. Appointment office and information desk 150 sq.ft.
   2. Lobby and seating area for 10 people, and
      1 public phone 300 sq.ft.
   3. One men's and 1 women's public toilet, 1 wc,
      1 lav per each 160 sq.ft.

B. Examination and clinical rooms:
   1. Minor surgery room with private wc, lav and
      storage closet 400 sq.ft.
   2. Two exam and treatment booths with small
      connecting utility space and dressing
      cubicles 300 sq.ft.
   3. Two dental treatment rooms, recovery room
      & office, lab, and storage cabinets 300 sq.ft.
   4. Eye, ear, nose and throat examining and
      treatment room 300 sq.ft.
   5. Waiting space by exam rooms for 10 people
      300 sq.ft.

Total 2230 sq.ft.

7. Utility room 80 sq.ft.
8. Social service's office 200 sq.ft.

Total 1064 sq.ft.
VIII. SERVICE DEPARTMENT:

A. The main kitchen shall include the following facilities:

1. Receiving vestibule  60 sq.ft.
2. Janitors closet  24 sq.ft.
4. Dry storage  125 sq.ft.
5. Baking, cooking, pot washing, service and tray set-up  740 sq.ft.
6. Dietitians office  150 sq.ft.
7. Special diet room  150 sq.ft.
8. Food cart cleaning room  200 sq.ft.
9. Clean food cart storage  175 sq.ft.

B. Hospital staff dining facilities:

1. Staff dining for 30 people  500 sq.ft.
2. Cafeteria service area and dishwashing  300 sq.ft.

C. Central storage and receiving

1. Anesthetics  100 sq.ft.
2. Pharmacy storage  100 sq.ft.
3. Issue and receiving  100 sq.ft.
4. Case storage and bulk foods  650 sq.ft.
5. General storage  600 sq.ft.
6. Bulk storage  400 sq.ft.

D. Laundry service centers shall include the following:

1. Soiled linen room and sorting  250 sq.ft.
2. House-keeper's office 100 sq.ft.
3. Central linen and sewing 200 sq.ft.
4. Washing, extracting, drying, pressing, flatwork ironing 1100 sq.ft.

E. Mechanical and electrical spaces shall provide for:
   1. Boiler room 600 sq.ft.
   2. Air conditioning and circulation, depending on type of system used 600 sq.ft.
   3. Central power control 400 sq.ft.

F. Maintenance shops shall include:
   1. Engineer's office 120 sq.ft.
   2. Mechanical repairs 300 sq.ft.
   3. Furniture repair and storage 400 sq.ft.

G. Nurses' locker room and lounge shall include:
   1. Locker room with 30 lockers 170 sq.ft.
   2. Lounge 200 sq.ft.
   3. Two lavs, 2 wc, 2 showers and 2 dressing spaces 150 sq.ft.

H. The women employees' locker room is to include:
   10 lockers, 2 wc, 2 lavs, 2 showers, and 2 dressing spaces 400 sq.ft.

I. The men employees' locker room shall include:
   10 lockers, 2 lavs, 2 wc, 2 showers, and 2 dressing booths 400 sq.ft.

Total 10614 sq.ft.
IX. RESIDENT AND INTERN LIVING QUARTERS:

A. Resident living quarters shall include the following:
   Living room, dining room, kitchen, bath, 2 bedrooms, utilities and garage. 1450 sq.ft.

B. The Interns' living unit shall include the following:
   1. 5 private rooms and baths 200 sq.ft. each
   2. A general kitchen, lounge, laundry and storage 400 sq.ft.

   Total 2050 sq.ft.

X. PARKING OF CARS:

A. Visitors and out-patients 70 cars

B. Doctors and nurses 20 cars

C. Employees 30 cars

D. Emergency entrance: 1 ambulance & 2 passenger cars

E. Mortuary entrance: 1 hearse

F. Service and supply: 1 van truck

All functions of the hospital will include the necessary equipment described in "The Elements of the General Hospital," Revised Edition, as presented originally in the Architectural Record, June 1946.

All square foot areas are net and do not include corridors or wall thicknesses.
BIBLIOGRAPHY


