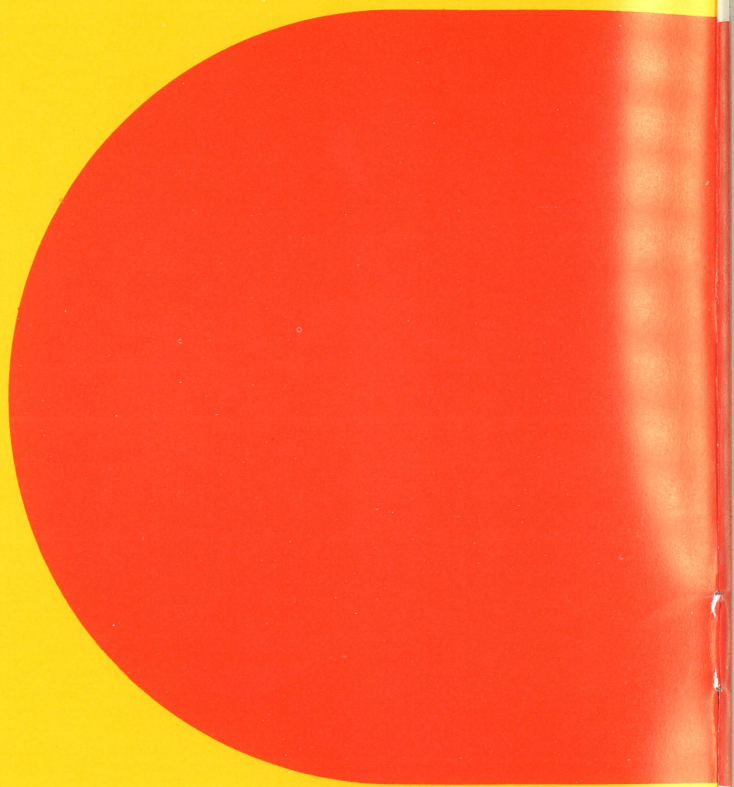
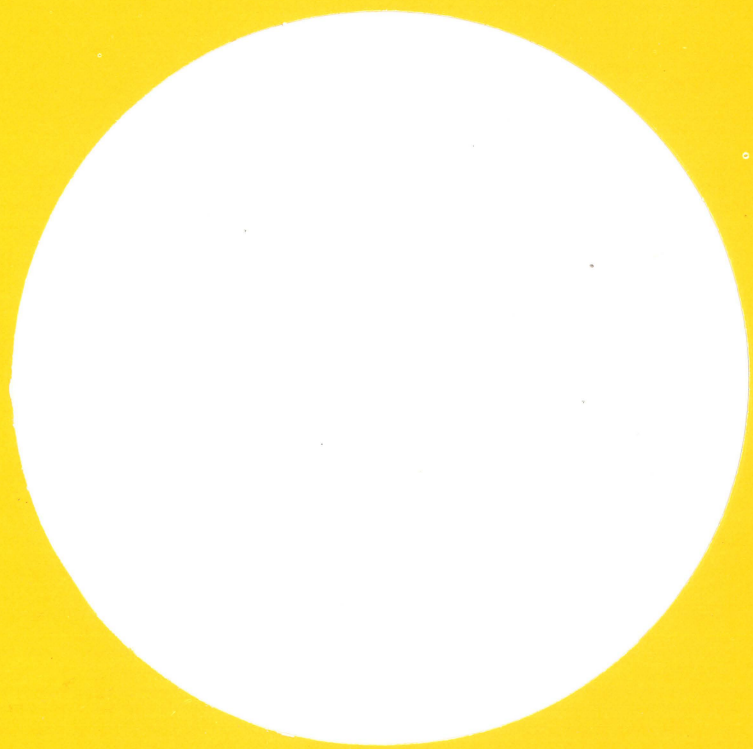


The new hospital

STRONG MEMORIAL HOSPITAL OF THE UNIVERSITY OF ROCHESTER | ROCHESTER, NEW YORK





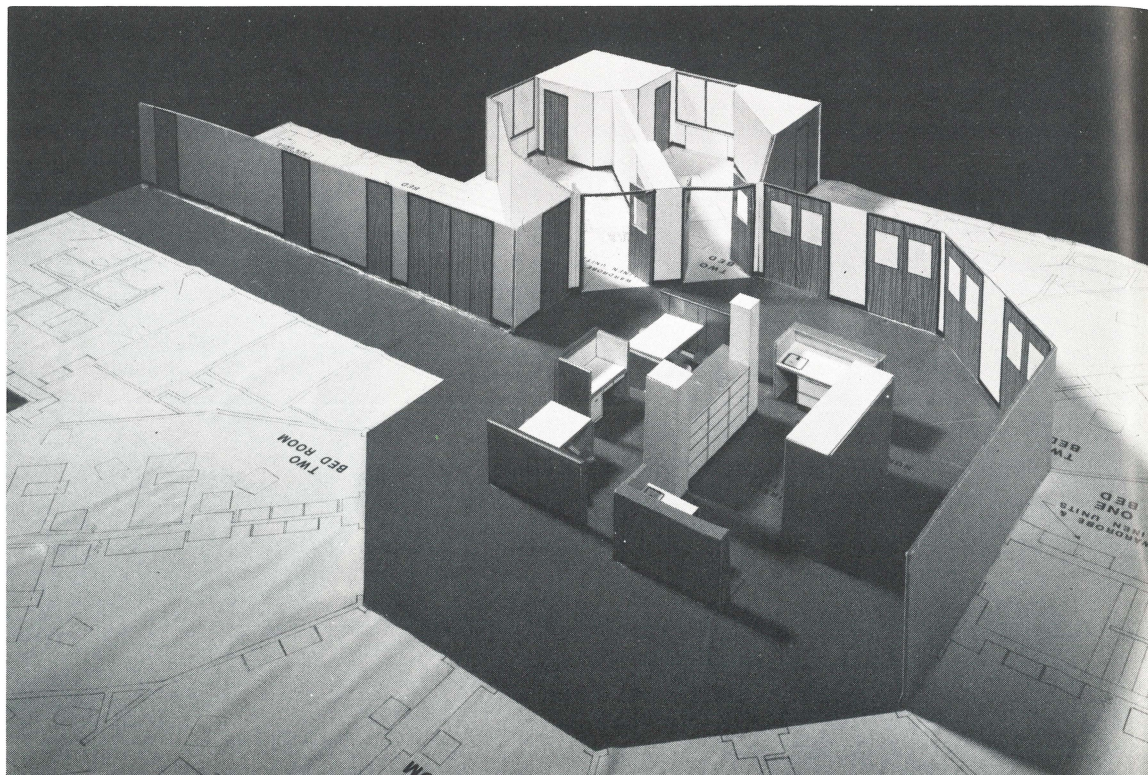
Introducing the new Strong Memorial Hospital



Introduction

The new Strong Memorial Hospital is a 698-bed structure replacing all of the present hospital, with the exception of 107 psychiatric beds in Wing R. It will be an integral part of the University of Rochester Medical Center and will serve as the principal teaching hospital for the schools of Medicine and Dentistry and of Nursing.

Hospital patient units are in five towers, each attached to a central core corridor with supporting services and teaching areas. The towers are set on a five-floor base—including the basements—containing 16 operating rooms, record-keeping services, and supporting and administrative services.



Model of a typical patient unit shows the radial arrangement of the unit and of the patient-care station.

Rooms on most patient units are in a radial arrangement around a central patient care station; one-third are two-bed rooms, and two-thirds are single. Some of the variations from the radial arrangement include the burn/plastic unit, a special care nursery, and medical and surgical intensive care units.

The outpatient wing houses treatment rooms, minor procedure rooms, offices, and conference rooms for ambulatory patients.

By almost every standard of measurement, the new Strong Memorial is the biggest building in Rochester.

It has 908,000 sq. ft. of useable space; its excavation required the removal of nearly 30,000 cu. yds. of dirt; its main cafeteria capacity is 750; its main lobby and waiting areas will seat 115; its perimeter at ground level is 9,858 feet; its construction required 40,410 cu. yds. of concrete and 1,300,000 face bricks.

Its interior design calls for 30,000 sq. yds. of carpeting that is specially woven, non-flammable, and electrically grounded. Its five patient towers rise 117 feet above the front entrance, and each has a perimeter of 336 feet.



Summary of services by floor

sub-basement: pneumatic tube control room, cart transport system base with washing station and storage area.

basement: surgical suites (16), surgical support facilities, medical records, anesthesiology, central sterile room, pharmacy, medical stores and equipment center, mechanical equipment.

ground floor: x-ray department, dietary department, heart and chest unit, clinical laboratories, surgery and obstetrics and gynecology outpatient departments, future emergency department.

first floor: main lobby and waiting room, House of the Six Nations (cafeteria), private dining rooms, housekeeping and dietary offices, dispensing pharmacy, information desk, page service, chaplain's offices, quiet rooms, cashier, business and administrative offices, admitting, outpatient registration, ophthalmology outpatient department, gift and snack shops, locker and lounge facilities.

second floor: labor and delivery rooms, mechanical equipment rooms, dentistry and urology outpatient departments.

third floor: gynecology and obstetrics patient units, newborn nurseries, medicine and neurology outpatient departments, special care nursery.



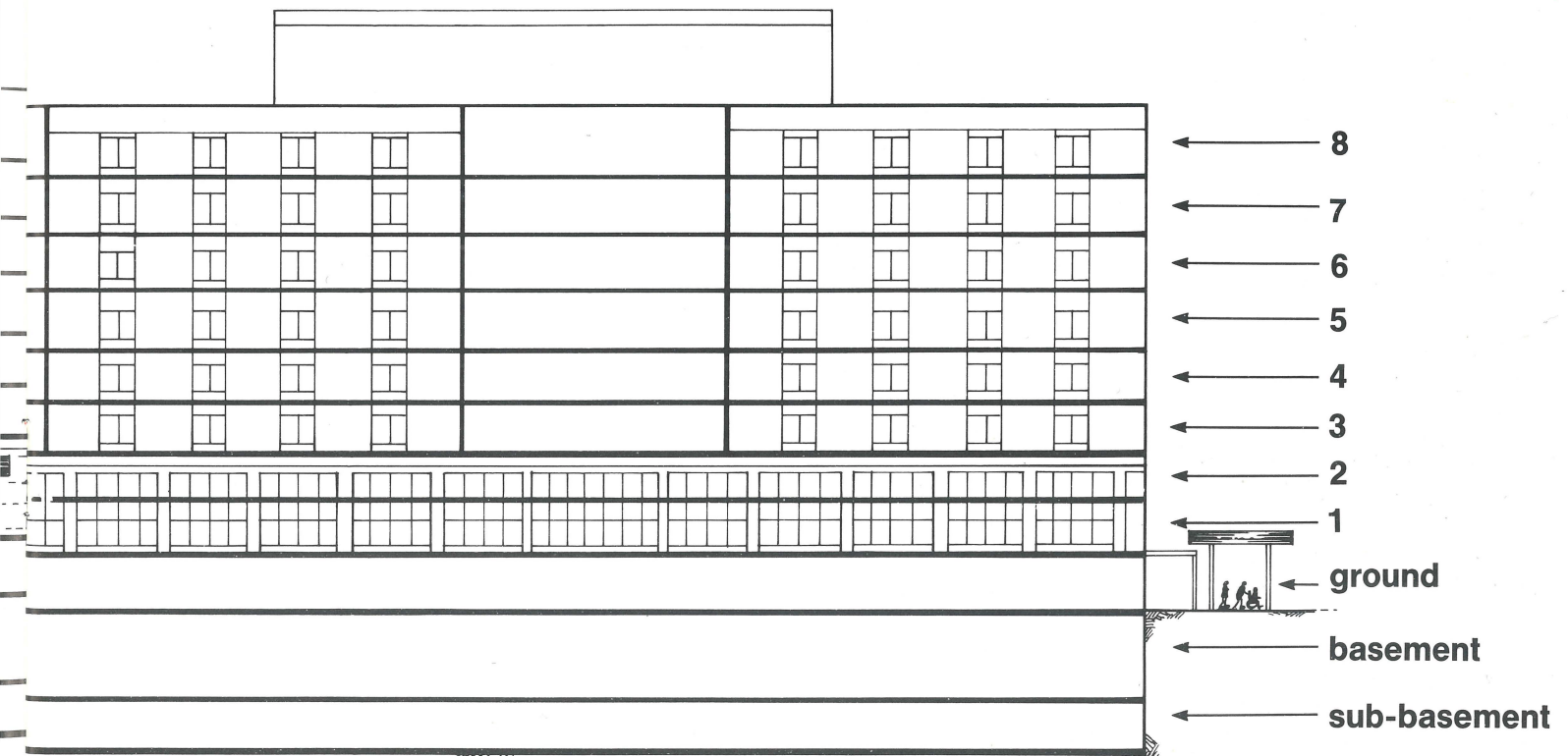
fourth floor: pediatric patient units, pediatric intensive care unit, pediatric out-patient department, play deck, clinical research center.

fifth floor: orthopedics, neurosurgery, neurology, rehabilitation patient units.

sixth floor: surgery patient units.

seventh floor: medicine patient units.

eighth floor: medicine patient units, burn/plastic unit, medical and surgical intensive care units.

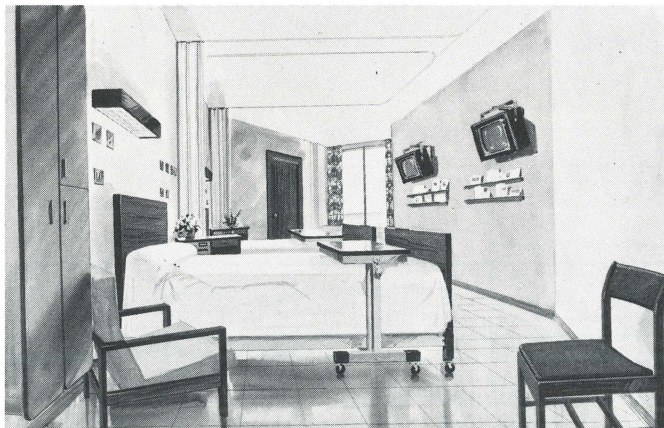


RADIAL PATIENT UNIT

Closer contact with the patients is the biggest advantage of the radial design of the patient unit. Patients feel more protected, nurses are able to observe patients directly at all times, and other features of the unit will save staff time and effort.

Twenty-four patients, equal numbers in the 12 single and six double rooms, will form the basis of the typical radial patient unit, of which there are 21. Eight others modify the basic design to varying degrees.

A single hallway provides access to the unit. There are four single bed rooms located along the hallway. Also along the hallway are separate "clean" and "soiled" storage rooms for linen and other supplies.



Artist's drawing of a typical two-bed patient room. View is into the room. Each room has a private bathroom, optional television, telephones, bedside cabinets, and other services.

A conference room along this corridor is provided for consultation and for physicians to write orders and patient records. Other service rooms include the nurses' office and medicine room—where the cassettes containing the unit

dose medications are stored.

Dominating the physical facilities of the unit is the patient care station—a collection of desks, cabinets, and nourishment station.

All equipment is arranged to provide a compact but flexible work area. From the work desk at the front of the station, the clerk-receptionist has a clear view of the unit's hallway.

At the back of the station is the nourishment unit, comprising a refrigerator, microwave oven, sink, storage cabinets and counter space. Here the meal is heated in the microwave oven, and drinks and cold food are added to the patients' trays before being taken to the bedside.

SPECIAL PATIENT UNITS

Burn unit

Severely burned patients require acute crisis care and face a long rehabilitation. They require the closest coordination of nursing, surgical, physical and occupational therapy, psychiatric and medical staff.

Strong's burn service is well known for its excellence and, in the new hospital, has a separate nine-bed unit to ensure the highest level of care and attention at all times.

This unit has its own fully-equipped operating room, a tank room for hydrotherapy, utility rooms for both clean and soiled supplies, locker rooms for staff members leading into the internal "clean" corridor, and a gown room for visitors. Patients can stay in the unit as long as necessary, from the acute resuscitative stages through the wound-healing stage.

Sharing a radial unit with the burn unit is an adult plastic surgery unit, with a wall physically separating the two.

Pediatric intensive care

A six-bed unit to provide an intensive level of care for young patients will allow them to be cared for in a setting designed for their unique problems, fears, and reactions and, most important, with patients their own age. They may be transplant patients, major surgery patients post-operatively, respiratory patients. The unit is divided into two areas: a two-bed isolated section with a separate entrance, and a four-bed semi-isolated section.

Special care nursery

Neonatal (newborn) intensive care is needed by many of the babies born at Strong and other area hospitals. Some are premature; others have serious congenital defects; some have infections; all need the levels of care provided in the special care nursery. There are three sections: a 12-bassinet neonatal intensive care section, an eight-bassinet "suspect" section for babies suspected of having a contagious disease, or infection, and a 20-bassinet section for premature babies.

Children's activities

Children need the physical relaxation offered in the three playrooms and other special facilities provided for them in the new hospital. These include a large outdoor playdeck. The playdeck is equipped with a sunroof and sandbox onto which beds may be rolled during good weather. All pediatric radial units include a playroom, and a special classroom on the pediatric floor allows patients away from school for extended lengths of time to keep up with their education.

Rehabilitation

Occupational and physical therapy facilities will be expanded in the new hospital and, in addition, a radial unit increases the number of beds for rehabilitation patients by four to 20. On this unit, patient rooms are larger, three are equipped with hoists to move paralyzed patients, and corridors and rooms alike are compatible with the wheel chairs and other large equipment used in rehabilitation.

Intensive care units

Two intensive-care units provide the maximum level of care to adult medical and surgical patients. Each unit is divided into four sections, each with its own nursing station. Each unit is also provided with extra equipment to provide this level of care.

In addition to the air, oxygen, and vacuum, supplied to all patient rooms in the hospital, for example, intensive care units are also supplied with built-in telemetry for the electronic monitoring of the patient's blood pressure, heartbeat and other vital signs. Like the astronauts in outer space, these patients will be unhindered by a tangle of wires, thus having more

freedom of movement. This also eases staff access to the patient, and increases the ability to monitor these vital indicators of the patient's condition.

The medical intensive care unit's four sections include two for coronary care patients, with a combined total of seven beds; one five-bed section for respiratory care patients; and a four-bed section for patients in transition between intensive care and the conventional level of care provided on patient units.

Patients being treated in this unit may also be served by the Myocardial Infarction Research Unit (MIRU), for studies of heart at-

OTHER SERVICES

Unit dose

tacks. Participation in MIRU studies is voluntary, and patients participating in the studies receive no different care than those not participating. The essential difference is that the telemetry and other information is monitored by MIRU computers in addition to the normal monitoring by the staff of the intensive care unit.

The surgical unit's four sections each has four patient beds. In addition four single bedrooms are in this unit. As in the medical unit, one section is designed for patients in transition to the conventional level of care.

A medication delivery system will be used which delivers the exact dosage required for each patient to the floor in individual packages. This centralized system, called "unit dose," reduces the need for storage of quantities of drugs on the patient unit, provides central preparation and billing, central "patient drug profiles" maintained by professional pharmacists, and reduction in medication and dosage errors. While normally utilizing the cart transport system to deliver eight-hour supplies of drugs in locked cassettes to the patient unit, the pharmacy can supplement this by using the pneumatic tube system for emergency deliveries.

Pneumatic tube

More than three miles of tubing connect the many patient units with each other and with central offices and services through the computerized pneumatic tube system. This uses small carriers to carry information and light material. The carriers are coded by the sender, and the computer directs it through switches in the tubes to any one of 68 receiving stations throughout the hospital. In addition, a station in the existing hospital connects to the pneumatic tube system there during the transitional phase.

Trans-a-file

To more than 800,000 patient records—with an average of 50 sheets of information each—are being added about 1,000 new records every day. That does not account for the new sheets being added to an average of 3,000 of these each day. And, when the new hospital opens, there will be more inpatients and outpatients added to this volume.

Keeping track of each piece of this vital information, supplying it on request to physicians and nurses responsible for the patients' care, is the re-

Cart transport

sponsibility of the medical records department. Its job is much easier with the recent change to a computerized filing system, Trans-a-file, which stores the information on high density magnetic tape and, on patient units, in outpatient departments, and in other important locations, the patients' records are available at the physicians' and nurses' fingertips. Security precautions prevent unauthorized access to this private information.

Literally tons of supplies—linen, medications, bandages, food, paper, glass, surgical equipment, and more—are being taken out of the elevators and put onto a monorail system that uses its own seven vertical shafts and more than 6,000 feet of track to deliver these supplies to every part of the hospital. Supplies are loaded onto carts at central locations, then carried—suspended slightly above the floor by special frames—along the monorail tracks up or down the vertical conveyers, to a destination specific on a dial on the carrying frame.

At receiving stations centrally located on all floors of the hospital, the monorail declines in order to allow the carts to be removed and other carts to be sent to new locations—also “dialed” by the sender.

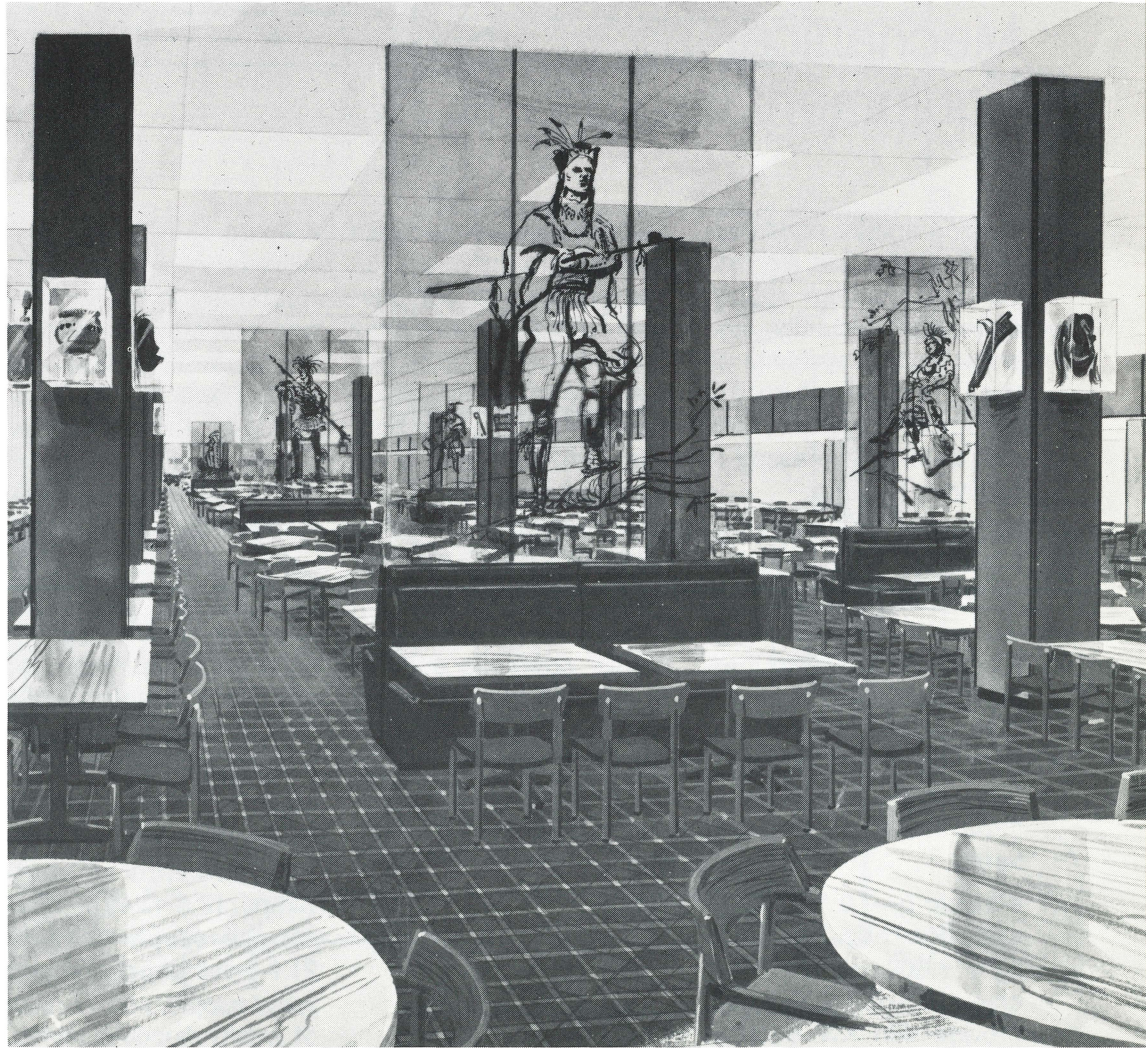
Built-in safety features prevent “soiled” materials or carts from being mixed with “clean.” In part this is done by making “soiled” carts go through a cart wash in the sub-basement before re-entering the “clean” part of the system.

Food

Hot food delivered cold to the patients' units is the frustration of any dietary department, but it is being done deliberately and to advantage in the new hospital. Meals are prepared on trays in the main kitchen, and chilled.

Delivered cold to the patient unit, the trays are placed in a refrigerator in the nursing station. Before being served to the patient, the meal is heated in a microwave oven and the beverage and other cold items are added.

Dining for staff is also more comfortable in the "House of the Six Nations," a 750-seat dining room decorated in an Iroquois Indian motif. Diners will pass through a "scramble" area, picking hot food, cold sandwiches, beverages, desserts, or "short-order" items from various stations, without waiting in one or two long lines as in the present system.



Artist's drawing of the main dining room, called "The House of the Six Nations," after the six Iroquois nations which inhabited the Rochester and western New York regions.

Mechanical equipment

Heating and air conditioning, fire detection, air, oxygen and vacuum supply, elevators, electricity, and snow-melting systems: all these are mechanical equipment systems and may best be expressed in statistics like this:

air conditioning and heating—four independent air handling systems heat or cool the hospital. Most areas have separate thermostat controls. Intensive care patient areas have separate air from other patient areas, and both are separate from non-patients.

electricity—10,500 Kilowatts (KW) of it—enough to light 1,500 homes. Four emergency generators can provide 400 KW each in 0.5 seconds, if needed.

fire detection—three types of detectors (heat, smoke, and products of combustion) would trigger alarms to the Rochester Fire Bureau and to an Automated Control Center in the hospital. An automatic shutdown of ventilation and other systems would localize smoke, fumes and fire.

gas supply—all inpatient beds, outpatient treatment rooms, operating and recovery rooms, and other patient treatment areas are supplied with air (at 50 p.s.i.), oxygen (50 p.s.i.), and vacuum (at 14" to 20" Hg).

elevators—four banks of elevators, two serving the outpatient departments, one primarily for visitors, the fourth for patients and staff. There are 11 elevators in all. A special design allows exclusive use of one staff elevator on demand in emergency.

snow-melting—in the path from the bus stop to the main entrance and the north entrance. Steam circulates through 15,490 feet of copper pipe embedded in concrete.

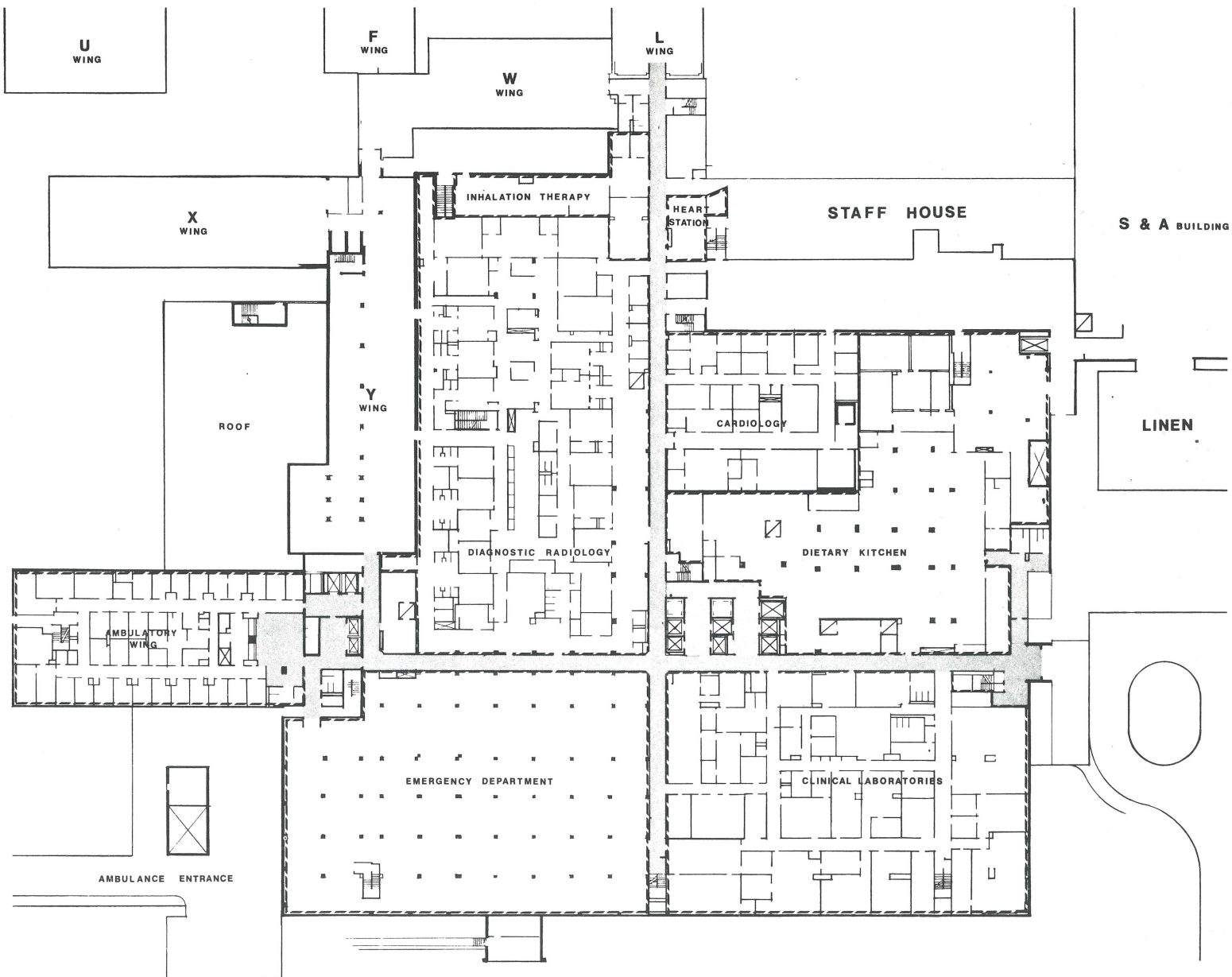
There are 12 mechanical rooms, 126 miles of electrical conduit in eight widths, 17.6 miles of medical gas supply conduits, 21.2 miles of hot and cold water supply, and 17 miles of waste disposal pipes.

Site design

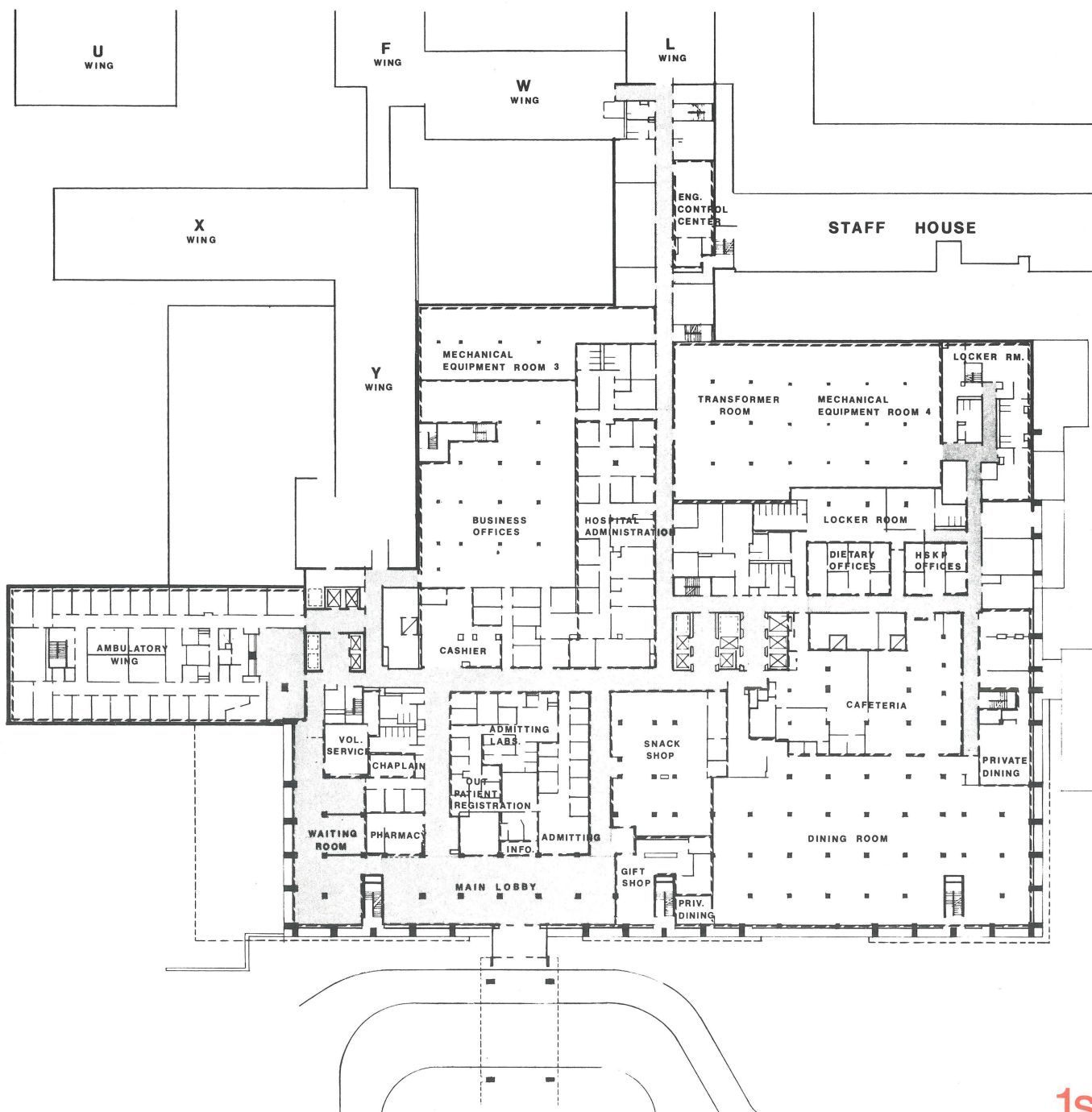
A 2.7-acre park, with a grassy, wooded knoll, dominates a site design which should relieve many of the parking and traffic problems of the Medical Center area.

Parking for visitors will be moved from the crowded lot on Crittenden Boulevard to a large 600-car lot in front of the new building. The vacated space will be used for staff parking.

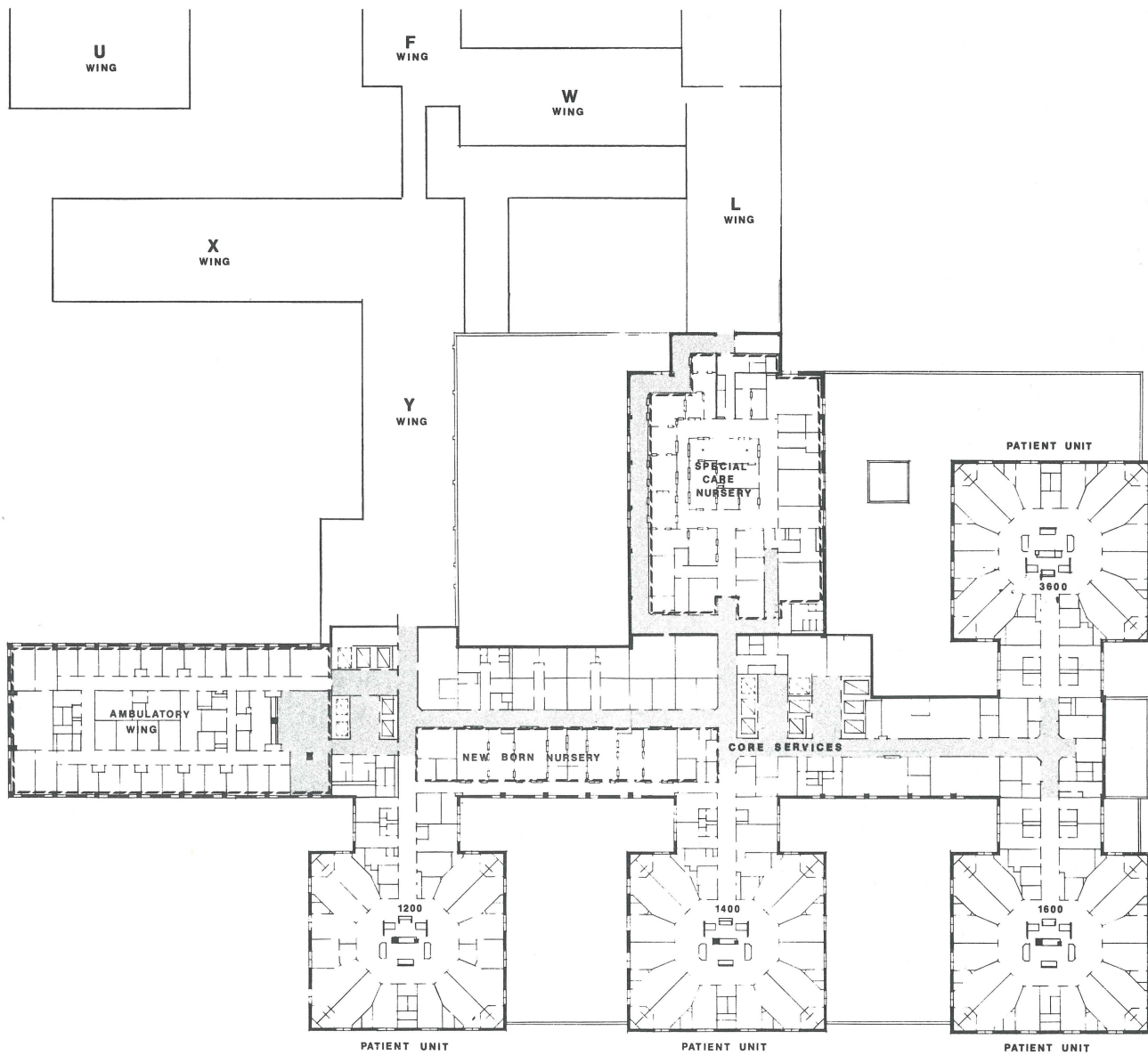
Traffic on Crittenden Boulevard should be greatly reduced. The main vehicle entrance and exit to the new hospital are on Elmwood Avenue.



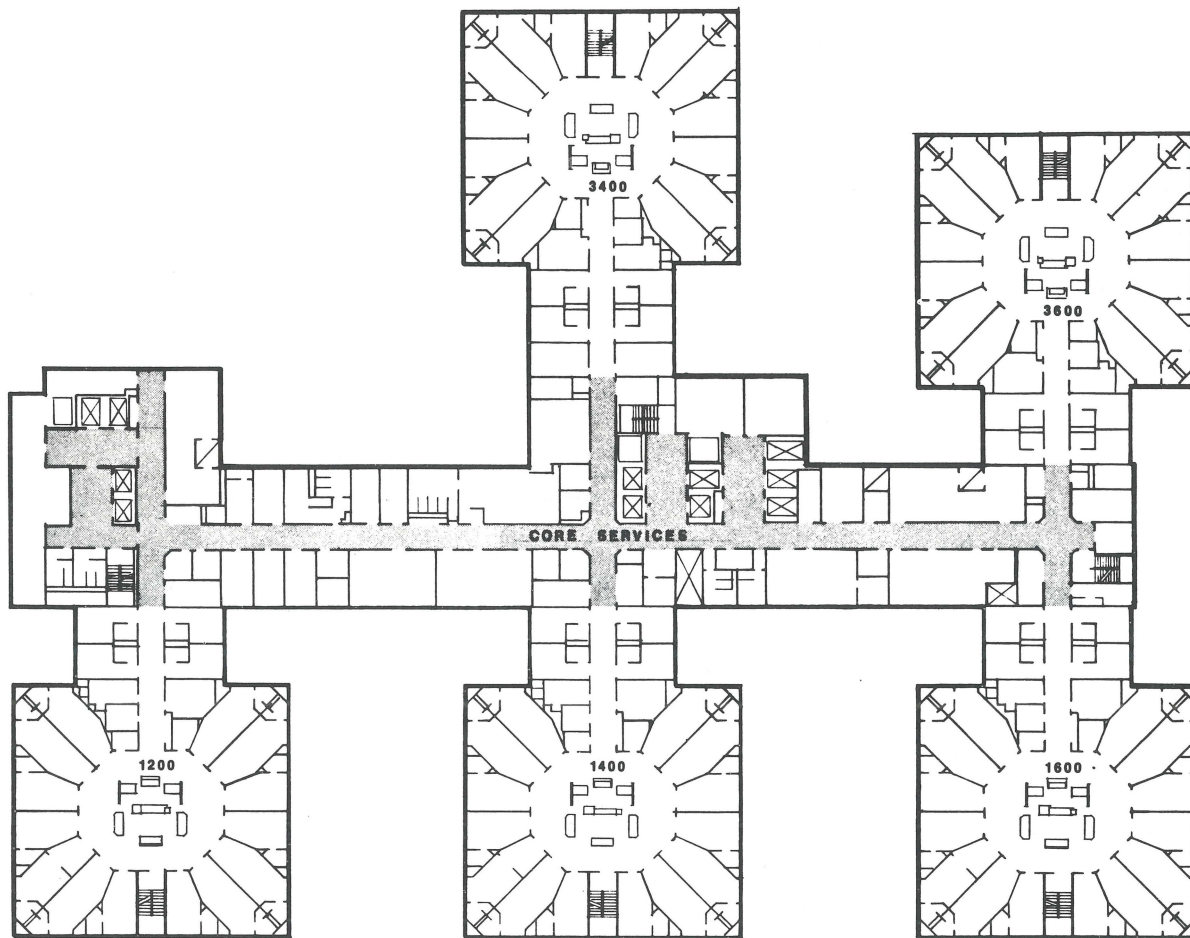
Ground floor



1st floor

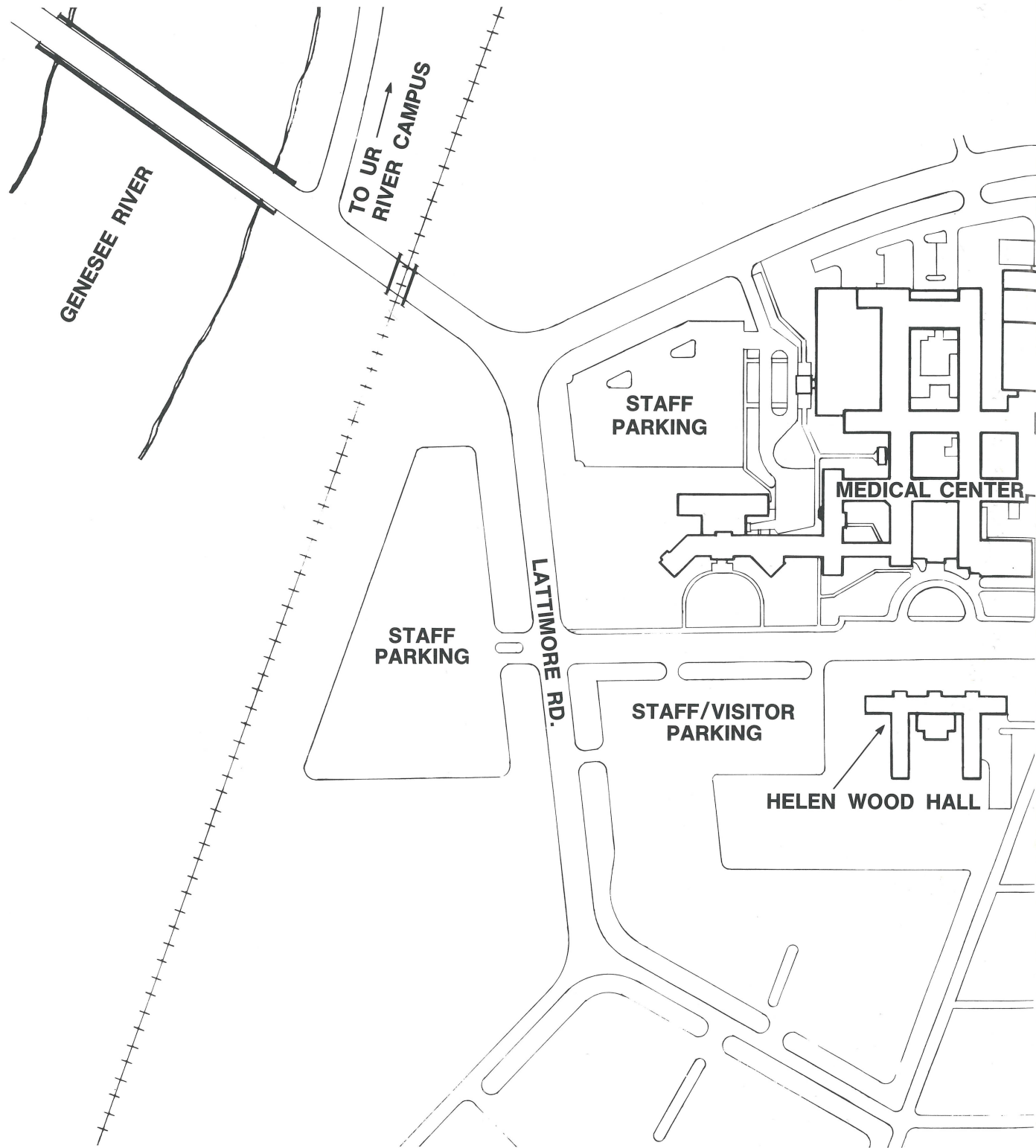


3rd floor



TYPICAL PATIENT UNITS





GENESEE RIVER

TO UR RIVER CAMPUS

STAFF PARKING

MEDICAL CENTER

STAFF PARKING

LATTIMORE RD.

STAFF/VISITOR PARKING

HELEN WOOD HALL

ELMWOOD AVE. (N. Y. 47)

STAFF

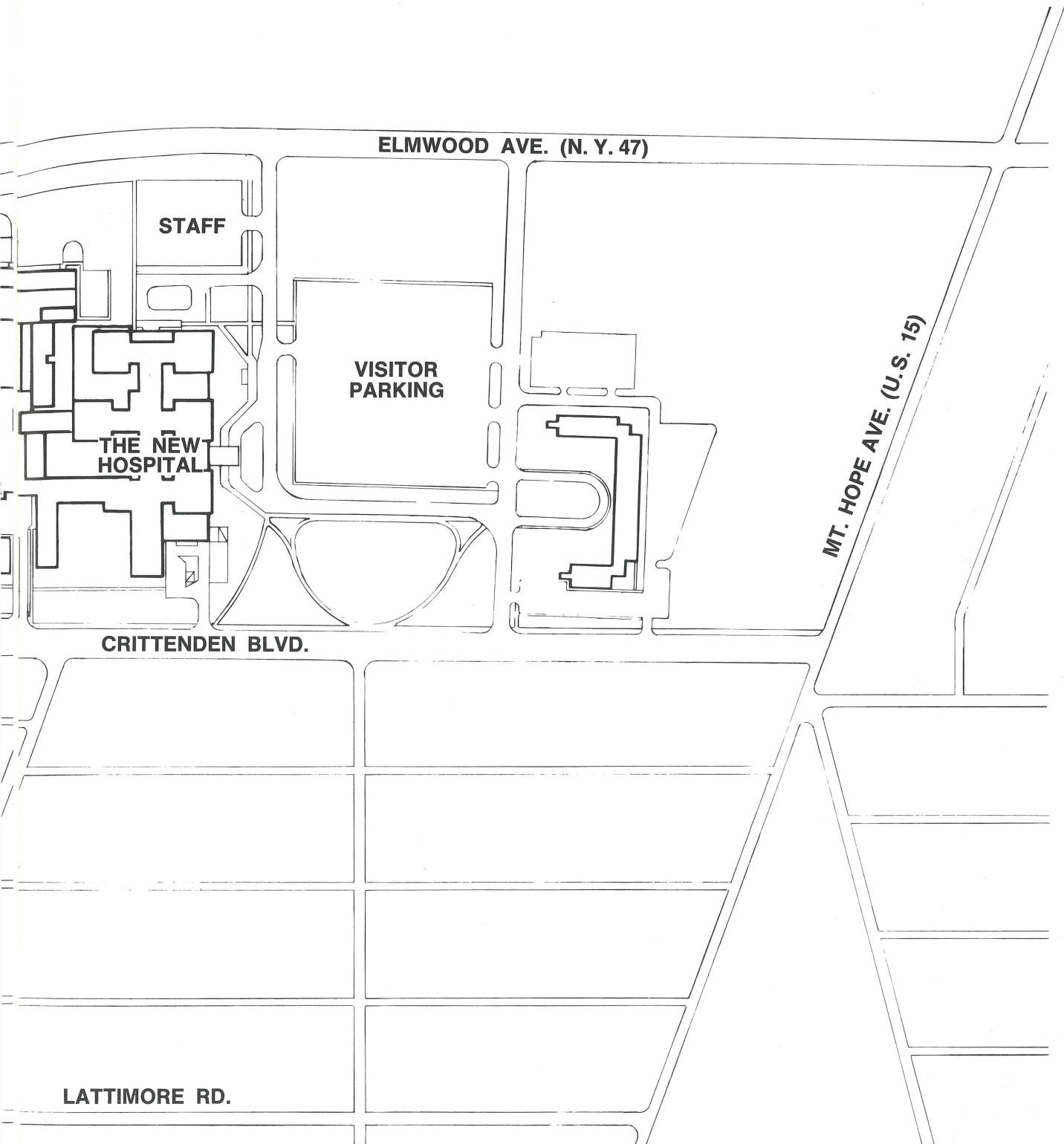
VISITOR
PARKING

THE NEW
HOSPITAL

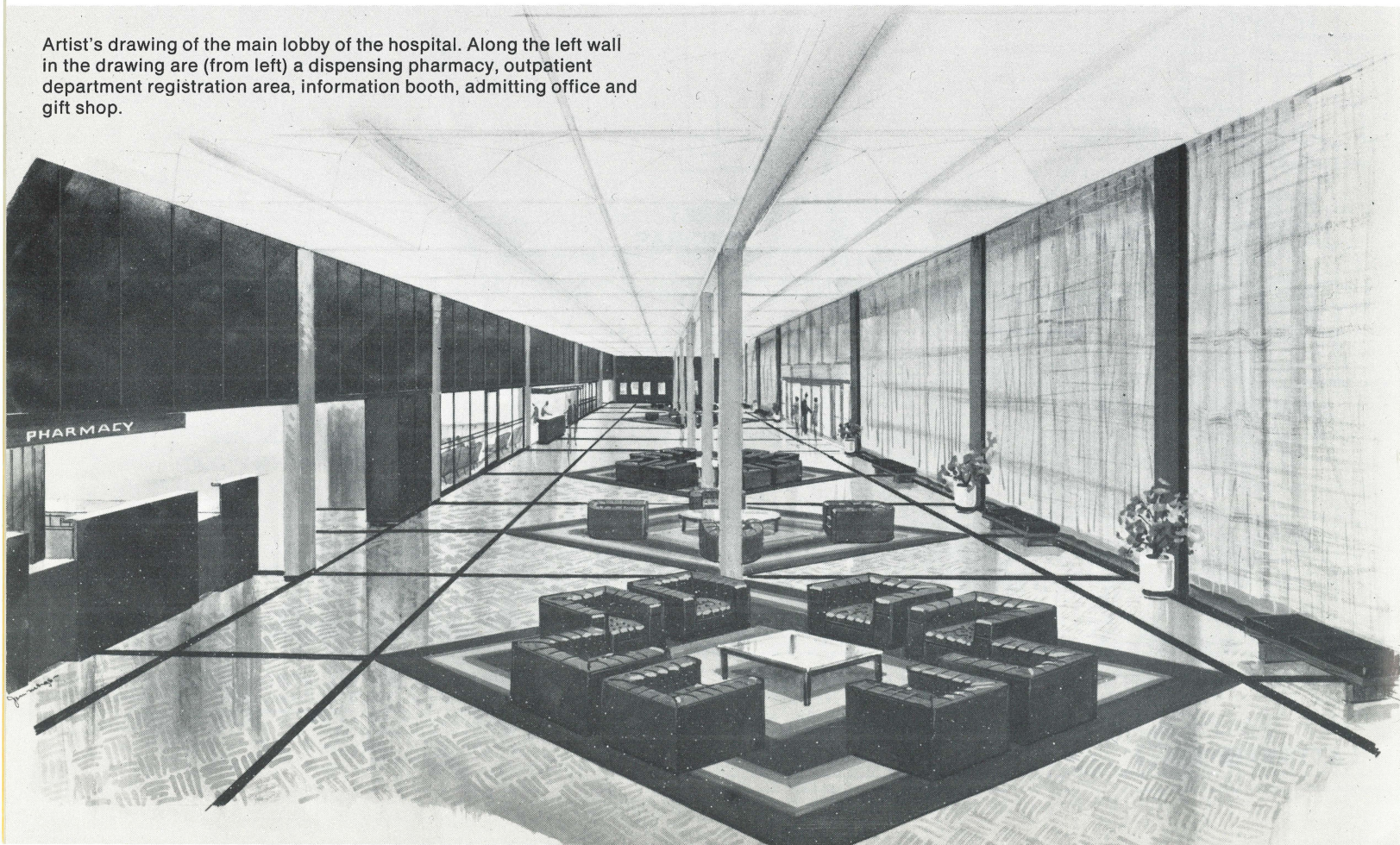
MT. HOPE AVE. (U.S. 15)

CRITTENDEN BLVD.

LATTIMORE RD.



Artist's drawing of the main lobby of the hospital. Along the left wall in the drawing are (from left) a dispensing pharmacy, outpatient department registration area, information booth, admitting office and gift shop.



PUBLIC AREAS

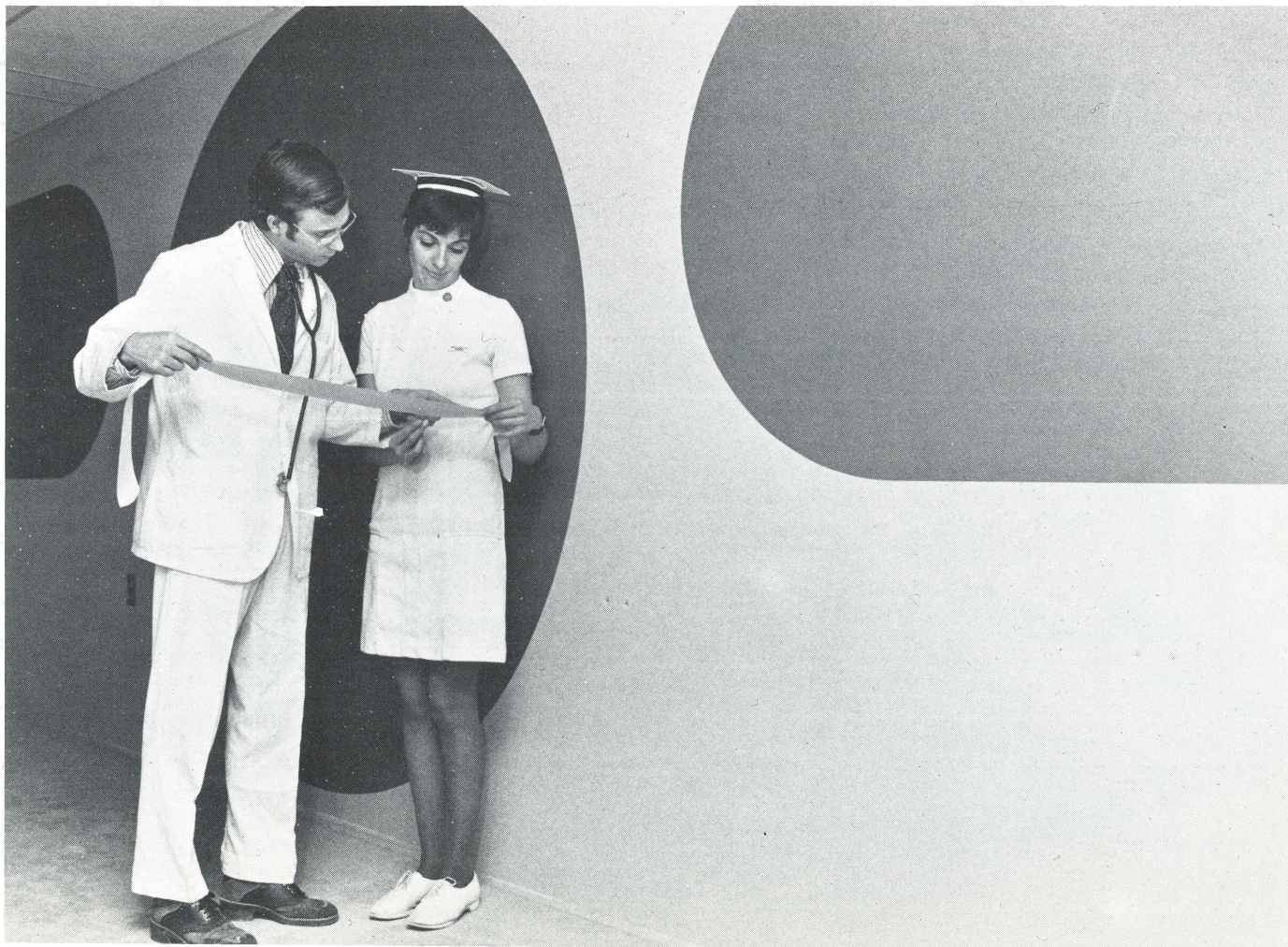
Public areas of the new hospital are specially designed for appearance and function. These include the main lobby, waiting rooms, and the corridors.

Much of the hospital—all corridors and offices—is carpeted. The colorful main lobby has an acrylic-injected wood floor. This highly-traveled area leads to the gift and snack shops, information desk, admitting office, outpatient registration, and the dispensing pharmacy.

Next to the main lobby is a large waiting area. This will be used for families of patients in surgery and others who have long waits and should not be disturbed by the heavy traffic and noise of the main lobby. Also in this area is a small patient library operated by the hospital volunteer staff. The library has fiction and non-fiction books as well as current magazines and newspapers.

Other waiting rooms in each outpatient department and on patient floors also combine color and function for the comfort of patients and visitors.

Probably the most impressive design feature of the hospital is the use of supergraphics on the walls of corridors of patient floors to direct visitors to patient units. These supergraphics combine bright colors—red, blue, green, yellow—with elementary shapes—squares, diagonals, triangles, circles, diamonds—to identify the patient floors and units.



TEACHING HOSPITALS

Teaching hospitals such as Strong Memorial Hospital serve three purposes: they provide care, teach students (of medicine, nursing and related fields), and pursue scientific investigation.

Yet, patient care, teaching and research are not only the three words that sum up the philosophy of the hospital and Medical Center. They are irrevocably inter-twined and complementary. Working together and building upon each other, they mean many things to many people.

To physicians and nurses, they mean opportunities to practice their specialties in a setting where they see more patients and have far greater opportunity to improve their skills and study new techniques. This opportunity—not found in

most general hospitals or private practices—attracts the very best health care professionals.

To the patient, they mean a collection of the finest physicians and nurses in the region. In one hospital are specialists able and eager to care for what might be considered “routine” (though rarely is the most common disease or injury thought “routine” by its victim) and just as able and eager to care for the uncommon.

To students—of medicine, nursing and related fields—they mean opportunity to learn from the most eminent teachers and to see all diseases and injuries they might expect to see when they’ve completed their education and have the responsibility of the care of patients.

To the professionals they mean, too, contact with these students—some of the most brilliant graduates of the best colleges in the country. And, too, it means an opportunity to do active research, studying new methods and means of treatment.

Teaching hospitals are not without their corollary difficulties, and mutual responsibilities and obligations.

Expenditures are generally higher at teaching hospitals than at other general hospitals. There are many reasons for this, including the fact that the teaching hospital has more sophisticated people, equipment and physical facilities as well as a greater variety and intensity of patient services available. Its pa-

tients also tend to be those with more complex illnesses. Most patients’ costs are paid by third-party payers and SMH works with these payers and within the guidelines of federal, state, county and other regulatory agencies.

To patients, the right to the best care carries with it the responsibility to participate in the teaching and research processes.

Researchers naturally have the responsibility of informing patients of proposed research and receiving their full consent.

Teachers and students too are responsible for informing patients of their status and for receiving the patients’ consent to participate in the teaching process.

THE IMMEDIATE FUTURE

This building was designed to allow for future expansion. Some of the possibilities include building more floors on the outpatient wing, adding more elevators, and furnishing and opening more patient units.

But even before it opens, plans are being made for two post-opening changes. One is the opening of a clinical research unit—a special unit for patients receiving voluntary treatment as a part of clinical research.

The other is the opening of the Frank and Caroline Gannett Emergency Center for the new hospital. It will be built in shell space reserved for it on the ground floor of the new hospital, and will have a driveway entrance from Crittenden Boulevard.

