

HEALTH SCIENCES UNIT F

COLLEGE OF PHARMACY
SCHOOL OF NURSING
A NEW FACILITY

UNIVERSITY OF MINNESOTA
TWIN CITIES CAMPUS

1982

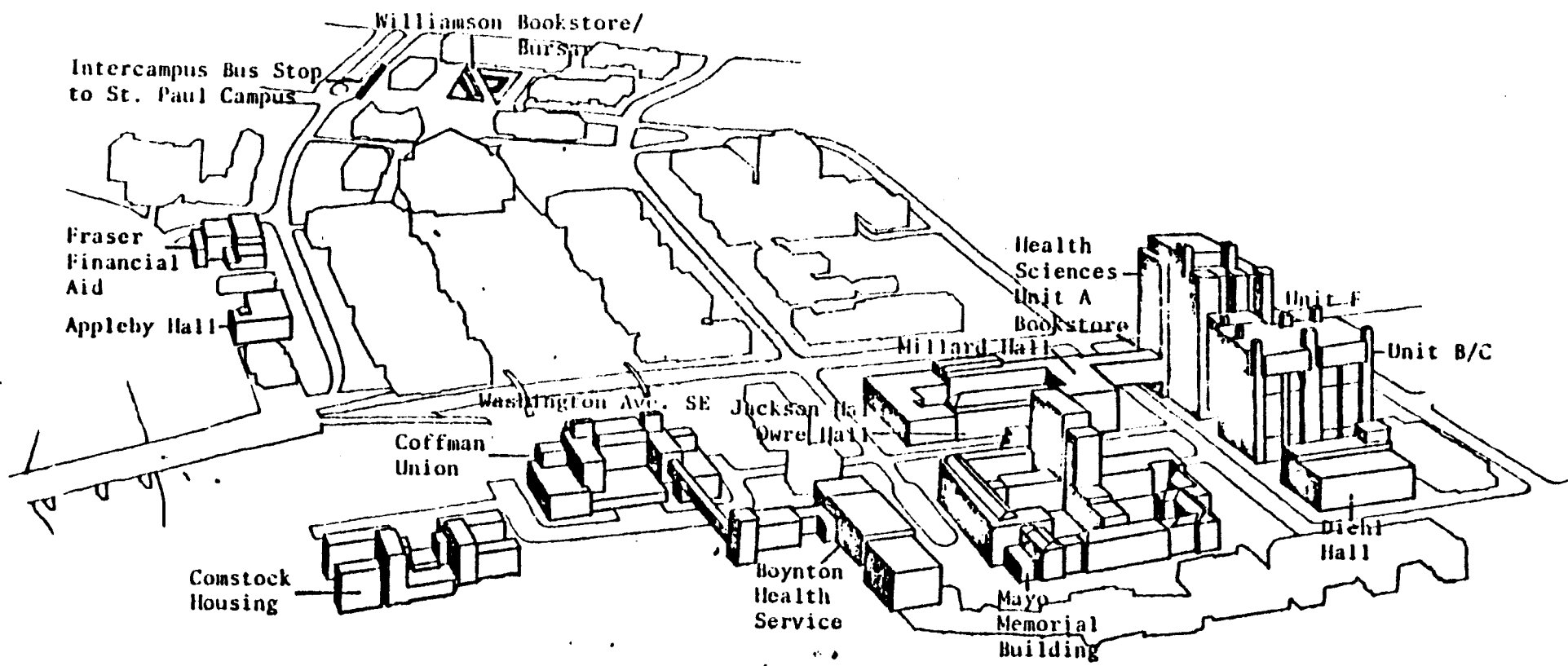
AUGUST, 1982

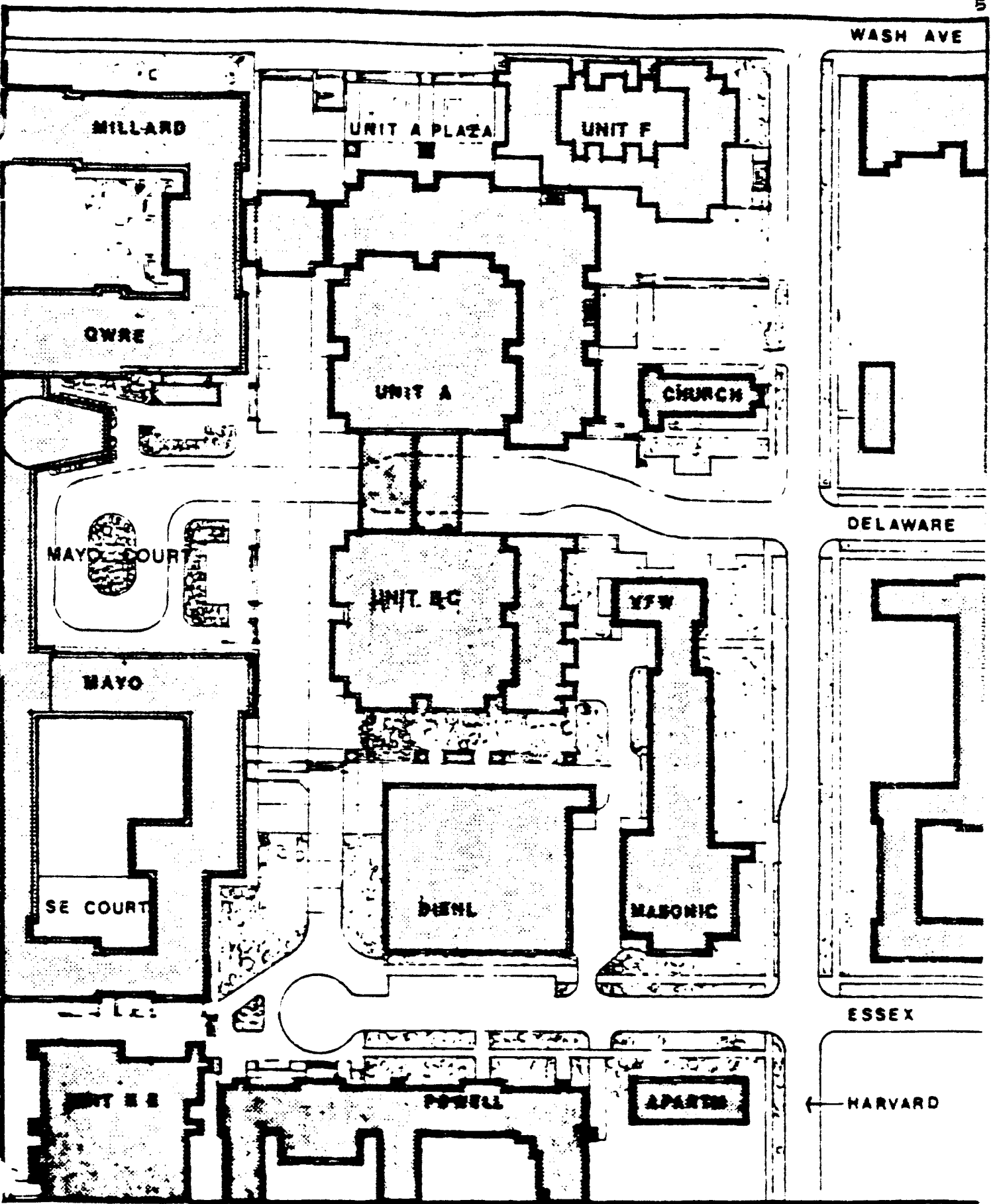
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WASH AVE

MILLARD

UNIT A PLAZA

UNIT F

QWRE

UNIT A

CHURCH

MAYO COURT

UNIT EC

YFW

MAYO

SE COURT

DIENL

MASONIC

UNIT EB

POWELL

APARTM

DELAWARE

ESSEX

HARVARD

INTRODUCTION

Unit F, at the University of Minnesota Twin Cities Campus, houses the School of Nursing and the College of Pharmacy. The structure consists of eleven floors of space adjoining Unit A at the North/East corner. This structure connects to the Health Sciences all season concourse by continuing the Unit A concourse east to Harvard Street.

The building has three levels below grade and rises eight floors above ground with a total of 195,519 gross square feet of space. The scale of the building and its matching aggregate pre-cast concrete panel exterior is a compliment to the larger Unit A and Phillips-Wangensteen Buildings which dominate the Health Sciences Complex.

The College of Pharmacy occupies 63,844 assignable square feet of space in the new structure; and the School of Nursing occupies 34,972 square feet of assigned space. The balance of the space is dedicated to Pharmacy/Nursing Shared Space and Health Sciences Shared Space. A tropical greenhouse for the College of Pharmacy is located on the roof at the tenth floor level.

The School of Nursing had been located in Powell Hall, an early 1900 dormitory facility for nurses. Powell was not appropriate for modern nursing technique teaching or research and the site had been designated for demolition to make way for a new inpatient facility. The College of Pharmacy had occupied Appleby Hall, the School of Mines Building located several blocks from the Health Sciences Center. The building was inadequate due to age and had no

environmental control in laboratories. Pharmacy had outgrown the space and also occupied an apartment building. Both the College and the School combined their expansion requests into one request in 1975 to share the new Unit F Facility. Total funding for the combined project was identified at \$21,230,600.

The facility was completed and occupied by the summer of 1981.

HISTORY - MASTER PLAN

In 1964, the University of Minnesota Board of Regents authorized a study of the health manpower needs in the upper midwest and the effect this need would have on the role of the University providing physicians, dentists, and other health care personnel. The President of the University appointed a long-range Health Sciences Planning Committee to consider objectives. The committee was made up of Health Science Deans, the Director of Hospitals, and Faculty thus creating a "team concept" approach to planning.

One of their major tasks was to identify existing space deficiencies and the long term needs associated with increased enrollment required for the improvement of Health Care Delivery to the state and surrounding areas. The committee developed an overall plan which was approved as the Health Sciences Expansion Program (HSEP) initiated in 1968. This plan included expansion of about 1,697,330 gross square feet much of it in the form of new buildings.

Unit A, a structure with 690,930 gross square feet, was completed in the Fall of 1973. Sixty percent of this facility is devoted to facilities for the School of Dentistry with remaining areas being utilized by the Medical School and Health Sciences shared space for seminar rooms, educational systems facilities, classroom/lecture rooms, and teaching space for the Basic Sciences.

Unit B/C, with 580,000 gross square feet, is an expansion of the Unit A design concept with primary amounts of space being allocated to the Medical School and Outpatient Departments.

Unit K/E, with 97,000 gross square feet, contains cardiovascular research space for investigators from various divisions of the Medical School and the lower level is devoted to a Central Receiving and distribution area for the entire Health Sciences.

Unit F completes the total major new construction for the Health Sciences with the exception of the inpatient replacement facility. The new construction and renovation of vacated space made available by relocations represent the University's concomitant plan for major enrollment increases and resulted in a fully integrated facility for education in the Health Sciences.

The realization of the Master Plan has increased enrollments in Medicine, Dentistry, Nursing, Pharmacy, Public Health and Allied Health to nearly 4,600 compared to 3,100 in 1969.

In the Master Plan, the School of Nursing was originally scheduled to occupy the out-patient clinic area when the new clinic facilities were completed. The College of Pharmacy and the School of Public Health were scheduled for new construction.

In 1969 and 1970, a total of \$1,669,400 was appropriated for new construction of the College of Pharmacy facilities. Three attempts to obtain Federal funds met with limited success. Schools of Pharmacy, Podiatry, Veterinary Medicine and Optometry were dependent on the same federal dollars for health professions education facilities construction as schools of medicine, osteopathy and dentistry. The emphasis of the authorizing legislation was on increasing the numbers of physicians and dentists.

In 1971 and 1972, the College of Pharmacy proposal was approved but not funded due to the limited funding available nationally.

In 1974, the proposal was offered funding of one million dollars of the requested six million dollars toward construction of a \$16 million dollar project. The University did not accept the award.

In 1975 federal funds were made available for the School of Nursing.

A review of the projects still in the planning stages in the master plan indicated that a modification of the existing plan could be achieved by providing new construction in a combined facility for Pharmacy and Nursing, eliminating new construction of the School of Public Health by reassigning the vacated clinic area to that school.

The modification increased the competitive position of a new joint facility. Federal grant commitments totaling \$8,265,368 were awarded to the University in 1975 to be accepted by July, 1976. The \$8.2 million for Unit F was available until May 15, 1977 and an award of a construction contract was to be approved on or before that date.

JUSTIFICATION

The College of Pharmacy's need for Unit F was expressed in three categories: (1) to maintain enrollments and accommodate increased enrollments; (2) new programs; and (3) replacement of inadequate facilities.

Appleby Hall accommodated entering classes of B.S. candidates of 80 students, but the entering classes had been increased to over 120 students. The new Doctor of Pharmacy degree program had 25 students and the graduate program had expanded from 25 to 66 students.

The Ph.D. program is intended to eventually increase to 49 students to fulfill the needs of states in the greater upper midwest such as: Montana, North Dakota, South Dakota, Wyoming, Colorado, Iowa and possibly Wisconsin and Nebraska.

The old Appleby Hall and Fenwick Apartments afforded Pharmacy students no Learning Resource Center, no animal rooms, no laboratory with proper ventilation, bench top services, work space for graduate students, no seminar space to name only a few of the deficiencies.

The joining of facilities for the School of Nursing and College of Pharmacy into Unit F was consistent with the interdisciplinary concept developed in the Master Plan. It is particularly congenial since Pharmacy and Nursing have joint educational ventures and are developing additional ones. In addition student areas such as locker rooms, lounges and study rooms are jointly used and maintained by both schools.

The School of Nursing needs were expressed in much the same manner as Pharmacy in categories: (1) enrollment increases; (2) replacement of inadequate facilities; and (3) new or expanded programs.

The school was housed in three different buildings and only had 17,500 square feet of space assigned for a program that had identified a need for twice that much. The construction of Unit F provided the essential integration of the School into the Health Sciences Complex where the School of Dentistry, Medical School and the School of Public Health are housed. The move allowed Nursing to have the Physical facilities necessary for research opportunities essential for graduate education.

The Health Sciences Expansion was carefully scrutinized by the Board of Regents, the Metropolitan Council, the State Comprehensive Health Planning Agency, and State Legislative Committees. The Plan, including Unit F, was the result of several years of investigation and planning.

Both the College and the School were successful in their quest for matching fund grants from the Department of Health, Education and Welfare.

DESIGN PROGRAMMING

The history of planning for the Nursing and Pharmacy Facilities goes back to the original expansion program to increase space and enrollments in Dentistry, Medicine, and other Health Sciences Schools and departments. The first long range Health Sciences Planning Committee was appointed in 1964 to address the issues related to a growing need for health manpower increase in the Upper Midwest.

The Long Range Master Plan for the Health Sciences resulted; and Unit F represents a component of the sequential construction recommended and implemented according to the Master Plan. Previous construction projects included in order of completion are:

Unit A - A nineteen story structure for Dentistry with some space for Public Health and Basic Sciences, some for Medical School Departments, and classrooms.
Funding Source: State and Federal

Health Sciences Parking Ramp - An above ground ramp with 2,025 parking spaces for Health Sciences traffic.
Funding Source: University of Minnesota

Unit K/E - The structure houses cardiovascular research space on the upper three floors and the lower floors are devoted to Central Health Sciences Receiving. Unit K/E is connected to all other Health Sciences Units by an all-weather materials services tunnel. Funding Source: State appropriation, Variety Club and private donations.

Unit B/C: Phillips-Wangensteen Building - This sixteen story building is 65% outpatient Clinic space funded by Federal, State, Hospital, and contributed funds. The remaining space was infilled in a number of stages and phases with departmental funds.

Basic Sciences Complex - Phase I, JOML - 80,000 square feet of vacated space in this existing complex was renovated for the five Basic Science Departments in graduate reserach. Funding Source: Federal and State funds primarily.

Diehl Hall - A Learning Resource Center was added to existing Library space - Funding Source: Federal and Administrative funds.

Unit F - Discussed in this report - it substantially completed the implementation of the Health Sciences Long Range Master Plan Phase I -- with the exception of a replacement in-patient facility.

The Univeristy had a contract with the Architects Collaborative of Cambridge, Massachusetts, and Health Sciences Architects and Engineers, of Minneapolis, Minnesota - for the design and preparation of documents for the implementation of the Health Sciences Expansion Project. At each phase of design, for Unit F, the architects interfaced with Assistant Vice President Clinton Hewitt and Health Sciences Coordinator Paul J. Maupin and his staff. The Health Sciences Planning staff scheduled meetings with the designers and University of Minnesota personnel to review the individual programs for each school and assist in interpretation of the programs into architectural language. Further, the planning office reviewed and coordinated reviews of documents to ensure compliance with University Standards and Building Code compliance. Meetings were held frequently with building officials, university engineers,

budget advisors, operations management, occupants and various Health Sciences committees to review and approve architectural solutions and directions. The Health Sciences Planning Office was functioning as overall project manager to expedite the processes and preserve the intent of the Federal Grant and assure adherence to Federal guidelines and qualifying conditions of the grant award.

The planning process stressed adequate amounts of general teaching space to accommodate the major expansion and adequate staff and faculty offices based on criteria established by the Office of Space Allocations and the "Evaluation and Report of Task Force on Teaching Space for Health Sciences Design Coordinating Committee".

Generally, space requirements were established by a program analysis of individual work stations. The square footage resulting follows a graphical process of assembling the individual work stations into a larger operating unit, i.e., a lab, office or classroom. Student laboratories for all disciplines have a number of common characteristics. Sections are limited to 48 to 75 students. Student work stations are 4'0" per student. Generally the labs are flanked by ancillary instrumentation and small discussion rooms as well as stock and preparation rooms.

Graduate and Faculty laboratories also have a number of common characteristics. A graduate student is provided with a 12'0" bench and a 4'0" study carrel unit. A faculty member is provided twice as much space and work area. Graduate and Faculty laboratories are generally juxtaposed and share instrumentation whenever possible.

Other miscellaneous room area requirements respond to University of Minnesota area standards; including offices sized by academic ranking, auditoria and classroom square footage per student. Naturally, there are some specialized rooms

or instruction also, and these are based on models of specifics or other special requirements.

The bulk of the classroom activities take place in Unit F, although as needed, we are able to draw from the shared classrooms in the remainder of the Health Sciences Complex.

The units designated by the master plan to be housed in new construction were analyzed for common systems criteria. These criteria generated a building system which, with appropriate variations, could respond to the requirements of teaching and research labs, dental clinics, hospital outpatient clinics, offices, classrooms, special instructional laboratories and auditoria. Unit A, B/C, K/E and now Unit F all adhere to the same basic design system and aesthetic approach. Identical materials and finishes were involved in all new construction for the Health Sciences Expansion.

PROGRAM

Introduction

The summary of required spaces is derived from plans of Unit F for the College of Pharmacy and School of Nursing, dated March 15, 1976. This tabulation lists the net area of all programmed spaces by departments and by functional groupings within departments. Net area multiplied by a factor results in unit area which approximates the area required for programmed spaces plus secondary circulation.

All spaces were measured from center lines of their enclosing partitions. Fixed building elements including structure, mechanical shafts, stairs, elevators, and perimeter walls were excluded. In addition, spaces not directly assignable to any specific department, such as lobbies, primary circulation, public toilets, and janitors' closets, are considered to be part of the building's gross area and are not listed.

The program of required spaces for Unit F, as incorporated into the referenced drawings was modified in the Feasibility Study to apportion the Pharmacy/Nursing shared facilities between the separate programs. These facilities included data processing, faculty lounge, student lockers, study and organization spaces. With this adjustment, the net area summaries for the programs used as the basis for the Feasibility Study were as follows on the next page:

Area Summary	Program Division		Net Area Square Ft.	Unit Factor	Unit Area Square Ft.
College of Pharmacy	18.1	Service	2,935	1.25	3,600
	18.2	Undergraduate	11,300	1.25	14,100
	18.3	Administration	6,360	1.25	8,000
	18.4	CP/HP/PA	11,695	1.25	14,600
	18.5	Research	28,230	1.25	35,300
		Animal Quarters	1,970	1.25	2,500
	18.6	Support	2,950	1.25	3,700
	Subtotal		65,440		81,800
School of Nursing	13.1	Reserach	3,065	1.25	3,800
	13.2	Teaching	8,740	1.25	10,900
	13.3	Faculty Offices	14,545	1.25	18,200
	13.4	Administration	6,075	1.25	7,600
	13.5	Support	2,950	1.25	3,700
	Subtotal		35,375		44,200
Shared Facilities	17.0	Health Sciences	2,665	1.25	3,300
	TOTAL		103,480		129,300

Design Criteria

The following design criteria are derived from initial programming and master plan documents, grant applications and meeting notes of Unit F redesign and form the basis for evaluation of other options that accomodate facilities for the College of Pharmacy and School of Nursing:

1. Integrate the College of Pharmacy and School of Nursing into the main Health Sciences Campus.
 - a. Promote interaction of faculty, staff, and students in the interdisciplinary teaching, clinical and research programs.
 - b. Utilize shared classroom, resource and support facilities.
2. Develop facilities in a compatible framework of circulation, organization, and expansion in the Health Sciences Campus.
 - a. Maintain connections with staff, student, patient, visitor and service circulation patterns.
 - b. Assign large undergraduate classrooms and seminar rooms to Levels 2,3 or 4 (one level up or down from main level) to minimize requirements for vertical transportation.
 - c. Develop appropriate departmental or facility adjacencies with capabilities for expansion as projected.
 - d. Provide space as programmed for Unit F.
3. Consolidate administrative, faculty, teaching, research and support facilities for each school.

Pharmacy

Specific requirement for the College of Pharmacy were as follows:

1. Locate the teaching and faculty facilities for convenient access to the Basic Sciences of Anatomy, Pharmacology, Microbiology, Physiology and Pathology, to the clinical departments of the Hospital and Medical School and to the Schools of Public Health, Dentistry, and Nursing.
2. Locate undergraduate teaching facilities for convenient access to the Bio-Medical Library for Diehl Hall.
3. Provide greenhouse and animal facilities with convenient and discreet access to laboratories.
4. Locate the Drug Information Center near the Bio-Medical Library in Diehl Hall.
5. Integrate the Pharmacy Library into the Bio-Medical Library in Diehl Hall.

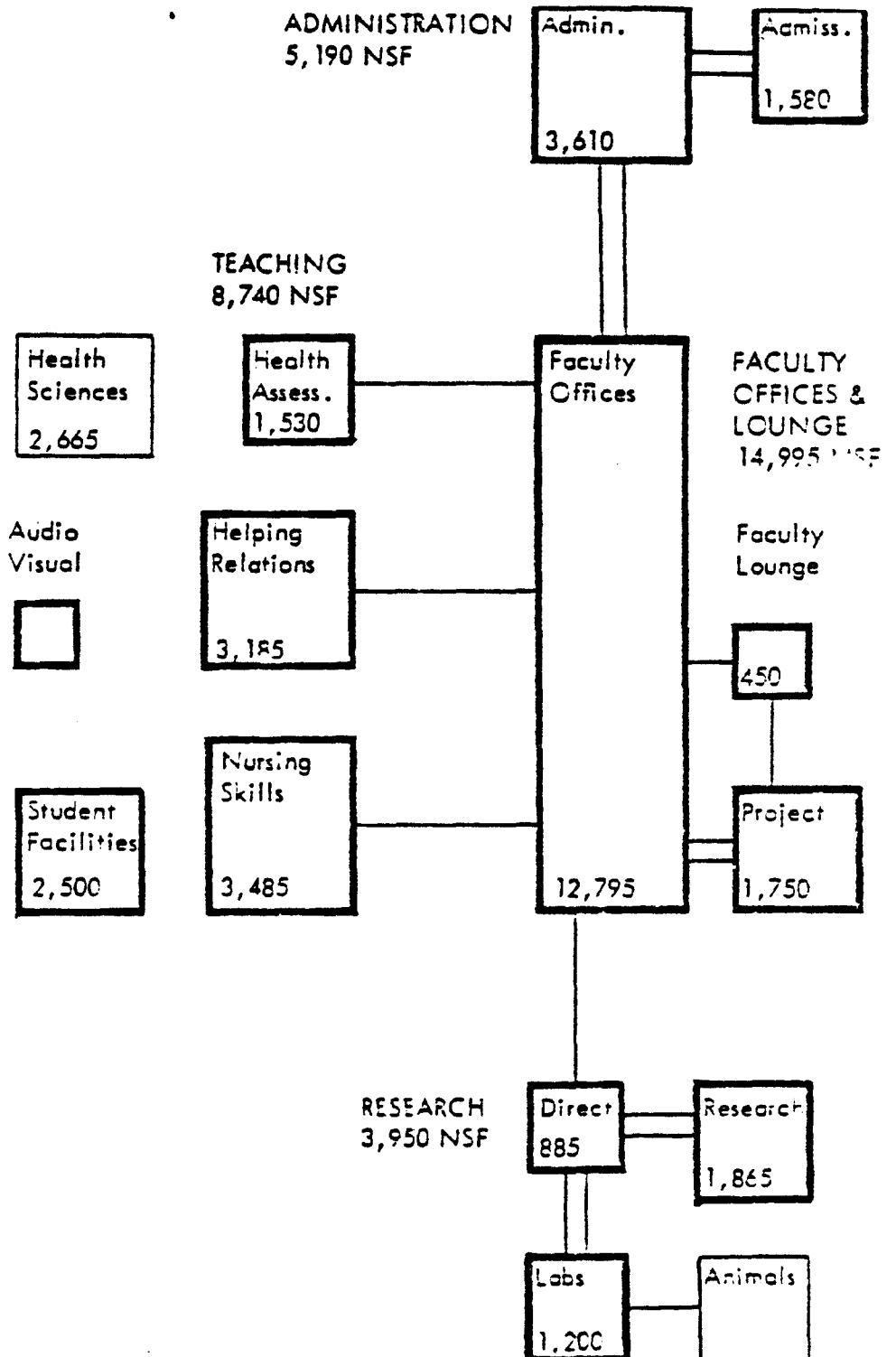
Nursing

Specific Requirements for the School of Nursing were as follows:

1. Locate teaching, research, and faculty spaces with convenient access to facilities for inpatient and ambulatory care, the Basic Sciences, the College of Pharmacy, and the Schools of Medicine, Public Health, and Dentistry.
2. Locate undergraduate facilities with convenient access to the Bio-Medical Library in Diehl Hall.
3. Design the spaces for maximum:
 - a. Access between Administration and faculty.
 - b. Access between Administration and support staff.
 - c. Access between faculty and support staff.
 - d. Supervision of support staff.

Adjacency Diagram

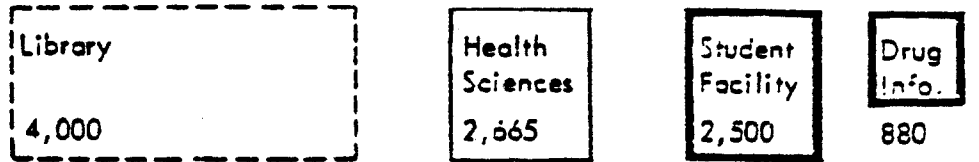
The diagram below indicates functional relationships between elements of the Nursing Program. A single line represents a desired link. two lines represent an important connection.



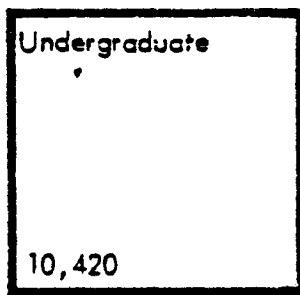
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Adjacency Diagram

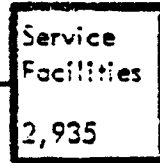
The diagram below indicates functional relationships between elements of the Pharmacy Program. A single line represents a desired link; two lines represent an important connection.



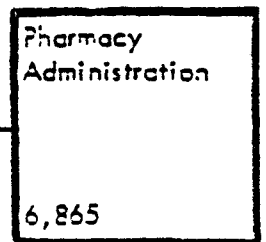
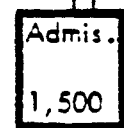
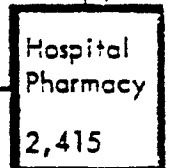
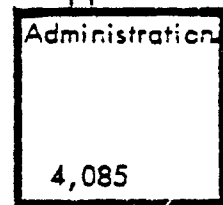
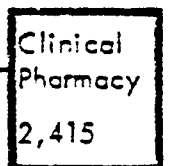
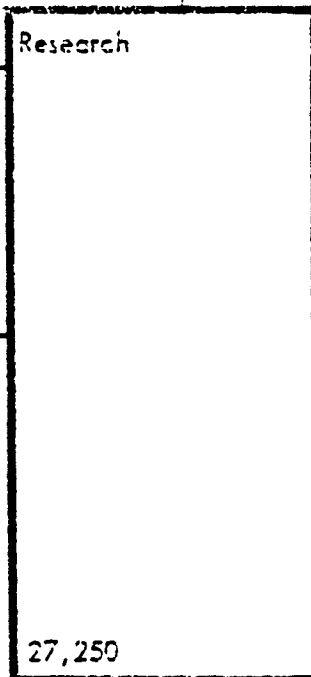
UNDERGRADUATE
10,420 NSF



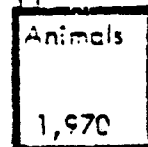
SERVICE
2,935 NSF



CP/HP/PA
11,695 NSF



ADMINISTRATION
6,360 NSF



1/64" = 1"0"

SERVICE FACILITIES

Space	Area	Number	Total
Central Supply	1520	1	1520
Glass Wash	300	1	300
Solvent Storage	225	1	225
Mechanical Shop	225	1	225
Instrument Shop	215	1	215
Storage	190	1	190
Parenteral Prod. Lab.	135	1	135
Sterile Room	125	1	125
Total NSF			2,935

UNDERGRADUATE

Dispensing Lab	1740	1	1740
Stock Room	145	1	145
Prep Room	135	1	135
			<u>2020</u>
Drug Information	880	1	880
			<u>880</u>
Undergraduate Labs	2430	2	4860
Fume Hood Room	275	2	550
Conference Room	275	2	550
			<u>5960</u>
Pharmacokinetics	450	1	450
			<u>450</u>
Instrument Lab	1140	1	1140
Preparation Room	300	1	300
Stock Room	225	1	225
Storage	25	1	25
Balance	225	1	225
Fire Control	75	1	75
			<u>1990</u>
Total NSF			11,300

ADMINISTRATION

Space	Area	Number	Total
Wait, Reception	225	1	225
Office, Secretary	450	1	450
Office, Dean	275	1	275
Office, Assist. Dean	185	2	370
Office, Alumni Relations	175	1	175
Office, Secretary	325	1	325
Conference	420	1	420
Kitchen, Conference	40	1	40
Toilet, Dean	40	1	40
Office, Administration	185	1	185
Office, Business Staff	210	1	210
Office	125	2	250
Copy/Work	225	1	225
Records	225	1	225
Kitchen, Staff	40	1	40
Toilet, Staff	40	1	40
			<u>3495</u>

CONTINUING EDUCATION

Office, Director	150	1	150
Office Asst. Director	140	1	140
Office, Staff	300	1	300
			<u>590</u>

ADMISSIONS

Office/Wait	450	1	450
Office, Director	140	1	140
Conference	185	1	185
			<u>775</u>

EDUCATIONAL DEVELOPMENT

Office	150	2	300
Secretary	150	1	150
Conference	300	1	300
Multipurpose	450	1	450
Media Storage	150	1	150
A/V Storage	150	1	150
			<u>1500</u>

Total NSF

6360

CLINICAL PHARMACY
HOSPITAL PHARMACY

Space	Area	Number	Total
Office, Faculty	140	6	840
Office, Faculty	175	2	350
Office, Faculty	150	1	150
Office, Faculty	125	2	250
Secretarial	140	1	140
Clinical Pharm. Studies	1900	1	1900
Hospital Pharm. Studies	600	1	600
Office	150	4	600
			<u>4830</u>

Pharmacy Administration

Seminar	600	1	600
Conference	300	2	600
Office	150	1	150
Data Process	225	1	225
Calc. Lab	375	1	375
Storage	25	1	25
Group Interaction	225	2	450
Observation	75	1	75
Student Space	150	8	1200
Reading	380	1	380
Pharmacy Systems	225	1	225
Pharmacy Systems	115	2	230
Project Work	190	3	570
Office, Project	115	3	345
Project, Secretary	300	1	300
Office, Faculty	125	5	625
Office, Faculty	175	2	350
Secretary	140	1	140
			<u>6865</u>

Total NSF

11,695

RESEARCH

Secretary	215	1	215
Office	140	2	280
Lab	225	1	225
Lab	290	1	290
Storage	40	1	40
Kitchen	40	1	40
Graduate Lab	2430	1	2430
Faculty Lab	600	2	1200
Office	265	2	530

Space	Area	Number	Total
Conference	450	1	450
Instrument Room	1140	1	1140
Office	150	1	150
Cold Room	150	1	150
Graduate Lab	600	1	600
Radiation Syn.	220	1	220
Counting	150	1	150
Dark Room	80	1	80
Graduate Lab	1200	1	1200
Faculty Lab	600	2	1200
Faculty Lab	300	2	600
Instrument Lab	300	2	600
Office	150	2	300
Office	135	4	540
Graduate Lab	900	1	900
Chromatization	375	1	375
Instruments	240	1	240
Multipurpose Lab	530	1	530
Sterilizer	50	1	50
Cold Room	95	1	95
Fermentation	300	1	300
Constant Temperature	240	1	240
Environment Rooms	35	5	175
Clean	100	1	100
Transfer	135	1	135
Gowning/Shower	75	1	75
			<u>15,845</u>
Secretary	215	1	215
Office	140	2	280
Lab. Dept. Head	290	1	290
Lab	225	1	225
Storage	40	1	40
Kitchen	40	1	40
Graduate Lab	1975	1	1975
Instrument Lab	320	1	320
Faculty Lab	450	4	1800
Office	125	8	1000
Graduate Lab	810	1	810
Cold Room	100	1	100
CP Off/Lab	300	1	300
Special Projects Lab	600	1	600
Test Lab	300	1	300
Conference	450	1	450
Dry/Mill	250	1	250
Dust Room	65	1	65
Extract Lab	250	1	250

Space	Area	Number	Total
Drug Storage	190	1	190
Post Doc. Lab	375	1	375
Cold Room	90	1	180
Graduate Lab	900	1	900
Instrument Lab	225	1	225
Freezer	75	1	75
Cold Room	150	1	150
			<u>11,405</u>
Animal Quarters			
Animal Room	100	4	400
Animal Room	125	2	250
Animal Room	200	1	200
Inject	100	1	100
Dog Room	220	1	220
Cage Wash	300	1	300
Bedding	75	1	75
Cooler	30	1	30
Prep	75	1	75
Animal O.R.	260	1	260
Recovery	60	1	60
			<u>1970</u>
Greenhouse			
Greenhouse	675	1	675
Potting Room	305	1	305
			<u>980</u>
Total NSF			30,200
SUPPORT FACILITIES			
Student Conference	225	1	225
Student Lounge	450	1	450
Student Organization	225	1	225
Student Lockers	1200	1	1200
Student Study	225	1	225
Faculty Lounge	450	1	450
Data Processing	175	1	175
			<u>2,950</u>
Total NSF			2,950

RESEARCH

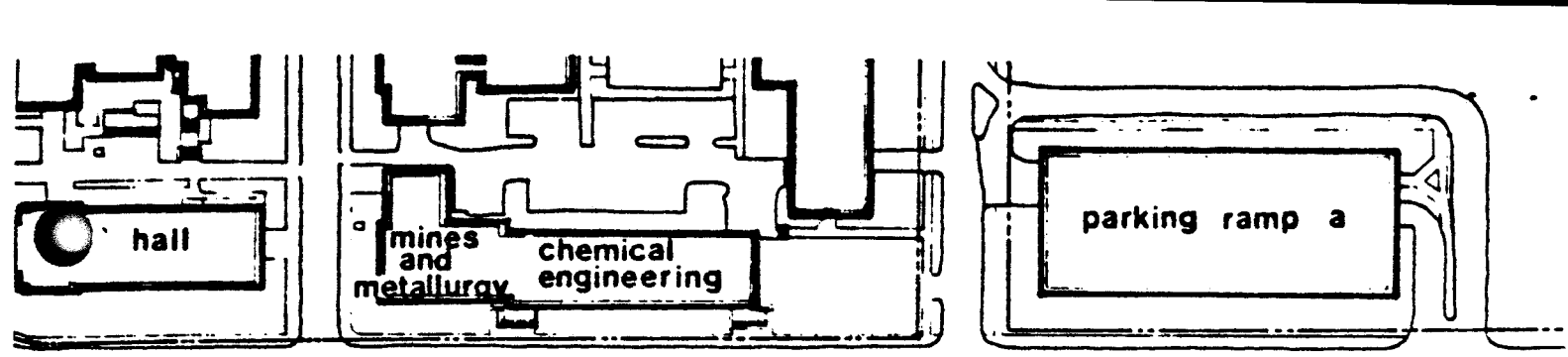
Space	Area	Number	Total
Behavioral Study Lab	370	1	370
Environmental Lab	315	1	315
ECR	150	1	150
Observation	150	1	150
Waiting	190	1	190
Toilet	40	1	40
Kitchen	40	1	40
Work	225	1	225
Data	135	2	270
			<u>1865</u>
Nursing Lab	600	1	600
Nursing Lab	300	1	300
Office	150	2	300
			<u>1200</u>
Total NSF			3065

TEACHING

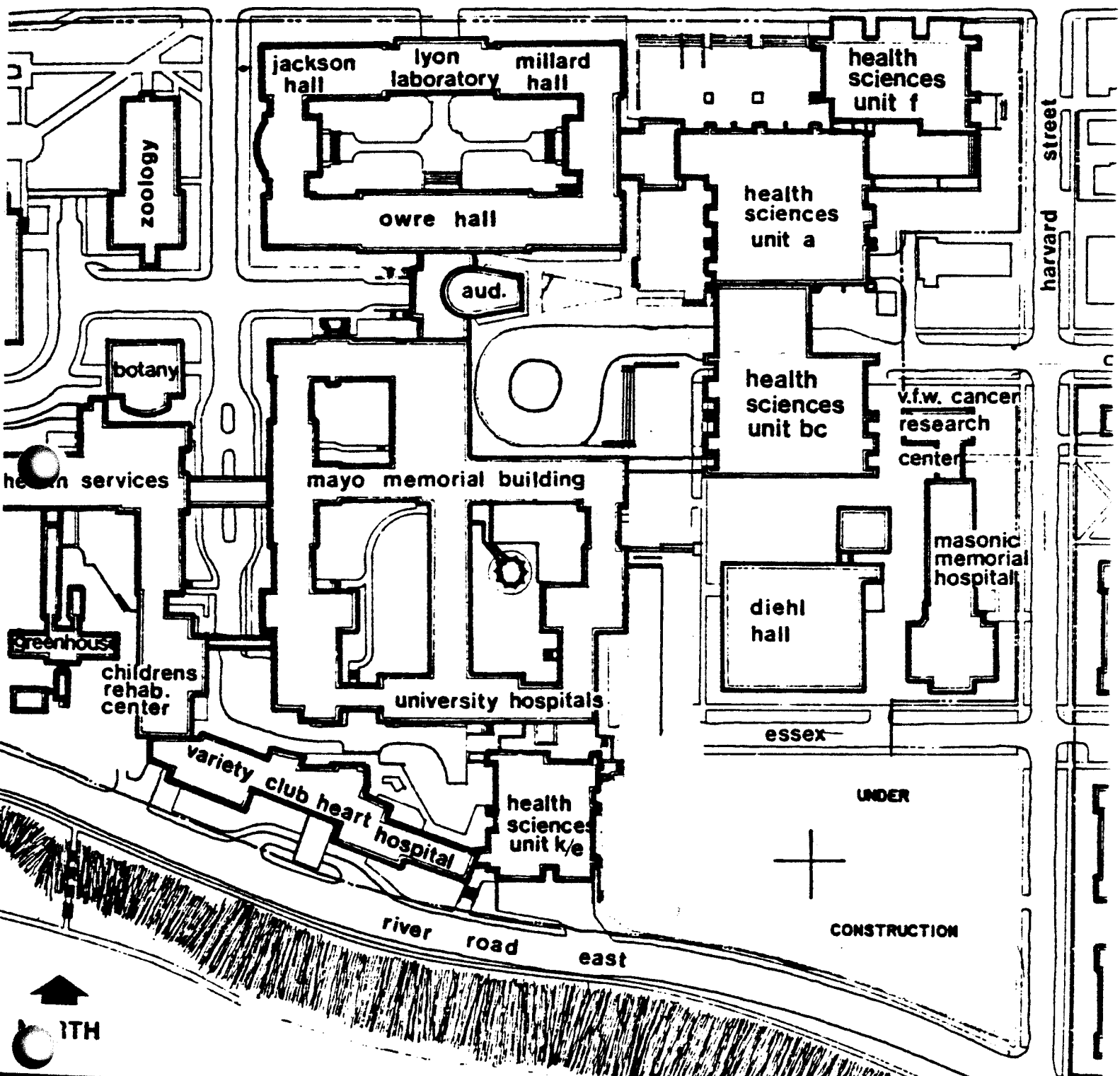
Waiting	420	1	420
Study	120	1	120
			<u>540</u>
Nursing Skills			
Skills Lab (20 beds)	2430	1	2430
Nurses Station	525	1	525
Tub Room	150	1	150
Storage	190	1	190
Linen	65	1	65
Classroom	125	1	125
			<u>3485</u>
Health Assessment			
Exam Room, Single	115	8	920
Exam Room, Double	230	2	460
Observation/Conference	150	1	150
			<u>1530</u>
Helping Relationships			
Seminar	585	1	585
Seminar	450	2	900
Conference	300	2	600
Conference	245	1	245
Interview	115	4	460
Carrel	40	2	80
A/V Work	315	1	315
			<u>3185</u>

Space	Area	Number	Total
Total NSF			8740
FACULTY OFFICES			
Office, 1 Desk	115	72	8280
Office, 2 Desks	175	10	1750
Office, Clinical Appts.	350	1	350
Project - Work Room	350	2	700
Educational Development	350	2	700
			<u>11780</u>
Reception	250	1	250
Interview	100	2	200
Conference	265	1	265
Conference	300	1	300
Seminar	570	1	570
Office, Typing Supv.	100	2	200
Supply/Work	100	1	100
Sec. & Supply/Work	350	1	350
Secretary	530	1	530
			<u>2765</u>
Total NSF			14545
ADMINISTRATION			
Reception/Wait	335	1	335
Office, Dean's Secretary	120	1	120
Office, Secretary	560	1	560
Office, Dean	300	1	300
Office, Assoc. Dean	150	1	150
Office Asst. Dean	150	3	450
Conference	305	1	305
Kitchen	45	1	45
Toilet, Dean	45	1	45
Office, Admin. Off.	125	1	125
Office, Bus. Staff	300	1	300
Work Room	290	1	290
School Records	150	1	150
			<u>3175</u>
Continuing Education			
Office, Director	150	1	150
Office, Staff	135	1	135
			<u>285</u>
Shared Facilities			
Copy Room	150	1	150
			<u>150</u>

Space	Area	Number	Total
Admissions & Records			
Office, Stud. Admiss.	625	1	625
Office, Director	120	1	120
Office, Staff	300	1	300
Student Records	140	1	140
Interview	62.5	2	125
Conference	200	1	200
Kitchen	35	1	35
Toilet, Staff	35	1	35
			<u>1580</u>
Research			
Office, Director	135	1	135
Office, Secretary	150	1	150
Conf./Read	150	1	150
Research Support	450	1	450
			<u>885</u>
Total NSF			6075
SUPPORT FACILITIES			
Student Conference	225	1	225
Student Lounge	450	1	450
Student Organization	225	1	225
Student Lockers	1200	1	1200
Student Study	225	1	225
Faculty Lounge	450	1	450
Data Processing	175	1	175
			<u>2950</u>
Total NSF			2950
HEALTH SCIENCES			
Employee Locker	200	2	400
Vending	150	1	150
Conference	260	2	520
Classroom	1595	1	<u>1595</u>
Total NSF			2665



washington avenue s. e.



DESCRIPTION OF PROJECT

All Sub-systems were developed and designed to accommodate the criteria generated by the program functions. A detailed description follows several sub-systems which establishes the degree of thought that has gone into development and coordination of the various systems resulting in the overall building flexibility.

The entire Health Sciences Expansion was laid out in a modular grid system to provide a high degree of design variability and expandability. A module of 12' 4" x 12'4" was employed through out with vertical service cores of 12'4" x 12'4" at intervals in two directions. Building services are distributed vertically through the cores, or service shafts, and horizontally through the depth of the floor structure, which is comprised of light weight concrete over composite cellular steel decking supported by steel griders spanning between the service cores.

The ceiling system is compatible with and facilitates a degree of planning flexibility equal to that afforded by the structural and mechanical systems. The ceiling supervision system supports the head of all partitions and door frames within specific areas. In Unit F, the fire rated corridor walls run from the slab to the underside of the upper slab, but areas surrounded by corridor have partitions which only ascend to the ceilings. Although most walls occur in modular locations, random attachment is possible. We have decided to call this type of system, with its rated corridor construction and suspended ceilings, compartmentalization. Compartmental design allows us the latitude necessary for constantly evolving space requirements while maintaining the safety of fixed, permanent partitions from a fire and life safety standpoint. Within a compartment, the ceiling provides a framework in which light fixtures, air supply and return elements, sprinklers, smoke

detectors, speakers, and laboratory service columns can be located and rearranged in various combinations. Lastly, this ceiling is totally accessible for maintenance or rearrangement.

The ceiling is composed of continuous service strips and infill between with acoustic material. The service strips are 6'2" on center running east/west across the entire structure. These strips are made up of alternating 4'0" light fixture locations and 2'2" service panel locations. The partition head bolts to the runners are required. The ceiling module dictates the partition layouts with 3'1" being the minimum increments for planning purposes; however, random placement is possible.

Partitions are basically of four types (1) Gypsum plaster on gypsum lath attached to channel studs for areas subject to infrequent change. (2) Drywall on channel studs for areas of probable rearrangement such as graduate offices and research laboratories. (3) Fireproof gypsum paneling for fire rated elevator shafts, stairs, service cores, and rated corridors. (4) Masonry is used in auditoria and animal rooms throughout entire Health Sciences Expansion.

A glazed coating can be applied to any of these partitions in areas where high humidity or wash down capability is required.

The casework, or office and laboratory cabinetry, was a product of a non-proprietary performance specification requiring consistency of design and detail in an all metal cabinet system with a modular design for flexibility. Unit F primarily employed plastic lab grade laminate for bench tops and shelves. The bench tops have coved backsplash to prohibit moisture from entering the sub-strata. Areas around and including sinks and drainboards are epoxy resin units in lieu of plastic laminate to further insure long life and superior performance.

FLOOR BY FLOOR PROGRAM DESCRIPTION

Unit F consists of eleven floors with three of those levels below grade.

Basement Level

This is the location of the primary major mechanical components serving the new construction and is an expansion of the facilities provided in Unit A.

Floor 1

This floor is basically a service floor continuing Central Supply for Pharmacy, Receiving, Glass Washing, and Student Locker Facilities. This is the Central Service Corridor linking level, connecting directly to the blance of the Health Sciences via the service tunnel.

Floor 2

The main entry point for students attending lectures in the Auditoria and classrooms. This area also is the eastern entrance to the Health Sciences Pedestrian Corridor, a wide concourse through Unit F, A, B/C to Unit K/E with branches to all other units. The Pharmacy dispensing laboratory and some nursing research space also occupy this floor.

Floor 3

Floor 3 contains two large chemical processes undergraduate laboratories and support space. The Drug Reference area is located on this floor directly adjacent the main building entry.

Floor 4

The primary focus of this floor is the School of Nursing special teaching laboratories; including Nursing Skills, Helping Relationships, Children's Laboratories and Health Assessment Laboratories. These special labs simulate an inpatient area for demonstration and technique teaching. The Continuing Education Conference Center is also located on this floor.

Floor 5

This floor is the horizontal connection at the upper and middle levels to Millard Hall, Unit A, Unit B/C (Phillips-Wangensteen Building) and Mayo Complex. Nursing and Pharmacy Administration areas are located on this floor as well as associated space such as: darkroom, audiovisual, computer space, autotutorial and associated production areas. Student Affairs offices for both are also on this floor.

Floor 6

Nursing occupies this floor with faculty offices, many small seminar rooms and small intimate conference rooms, and word processing.

Floor 7

The faculty lounge is on this floor. The bulk of the floor is dedicated to Clinical and Hospital Pharmacy Space, Pharmacy Project Space and conference areas for Pharmacy. There is a limited amount of Nursing faculty office space also on Floor 7

Floor 8

This floor houses Graduate Studies in Pharmaceutical Cell Biology and Medicinal Chemistry for College of Pharmacy. The Journal of Medicinal Chemistry also has offices on this floor.

Floor 9

Animal Research laboratories for both Nursing and Pharmacy are located on this floor, as well as small laboratories and offices for Pharmaceutics and Medicinal Chemistry, and selected space for Nursing faculty research.

Floor 10

This floor is primarily a mechanical equipment floor with access to the Pharmacy Greenhouse located on the roof. The greenhouse is a two chambered structure with an ante room for potting and storage. The two chambers are for one tropical room and one temperate room for various plants.

DIRECTORY LISTINGS PER FLOOR:

Ninth Floor

- Nursing Animal Reserach Laboratories
- Graduate Studies in Pharmaceutical Cell Biology
- Medicinal Chemistry
- Pharmaceutics
- Graduate Studies in Pharmaceutics
- Pharmacy Animal Facilities
- Link to Unit A

Eighth Floor

- Graduate Studies in Pharmaceutical Cell Biology
- Medicinal Chemistry
- Journal of Medicinal Chemistry
- Link to Unit A

Seventh Floor

- Graduate Studies in Social and Administrative Pharmacy
- Graduate Studies in Hospital Pharmacy
- Pharmacy Degree Students
- Continuing Education in Pharmacy
- Clinical Faculty
- School of Nursing Offices
- Link to Unit A

Sixth Floor

- Reception and Information School of Nursing
- School of Nursing Faculty Offices
- Continuing Nursing Education
- Link to Unit A

Fifth Floor

- School of Nursing Administrative Offices
- Office of the Dean
- College of Pharmacy Administrative Offices
- Office of the Dean
- College of Pharmacy Educational Development

Fourth Floor

- School of Nursing Conference Center
- School of Nursing Teaching Laboratories

Third Floor

- Drug Information Center
- Collgee of Pharmacy Teaching Laboratories

Second Floor

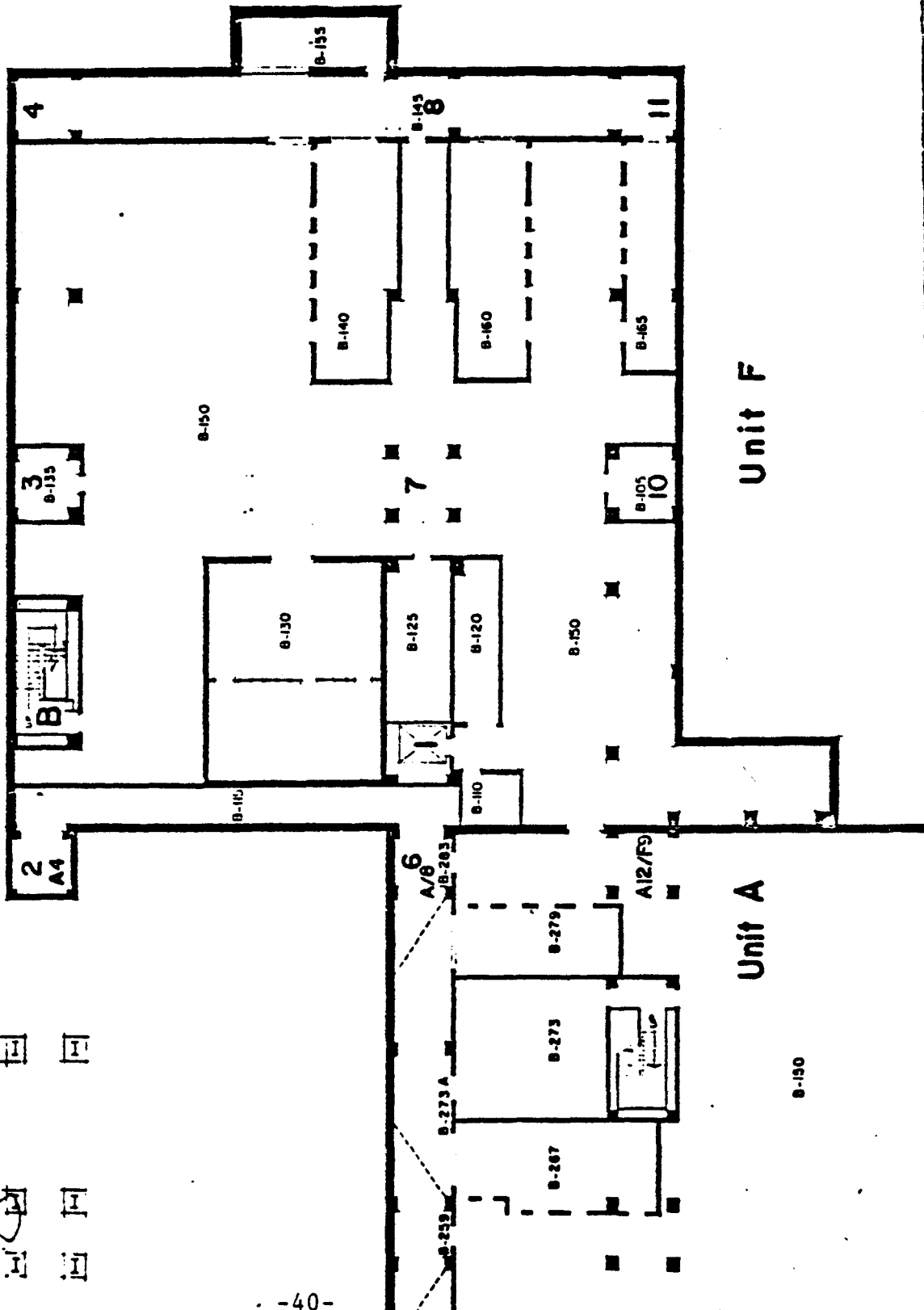
- Seminar Rooms, Health Sciences Shared
- School of Nursing Program Space
- School of Nursing Seminar Rooms

First Floor

- Student Affairs and Lockers
- Central Supply, Pharmacy

ACTUAL SQUARE FOOT TOTALS

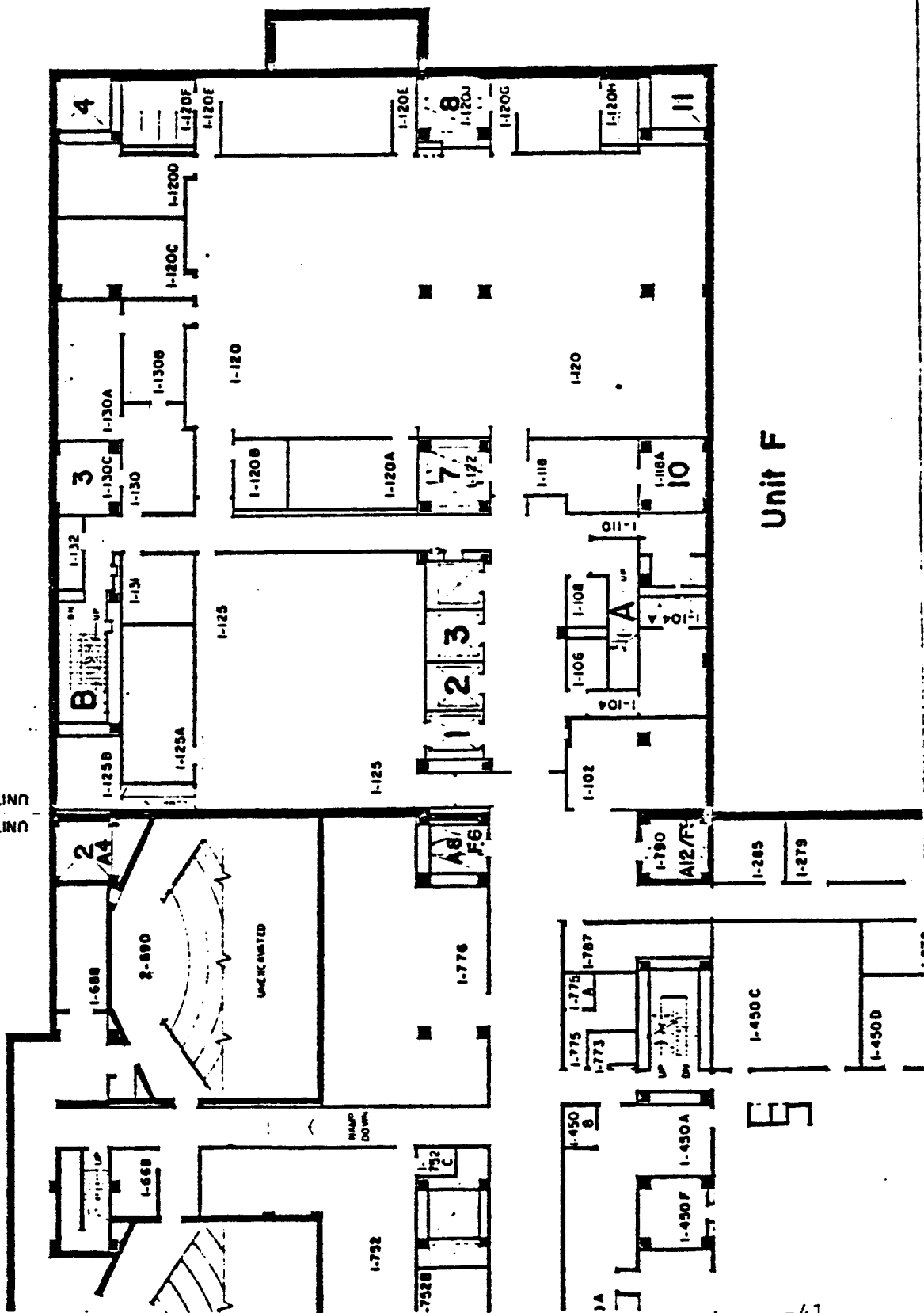
Unit F	Gross Square Feet	196,000
Nursing		34,972
Pharmacy		63,844
Shared		2,133
Assignable Total Square Feet		100,949



Unit F

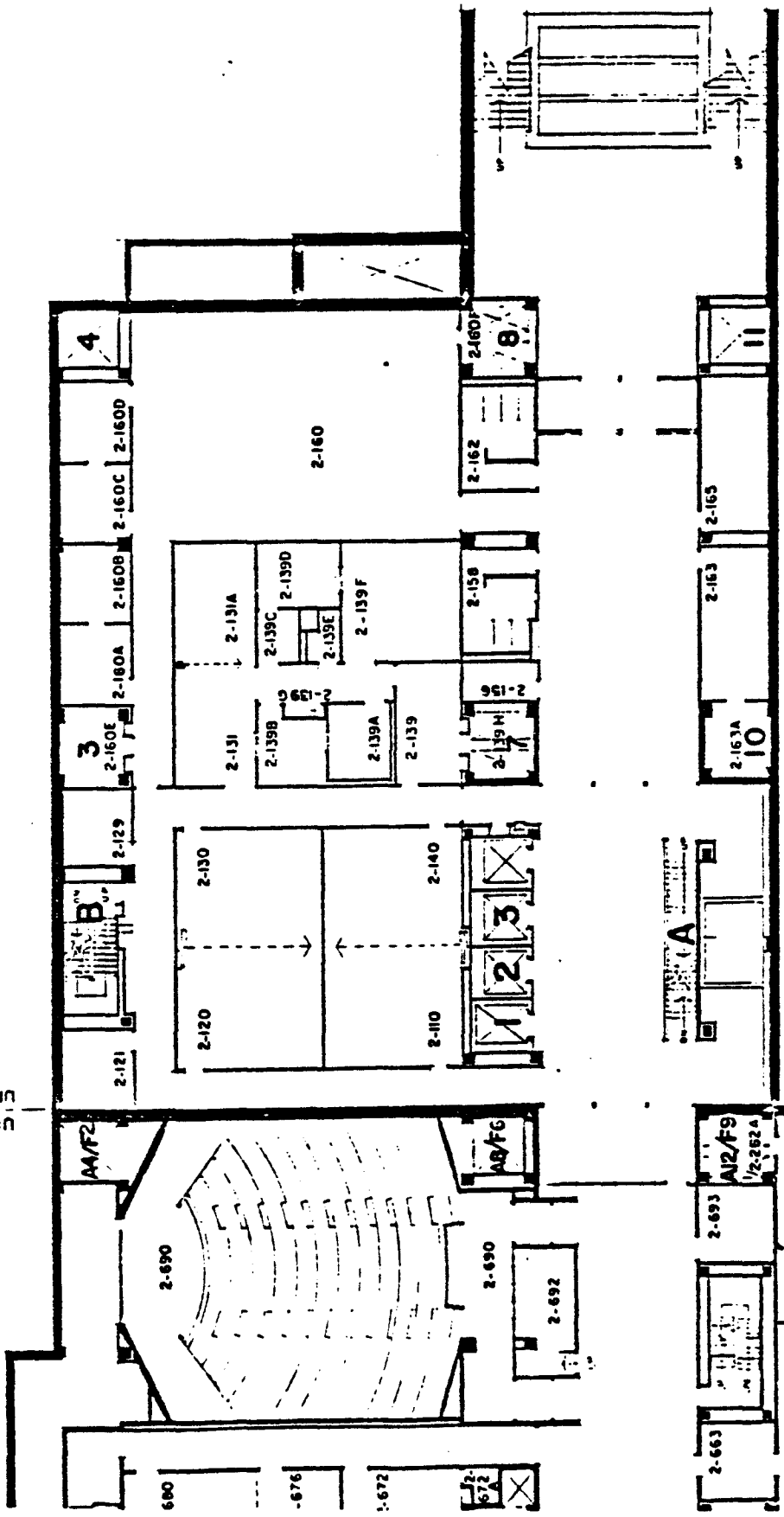
Unit A

UNIT UNIT

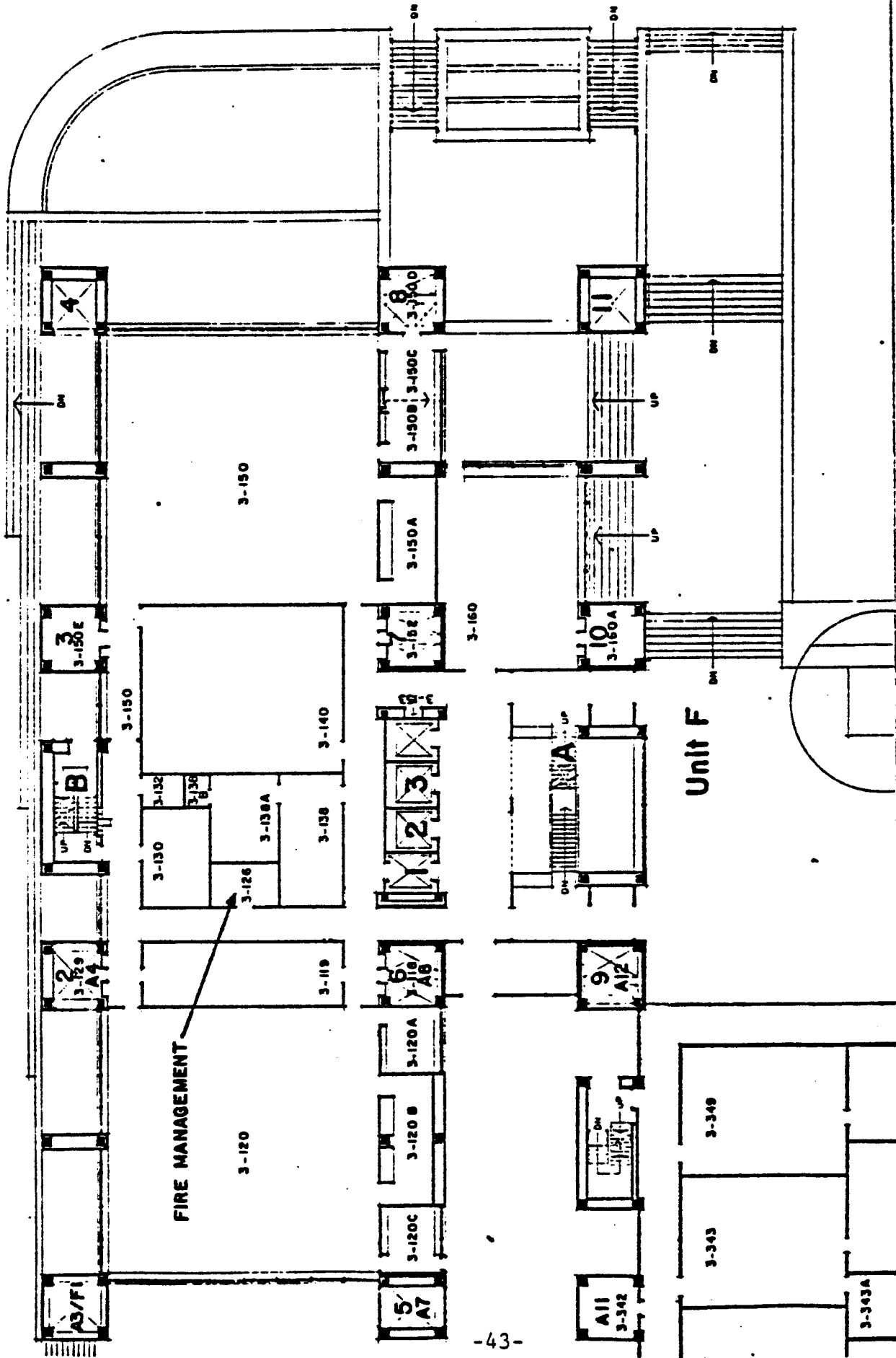


Unit F

UNIT 'A'
UNIT 'F'

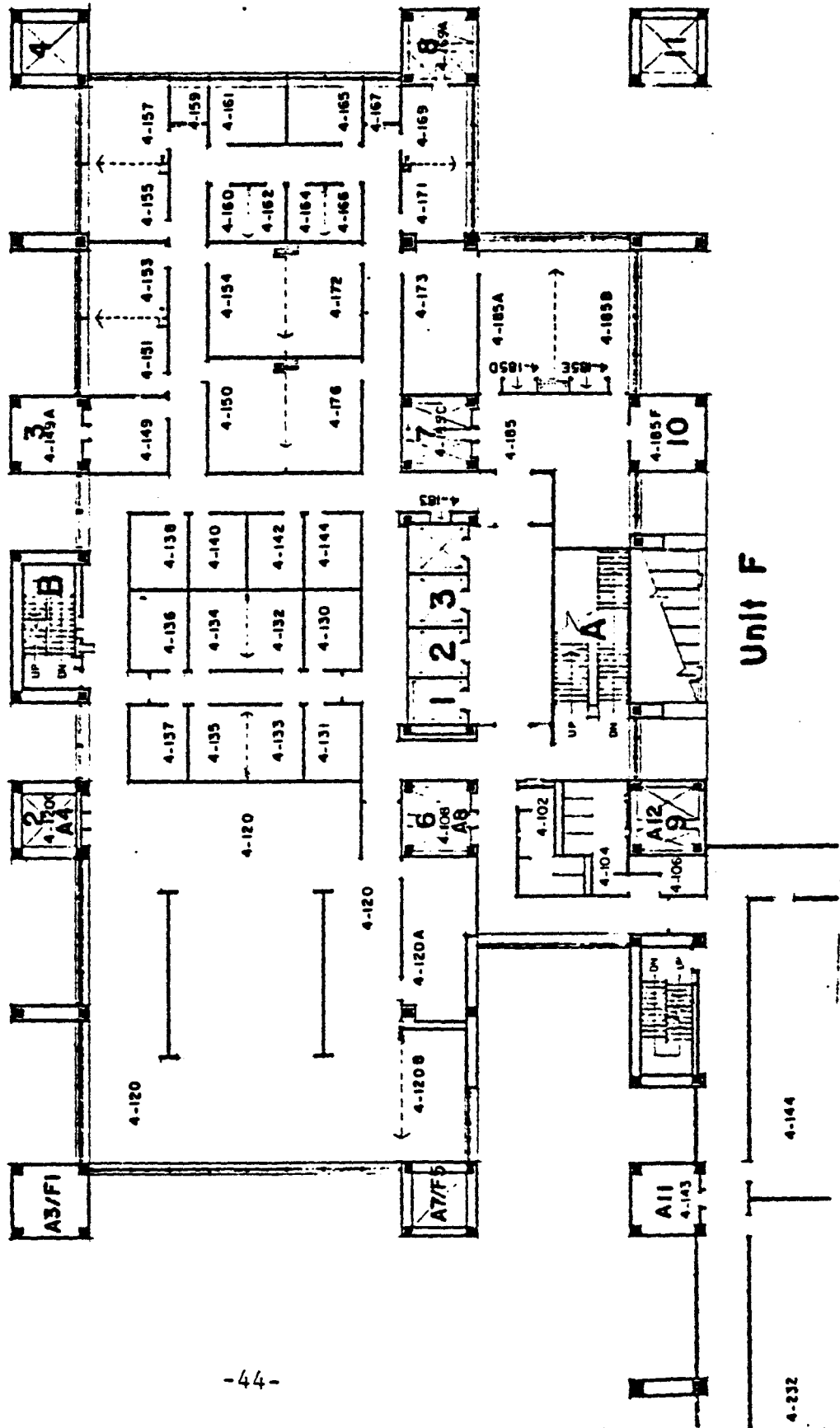


Unit F

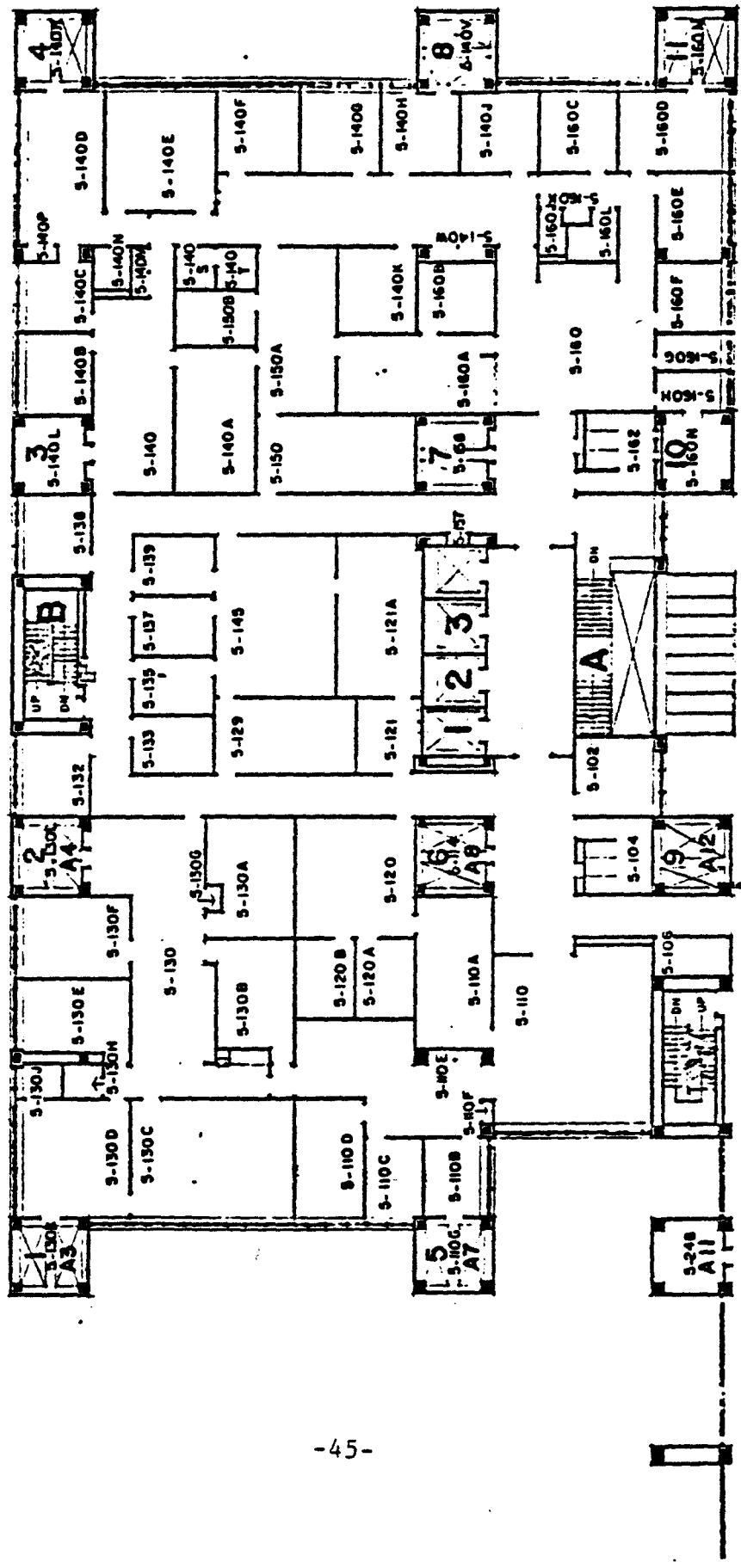


FIRE MANAGEMENT

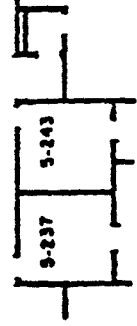
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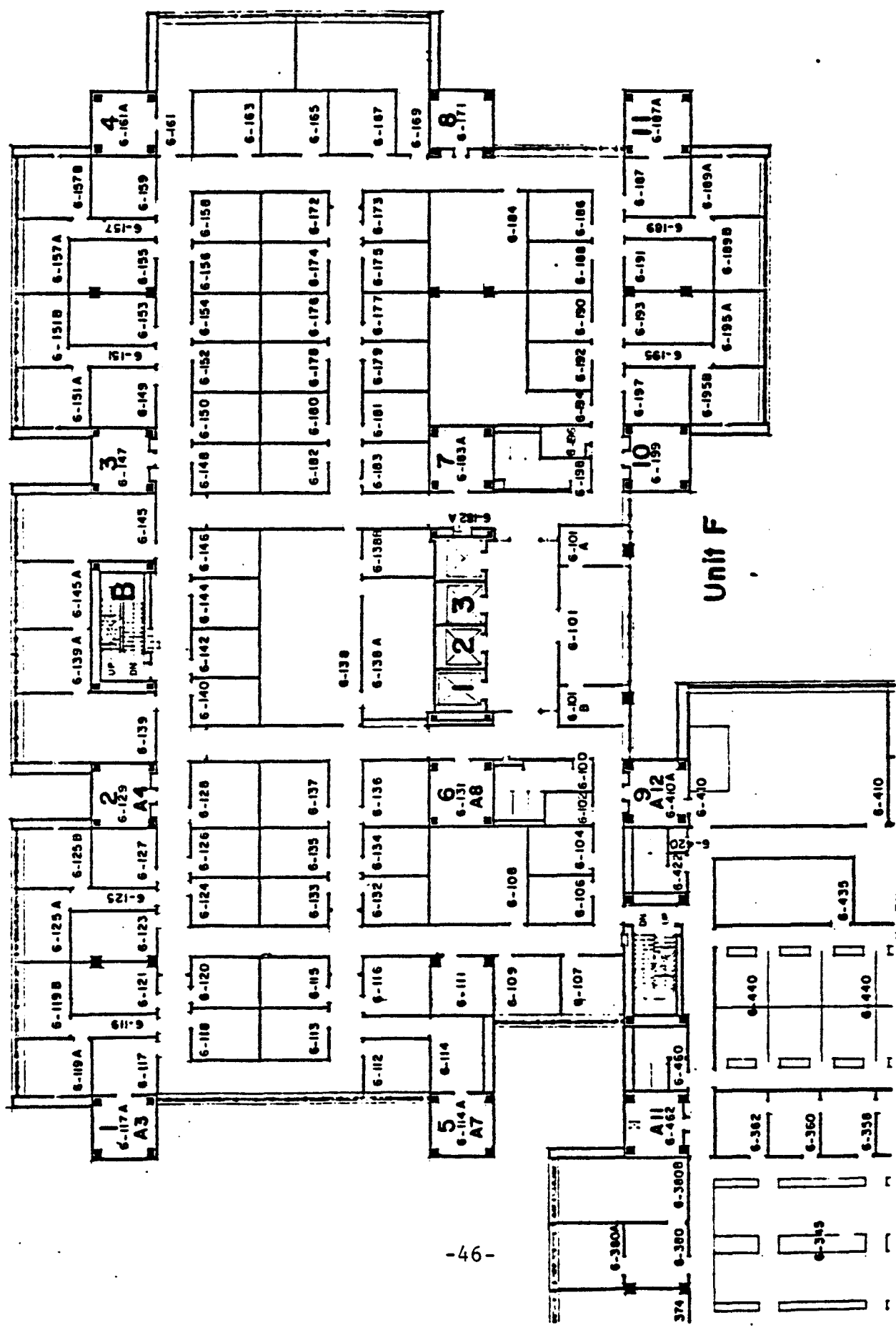


Unit F

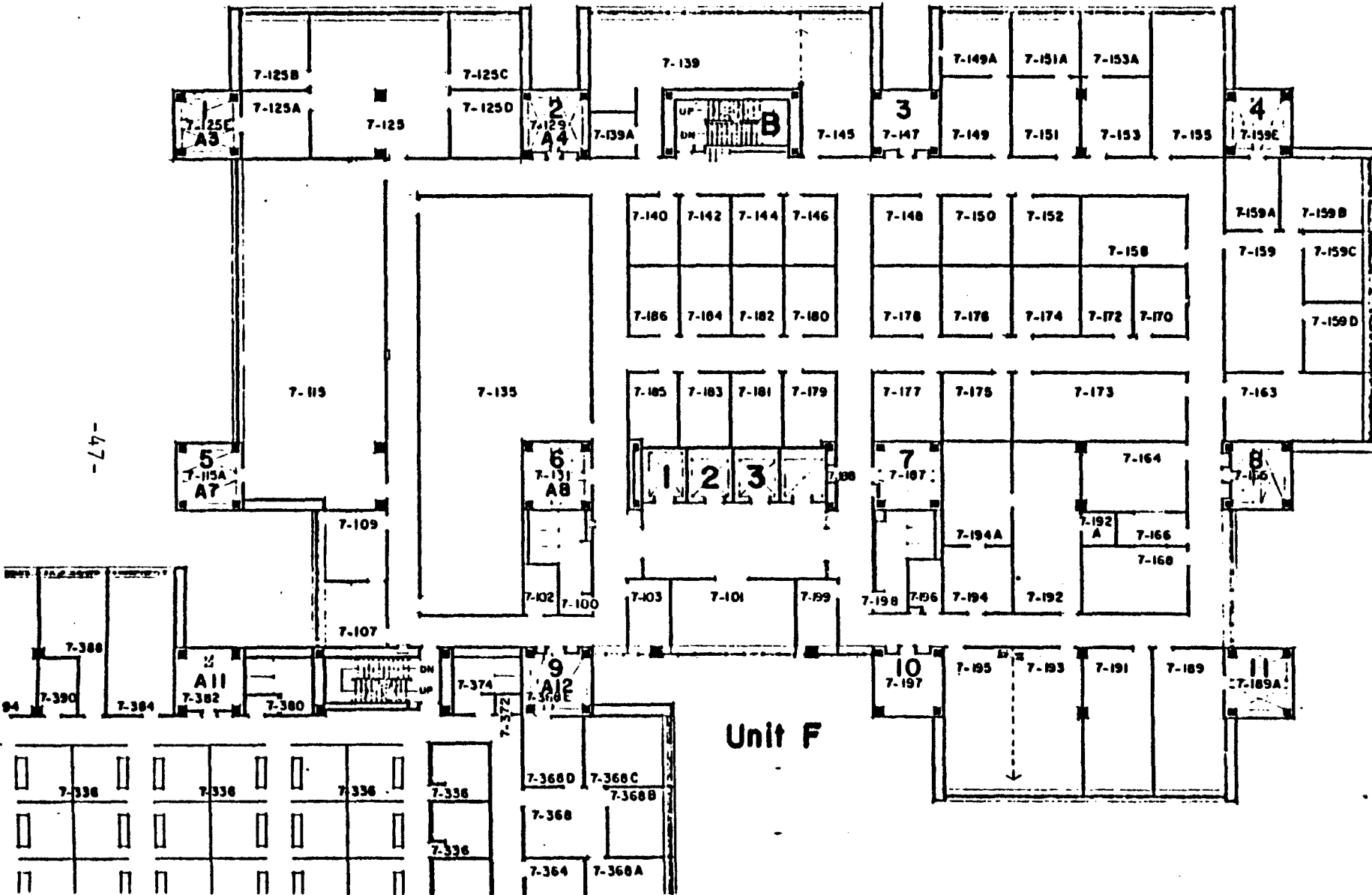


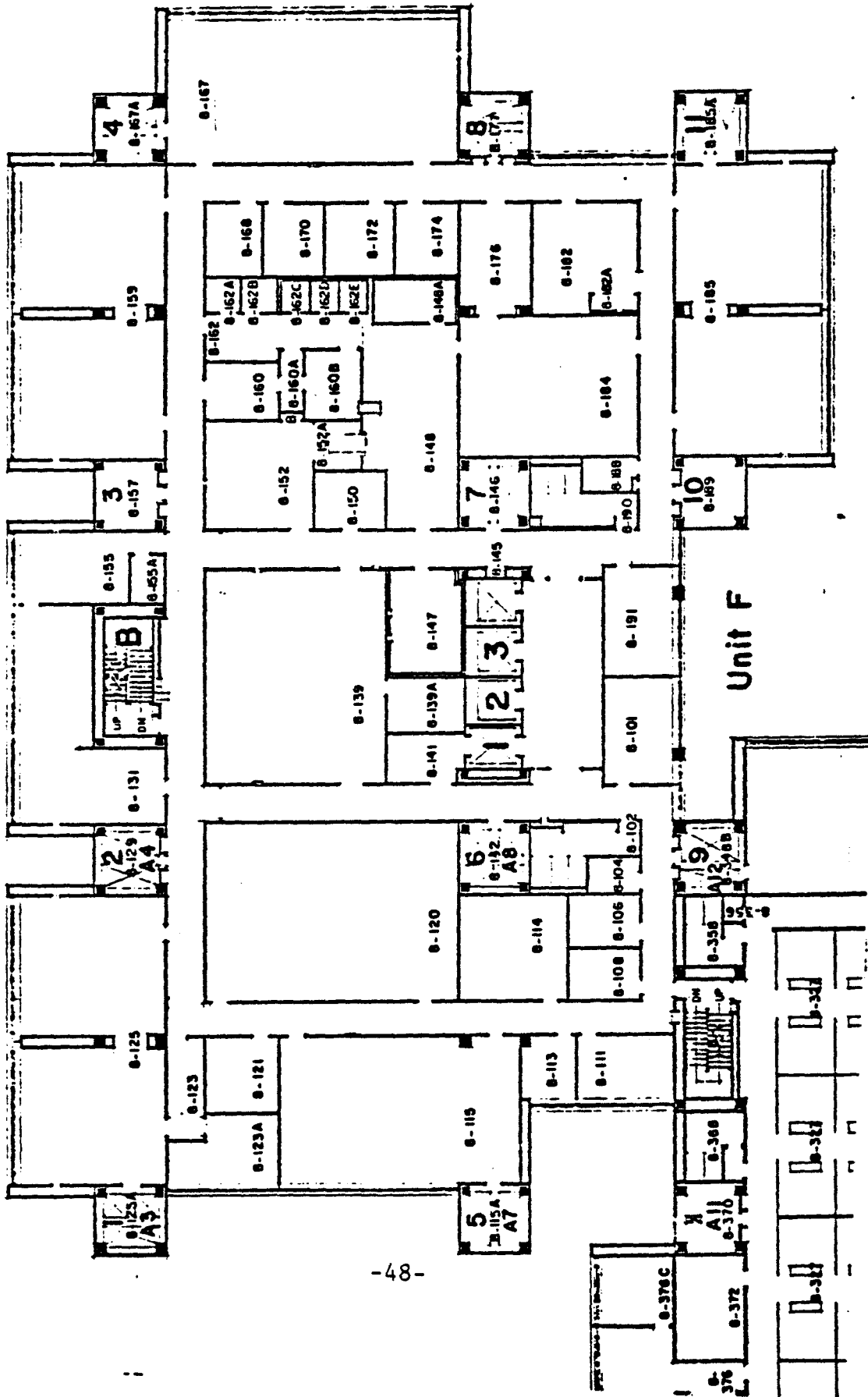
Unit F

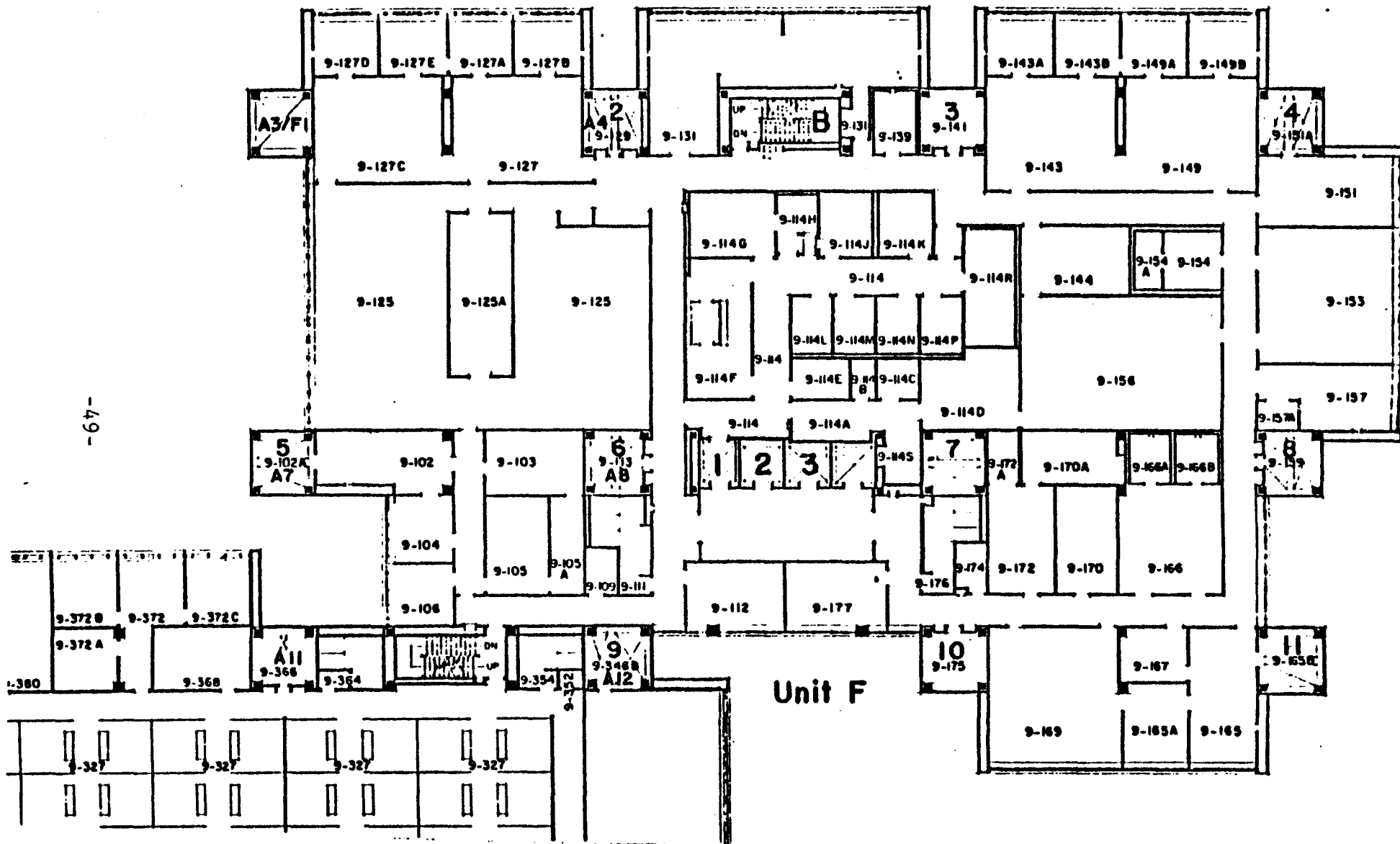




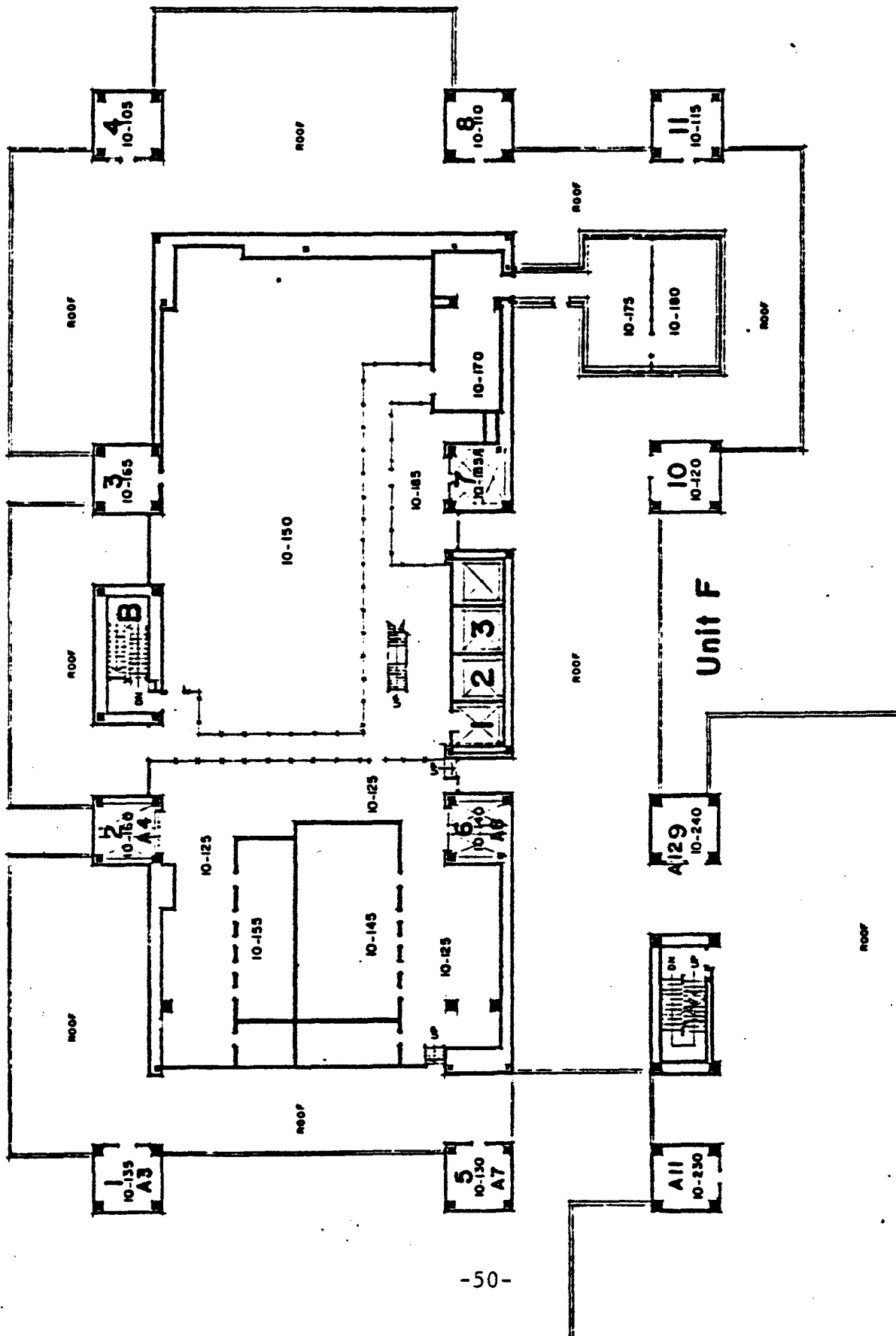
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Unit F



FLOOR SUMMARY FIRST FLOOR
HEALTH SCIENCES SHARED SPACE

(A)	Office	0
(B)	Lab	0
(C)	Classroom	0
(D)	Conference	450
(E)	Storage	0
(F)	Departmental	0
(G)	Other	5,281

FIRST FLOOR
HEALTH SCIENCES SHARED SPACE

ROOM	CODE	DESCRIPTION	SQ. FT.
1-120A	D	Student Conference	450
1-118	G	Vending	233
1-120	G	Lockers	1,916
1-120	G	Lounge	448
1-120G	G	Men's Changing	256
1-120E	G	Women's Changing	512

FLOOR SUMMARY FIRST FLOOR
COLLEGE OF PHARMACY

(A) Office	0
(B) Lab	0
(C) Classroom	0
(D) Conference	0
(E) Storage	485
(F) Departmental	1,823
(G) Other	645

FLOOR SUMMARY
SCHOOL OF NURSING

FIRST FLOOR

(A) Office	0
(B) Lab	0
(C) Classroom	0
(D) Conference	0
(E) Storage	357
(F) Departmental	0
(G) Other	283

FLOOR SUMMARY SECOND FLOOR
HEALTH SCIENCES SHARED SPACE

(A)	Office	0
(B)	Lab	0
(C)	Classroom	1,628
(D)	Conference	538
(E)	Storage	0
(F)	Departmental	0
(G)	Other	0

FLOOR SUMMARY SECOND FLOOR
COLLEGE OF PHARMACY

(A) Office	0
(B) Lab	2,186
(C) Classroom	136
(D) Conference	0
(E) Storage	137
(F) Departmental	0
(G) Other	125

FLOOR SUMMARY
SCHOOL OF NURSING

SECOND FLOOR

(A) Office	136
(B) Lab	1,454
(C) Classroom	0
(D) Conference	0
(E) Storage	0
(F) Departmental	188
(G) Other	102

SECOND FLOOR
SCHOOL OF NURSING

ROOM	CODE	DESCRIPTION	SQ. FT.
2-121	A	Faculty Office	136
2-129	B	Data	136
2-131 & 131A	B	Behavior Lab (West & East)	459
2-139B	B	Observation	116
2-139A	B	ECR	123
2-139	F	Waiting	188
2-139G	B	Work Space	152
2-139F	B	Environmental Lab	342
2-139E	G	Toilet	51
2-139C	G	Kitchen	51
2-139D	B	Observation	126

FLOOR SUMMARY THIRD FLOOR
COLLEGE OF PHARMACY

(A) Office	0
(B) Lab	6,964
(C) Classroom	1,130
(D) Conference	506
(E) Storage	252
(F) Departmental	472
(G) Other	0

THIRD FLOOR
COLLEGE OF PHARMACY

ROOM	CODE	DESCRIPTION	SQ. FT.
3-120	B	Undergraduate Lab	2,433
3-120C	D	Conference	127
3-120B	B	Fume Hood Lab	250
3-120A	D	Conference	127
3-119	F	Pharmacokinetics	472
3-138	B	Preparation Lab	313
3-126	B	Fire Control Lab	79
3-138A	E	Stockroom	252
3-138B	E	Solvent Storage	N/A
3-130	C	Balance Room	236
3-140	B	Instrument Lab	1,156
3-160	C	Drug Information Center	894
3-150A	B	Fume Hood Lab	300
3-150B&150C	D	Conference (West & East Half)	252
3-150	B	Undergraduate Lab	2,433

FLOOR SUMMARY
SCHOOL OF NURSING

FOURTH FLOOR

(A) Office	0
(B) Lab	2,933
(C) Classroom	851
(D) Conference	1,036
(E) Storage	0
(F) Departmental	300
(G) Other	0

FOURTH FLOOR
SCHOOL OF NURSING

ROOM	CODE	DESCRIPTION	SQ. FT.
4-120		Nursing Skills Lab	N/A
4-120B		Classroom	N/A
4-120B		Hoyer Lift	N/A
4-120		Corridor	N/A
4-120A		Storage	N/A
4-120		Nurses Station	N/A
4-137	B	Exam Room	118
4-135 & 133	B	Exam Room (North & South Half)	236
4-131	B	Exam Room	118
4-130	B	Exam Room	118
4-134 & 132	B	Exam Room (North & South Half)	236
4-136	B	Exam Room	118
4-138	B	Exam Room	118
4-140	B	Exam Room	118
4-142	B	Exam Room	118
4-144	B	Exam Room	118
4-150 & 176	B	Group Lab (North & South Half)	472
4-154 & 172	B	Group Lab (North & South Half)	465
4-164 & 166	C	Interview (North & South Half)	119
4-160 & 162	C	Interview (North & South Half)	119
4-149	D	Observation/Conference	158
4-151 & 153	D	Conference (West & East Half)	310
4-155 & 157	D	Conference (West & East Half)	310
4-159	C	Carrel	40
4-161	C	Interview	119

FLOOR SUMMARY FIFTH FLOOR
COLLEGE OF PHARMACY

(A) Office	4,064
(B) Lab	0
(C) Classroom	236
(D) Conference	988
(E) Storage	296
(F) Departmental	0
(G) Other	928

FIFTH FLOOR
COLLEGE OF PHARMACY

ROOM	CODE	DESCRIPTION	SQ. FT.
5-110	A	Student Affairs Office	767
5-110A	D	Conference	307
5-110D	A	Asst. Dean's Office	199
5-110B	C	Alumni Relations	118
5-110C	A	Admin. Director	118
5-110	A	Admin. Work	342
5-120A	A	Office	118
5-120B	A	Office	118
5-120	A	C.E. Staff	347
5-130C	D	Conference	456
5-130H	G	Toilet	44
5-130J	G	Toilet	44
5-130D	A	Dean	288
5-130	G	Kitchen	50
5-130	A	Secretary	402
5-130E	A	Administration	203
5-130F	A	Asst. Dean Pro. Ed.	203
5-130	A	Admin - Waiting	232
5-130B	G	Copy	185
5-130A	A	Asst. Dean Grad. Students	118
5-110	A	Secretary	100
5-133	C	Records	118
5-135	A	Office	118
5-137	A	Office	118
5-139	A	Office	118
		-71-	

FLOOR SUMMARY
SCHOOL OF NURSING

FIFTH FLOOR

(A) Office	4,686
(B) Lab	302
(C) Classroom	542
(D) Conference	518
(E) Storage	93
(F) Departmental	0
(G) Other	138

FIFTH FLOOR
SCHOOL OF NURSING

ROOM	CODE	DESCRIPTION	SQ. FT.
5-160A	A	Staff Office	304
5-160B	A	Student Records	143
5-140K	A	School Records	167
5-150A	C	Copy/Work	304
5-140A	A	Business Office	280
5-150B	C	Magnetic Tape	108
5-140S	G	Kitchen	36
5-140T	E	Storage	36
5-140	A	Administration/Waiting	388
5-140B	A	Administration	130
5-140C	A	Dean's Secretary	118
5-140N	G	Toilet	45
5-140D	A	Dean	339
5-140E	D	Conference	315
5-140F	A	Associate Dean	152
5-140G	A	Assistant Dean	152
5-140H	A	Assistant Dean	152
5-140J	A	Assistant Dean	152
5-140	A	Secretaries	571
5-160C	A	C.E. Director	152
5-160D	D	Conference	203
5-160E	A	Advising Office	142
5-160L	E	Storage	57
5-160J	G	Toilet	57
5-160F	A	Admissions Assistant	118

FLOOR SUMMARY
SCHOOL OF NURSING

SIXTH FLOOR

(A) Office	11,944
(B) Lab	118
(C) Classroom	429
(D) Conference	1,367
(E) Storage	0
(F) Departmental	86
(G) Other	0

SIXTH FLOOR
SCHOOL OF NURSING

ROOM	CODE	DESCRIPTION	SQ. FT.
6-107	A	Office	143
6-109	A	Office	143
6-111	A	Office	130
6-114	A	Office	148
6-112	A	Office	138
6-116	A	Office	138
6-113	A	Office	124
6-118	A	Office	124
6-115	A	Office	124
6-120	A	Office	124
6-117	A	Office	138
6-119A	A	Office	133
6-121	A	Office	161
6-119B	A	Office	115
6-123	A	Office	161
6-125A	A	Office	115
6-127	A	Office	138
6-125B	A	Office	133
6-124	A	Office	115
6-126	A	Office	118
6-128	A	Office	158
6-137	A	Office	158
6-135	A	Office	118
6-133	A	Office	115
6-132	A	Office	115

SIXTH FLOOR CONT.
SCHOOL OF NURSING

ROOM	CODE	DESCRIPTION	SQ. FT.
6-134	A	Office	118
6-136	A	Office	158
6-108	D	Conference	342
6-106	A	Office	115
6-104	A	Office	118
6-139	A	Secretary/Reference	307
6-139A	A	Director's Office	152
6-145A	D	Conference	152
6-145	A	Staff Office	307
6-140	A	Office	118
6-142	A	Office	118
6-144	A	Office	118
6-146	A	Office	118
6-138	A	Typing Pool	694
6-138A	C	Copy/Workroom	343
6-138B	A	Supervisor	131
6-183	A	Office	118
6-181	A	Office	118
6-179	A	Office	118
6-177	A	Office	118
6-175	A	Office	118
6-173	A	Office	118
6-172	A	Office	118
6-174	A	Office	118
6-176	A	Office	118

SIXTH FLOOR CONT.
SCHOOL OF NURSING

ROOM	CODE	DESCRIPTION	SQ. FT.
6-178	A	Office	118
6-180	A	Office	118
6-182	A	Office	118
6-148	A	Office	118
6-150	A	Office	118
6-152	A	Office	118
6-154	A	Office	118
6-156	A	Office	118
6-158	A	Office	118
6-149	A	Office	138
6-151A	A	Office	133
6-151B	A	Office	115
6-153	A	Office	161
6-155	A	Office	161
6-157A	A	Office	115
6-157B	A	Office	133
6-159	A	Office	138
6-161	A	Project Office	304
6-163	A	Project Office	158
6-165	A	Project Office	158
6-167	A	Project Office	152
6-169	A	Project Office	307
6-184	D	Conference	343
6-194	D	Conference	530
6-192	A	Continuing Ed. Office	118

FLOOR SUMMARY
COLLEGE OF PHARMACY

SEVENTH FLOOR

(A)	Office	6,146
(B)	Lab	693
(C)	Classroom	4,765
(D)	Conference	608
(E)	Storage	36
(F)	Departmental	0
(G)	Other	190

SEVENTH FLOOR
COLLEGE OF PHARMACY

ROOM	CODE	DESCRIPTION	SQ. FT.
7-107	A	Office	143
7-109	A	Office	143
7-115	A	Pharmacy Faculty	1,540
7-125A	A	Office	152
7-125B	A	Office	152
7-125	C	Hospital Pharmacy Students	608
7-125C	A	Office	152
7-125D	A	Office	152
7-135	C	Clin. Pharmacy Students	1,896
7-149	C	Project Work	183
7-149A	A	Office	124
7-151A	A	Office	124
7-151	C	Project Work	179
7-153	C	Project Work	179
7-153A	A	Office	124
7-155	A	Project Secretary	307
7-159A	A	Office	118
7-159B	A	Office	176
7-159C	A	Office	118
7-159	A	CP & HP Secretary	352
7-159D	A	Office	118
7-163	A	Office	304
7-170	A	Office	115
7-158	A	Pharmacy Supt. Secretary	231
7-172	A	Office	115

SEVENTH FLOOR CONT.
COLLEGE OF PHARMACY

ROOM	CODE	DESCRIPTION	SQ. FT.
7-152	A	Teaching Asst.	154
7-174	A	Teaching Asst.	154
7-150	A	Teaching Asst.	154
7-176	A	Teacing Asst.	154
7-148	A	Teaching Asst.	154
7-178	A	Teaching Asst.	154
7-177	A	Teaching Asst.	154
7-175	A	Teaching Asst.	154
7-173	C	Reading Room	385
7-194A	B	Data Processing	231
7-194	A	Office	154
7-192	B	Calculation Lab	385
7-192A	E	Storage	36
7-164	C	Group Interaction	231
7-166	B	Observation	77
7-168	C	Group Interaction	231
7-189	D	Conference	304
7-191	D	Conference	304
7-195	C	Seminar West	304
7-193	C	Seminar East	304
7-199	G	Resting	95
7-101	C	Testing Space	265
7-103	G	Resting	95

FLOOR SUMMARY
SCHOOL OF NURSING

SEVENTH FLOOR

(A) Office	1,416
(B) Lab	0
(C) Classroom	0
(D) Conference	0
(E) Storage	0
(F) Departmental	0
(G) Other	0

FLOOR SUMMARY SEVENTH FLOOR
SCHOOL OF NURSING
COLLEGE OF PHARMACY

GS	Office	0
GB	Lab	0
GC	Classroom	0
GD	Conference	0
GE	Storage	0
GF	Departmental	0
GG	Other	918

FLOOR SUMMARY EIGHTH FLOOR
COLLEGE OF PHARMACY

(A) Office	1,874
(B) Lab	12,922
(C) Classroom	0
(D) Conference	472
(E) Storage	0
(F) Departmental	0
(G) Other	121

EIGHTH FLOOR
COLLEGE OF PHARMACY

ROOM	CODE	DESCRIPTION	SQ. FT.
8-108	A	Office	108
8-111	A	Office	187
8-113	A	Office	100
8-115	B	Graduate Lab	1,160
8-114	A	Office	340
8-120	B	Graduate Lab	1,345
8-121	A	Office	164
8-123A	A	Office	204
8-125	B	Graduate Lab	1,215
8-131	B	Graduate Lab	611
8-155	B	Radioactive Syn	255
8-155A	B	Darkroom	52
8-139	B	Cent. Instrument	1,166
8-141	G	Receiving	121
8-139A	A	Technical Office	118
8-147	B	ECR	223
8-159	B	Graduate Lab	1,221
8-167	B	Graduate Lab	1,229
8-168	A	Office	137
8-170	A	Office	137
8-172	A	Office	137
8-174	A	Office	137
8-176	B	Instrument Room	232
8-182 & 182A	B	Chromatography & Chroma. Closet	365
8-185	B	Graduate Lab	1,221

EIGHTH FLOOR CONT.
 COLLEGE OF PHARMACY

ROOM	CODE	DESCRIPTION	SQ. FT.
8-184	B	Graduate Lab	744
8-148A	B	ECR	124
8-162E	B	ECR	33
8-162D	B	ECR	33
8-162C	B	ECR	33
8-162B	B	Microwork Room	38
8-162A	B	Microwork Room	38
8-162	B	Constant Temp. Lab	178
8-160A	B	Gown Room	65
8-160B	B	Clean Room	100
8-160	B	Transfer Room	143
8-152	B	Fermentation Lab	345
8-150	B	Counting Room	151
8-152A	B	Sterilizer Room	68
8-148	B	General Purpose Lab	534
8-191	D	Conference	236
8-101	D	Conference	236
8-104	A	Office	105

FLOOR SUMMARY NINTH FLOOR
COLLEGE OF PHARMACY

(A) Office	1,530
(B) Lab	11,274
(C) Classroom	0
(D) Conference	472
(E) Storage	281
(F) Departmental	0
(G) Other	632

NINTH FLOOR
COLLEGE OF PHARMACY

ROOM	CODE	DESCRIPTION	SQ. FT.
9-125	B	Graduate Lab	1,192
9-125A	B	Instrument Lab	336
9-125	B	Graduate Lab	1,061
9-127C	B	Faculty Lab	471
9-127	B	Faculty Lab	482
9-127D	A	Faculty Office	124
9-127E	A	Faculty Office	124
9-127A	A	Faculty Office	124
9-127B	A	Faculty Office	124
9-131	B	Graduate Lab	815
9-139	B	ECR	103
9-143	B	Faculty Office	478
9-143A	A	Office	124
9-143B	B	Office	124
9-149A	A	Office	124
9-149B	A	Office	124
9-149	B	Faculty Lab	477
9-151	B	C.P. Office/Lab	307
9-153	B	Special Project Lab	614
9-157	B	Tablet Lab	237
9-157A	B	Tablet Processing	70
9-154	B	ECR	157
9-154A	G	Freezer	79
9-144	B	Testing and Control	233
9-156	B	Graduate Lab	919

NINTH FLOOR CONT
COLLEGE OF PHARMACY

ROOM	CODE	DESCRIPTION	SQ. FT.
9-114R	B	Dog Runs	218
9-114K	B	Animal Room	128
9-114J	B	Animal Room	128
9-114H	B	Injection Room	80
9-114G	B	Animal Room	205
9-114F	B	Cage Wash	310
9-114	G	Receiving	109
9-114L	B	Animal Room	95
9-114M	B	Animal Room	88
9-114N	B	Animal Room	88
9-114P	B	Animal Room	88
9-114E	G	Bedding	87
9-114B	G	Shower	39
9-114C	B	Recovery Room	61
9-114A	B	Preparation Room	251
9-114D	B	Surgery	267
9-172A	G	Dust Room	65
9-170A	E	Drug Storage	200
9-166A	B	ECR	95
9-166B	B	ECR	95
9-166	B	Post-Doctorate Lab	395
9-170	B	Extraction Lab	217
9-172	G	Drying and Milling	253
9-177	D	Conference	236
9-112	D	Conference	236

NINTH FLOOR CONT.
COLLEGE OF PHARMACY

NUM	CODE	DESCRIPTION	SQ. FT.
9-103	B	Faculty Lab	233
9-102	B	Faculty Lab	280
9-104	A	Office	143
9-106	A	Office	143
9-105	A	Research Office	252
9-105A	E	Storage	81

FLOOR SUMMARY
SCHOOL OF NURSING

NINTH FLOOR

(A) Office	310
(B) Lab	919
(C) Classroom	0
(D) Conference	0
(E) Storage	0
(F) Departmental	0
(G) Other	0

FLOOR SUMMARY TENTH FLOOR
COLLEGE OF PHARMACY

(A) Office	0
(B) Lab	912
(C) Classroom	0
(D) Conference	0
(E) Storage	0
(F) Departmental	0
(G) Other	0

1/9/76
Draft

UNIT F COST ESTIMATE

<u>Construction</u>		\$14,979,382
<u>Sitework</u> (including lighting walks, landscaping, demolition)		228,550
<u>Off-site Work</u> (Prorated parking ramp (actual))		10,000
<u>SAC Charge</u>		25,000
<u>A/E Fees</u>		
Base fee at 7% of construction cost	\$1,048,557	
ECX fee	25,000	
ECS fee	100,000	
Redesign and re-evaluation	100,000	
Change orders (3% x 7% x construction cost)	31,457	
Extra services	30,000	
Prorated Master Planning (actual)	29,953	
Prorated old Unit E plan (actual)	5,458	1,370,425
<u>Consultants</u>		
Special	10,000	
Scheduling	75,000	
Costs	50,000	135,000
<u>Miscellaneous Incidental Expenses</u> (Including travel, office expense, printing, etc. - \$23,000 to date)		30,000
<u>Supervision</u> (1.25% of construction cost)		187,242
<u>Site Survey</u>		37,000
<u>Miscellaneous Engineering</u>		30,000
<u>Material Testing</u>		25,000
<u>Movable Equipment</u>		2,293,155
<u>Contingencies</u> (3% of construction cost)		449,382
<u>Control Center Wiring</u>		75,000
<u>Building Activation</u>		25,000
<u>Permits</u> (.002 of construction cost)		29,959

<u>Health Sciences Planning Office</u>	\$ 100,000
<u>Land Acquisition</u>	<u>919,400</u>
Total Esimated Project Cost	<u><u>\$20,949,495</u></u>

FUNDS AVAILABLE

1969 Legislative Appropriation	\$ 318,000
1971 Legislative Appropriation	330,000
1971 Legislative Appropriation for Land Acquisition	1,021,400
1975 HEW Pharmacy Grant Commitment	4,288,811
1975 HEW Nursing Grant Commitment	3,976,557
Private Donations	<u>-0-</u>
Sub-total	\$ 9,935,768
1976 Legisltative Request	<u>11,104,727</u>
Funds Available	<u><u>\$20,949,495</u></u>

1/30/78

PRELIMINARY BUDGET BREAKDOWN

CONSTRUCTION \$16,532,000

NON-CONSTRUCTION COSTS (Site):

Demolition	\$	-0-	*
Water Service		15,700	
Walks, Steps, Curbs		29,300	
Landscaping		20,000	
Remove existing utilities		-0-	
Sign, guardrails, etc.		5,000	
Temporary Drives, walks		2,000	
Testing & Balancing		31,500	
Electric Service		50,800	
Total Non-construction Costs (site)	\$	<u>154,300</u>	

NON-BUILDING COSTS (Fees):

A/E Base Fee @ 6.2%	\$	1,024,984
A/E Extra Services		50,000
A/E Reimbursables		50,000
CM Lump Sum Fee		190,000
CM Reimbursables		10,000
Vibration Consultant		7,000
Total Non-Building Costs (Fees)	\$	<u>1,331,984</u>

NON-BUILDING COSTS (Miscellaneous):

Temperary Heat & Power	\$	90,000
SAC Charges @.2%		33,064
Construction Supervision @ 1.25%		206,650
Miscellaneous Expense		71,000
Site Survey		-0-
Miscellaneous Engineering		30,000
Materials Testing		25,000
Building Activation		25,000
Control Center Wiring		50,000
Building Permits @ .2%		33,064
Health Sciences Planning Office @1.25%		206,650
Contingencies @3%		495,960
Total Non-Building Costs (Miscellaneous)	\$	<u>1,266,388</u>

MOVEABLE EQUIPMENT/FURNISHINGS \$ 1,945,928

Total Preliminary Budget Breakdown \$21,230,600

*Included in Land Acquisition

October 18, 1978

FINAL PROJECT COST SUMMARY

Based on Actual Bids Less Deductive Alternates

CONSTRUCTION COSTS:		\$17,094,300
NON-CONSTRUCTION COSTS (Site):		
Demolition	\$ -0-	
Water Service	-0-	
Walks, Steps, Curbs	1,569	
Remove Existing utilities	-0-	
Landscaping	31,734	
Sign, Guardrails, etc.	3,950	
Temporary drives, walks, etc.	-0-	
Testing and Balancing	60,000	
Electric Service	<u>37,530</u>	134,783
NON-BUILDING COSTS (Fees):		
A/E Base Fee @ 6.2%	1,083,951	
A/E Extra Services	50,000	
A/E Reimbursables	50,000	
CM Lump Sum Fee	190,000	
CM Reimbursables	10,000	
Vibration Consultant	<u>7,000</u>	1,390,951
NON-BUILDING COSTS (Miscellaneous):		
Temporary Heat and Power	90,000	
SAC Charges	33,000	
Construction Supervision @ 1.25%	213,678	
Miscellaneous Expense	71,000	
Site Survey	-0-	
Miscellaneous Engineering	30,000	
Materials Testing	25,000	
Building Activation	25,000	
Control Center Wiring	50,000	
Building Permits @.2%	34,188	
Health Sciences Planning Office	106,650	
Contingencies @ 3%	<u>512,829</u>	1,191,345
MOVABLE EQUIPMENT/FURNISHINGS		<u>1,419,221</u>
TOTAL PROJECT COST (budgeted)		<u>\$21,230,600</u>
TOTAL PROJECT FUNDS AVAILABLE		<u>\$21,230,600</u>

PROJECT SOURCE OF FUNDS

1975 HEW Pharmacy Grant	\$ 4,288,811
1975 HEW Nursing Grant	3,976,557
1977 State Appropriation	<u>12,965,232</u>
Total Funds Available	<u>\$ 21,230,600</u>

AWARD OF CONTRACTS

The project employed a phased construction sequence involving four (4) separate construction phases and six (6) separate construction contracts. These phases and contracts are described as follows:

<u>Phase</u>	<u>Contract</u>
I - ECX	- Early Excavation, Contractor
II - ECS	- Early Steel Fabrication, Contractor
III - ECF	- Early Footings, Contractor
IV - General Construction	- General Contractor - Mechanical Contractor - Electrical Contractor

The site was made available to the excavation contractor in November, 1977 and an excavation contract (ECX) with a value of \$368,800.00 was awarded to Carl Bolander and Sons in that month. The contract was executed without incident; with the exception of a minor water problem due to rain. 30,000 cubic yards of soil was removed and a ramp for vehicles was excavated in the hole. Shoring was included in this contract.

It was during this phase in the construction sequence that a consultant for schedule management became involved. The University signed a contract with the firm 'Cost, Planning and Management International, Inc.' of Des Moines, Iowa for the services. They provided monthly updates and proposed start and finish dates for every activity and actual dates for every activity. Thus we were aware at all times what lay ahead as far as labor schedules and ordering of materials and deliveries to the site. No matter what delays or improvements in schedule occurred, CPMI, provided reports which kept work loads, activities, manpower, and materials deliveries in the proper sequence related to actual conditions; thus saving time and money by maintaining

a coherent flow of all aspects of construction from excavation, steel erection through final completion of general contract work. The University was constantly aware of progress and impediments to progress.

A sample of CPMI's monthly report is included here to illustrate the value of this type of schedule monitoring. As the tasks increased, the monthly report became quite voluminous with computer print outs and narratives on critical activities plus suggestions on schedule improvements.

PROJECT University of Minnesota—Unit F JOB NO. CP0803

UPDATE NO. 2 AS OF 07 March 1979

PERCENT COMPLETE:

	UD <u>1</u>	UD <u>2</u>	INCREASE
General	<u>2.69 %</u>	<u>5.57 %</u>	<u>2.88 %</u>
Mechanical	<u>6.89 %</u>	<u>9.85 %</u>	<u>2.96 %</u>
Electrical	<u>3.15 %</u>	<u>4.90 %</u>	<u>1.75 %</u>
	<u> %</u>	<u> %</u>	<u> %</u>
TOTAL	<u>3.74 %</u>	<u>6.70 %</u>	<u>2.96 %</u>

SCHEDULE

CONTRACT Completion	<u>18 August 1980</u>
Project Completion - Update # <u>1</u>	<u>26 August 1980</u>
Project Completion - Update # <u>2</u>	<u>29 August 1980</u>

The following activities are critical:

ACTIVITY	DESCRIPTION	EARLY START	EARLY FINISH	FLOAT
1G2130	Conc. reinf. struct Fl 1	7 Mar 79	16 Mar 79	-8
1G2180	Conc. reinf. fdn. wall 1-2	7 Mar 79	23 Mar 79	0
1G1360	Pour struct. slab Fl 1	9 Mar 79	16 Mar 79	-8
1G2190	Pour fdn wall 1-2	9 Mar 79	23 Mar 79	0
1G2200	Conc. reinf. fdn. wall 2-3	14 Mar 79	2 Apr 79	3
1G2210	Pour fdn wall Flr 2-3	21 Mar 79	5 Apr 79	1
1M2162	U grd waste & vent	13 Mar 79	2 Apr 79	-9
1G2168	Pour slab on grade	28 Mar 79	10 Apr 79	-11
1G1390	Pour fill slab Fl 2	20 Mar 79	28 Mar 79	0
1G2170	Interior fireproof Fl 1	29 Mar 79	3 Apr 79	0
1G2220	Conc reinf sloping slabs	6 Apr 79	19 Apr 79	1
1G2230	Pour sloping slabs Fl 3	11 Apr 79	20 Apr 79	1
1G1820	Erect precast to 6th Fl So	17 Apr 79	24 Apr 79	0



COST, PLANNING & MANAGEMENT INTERNATIONAL, INC.
2015 Grand Avenue □ Des Moines, Iowa 50312 U.S.A

**PROJECT UPDATE
STATUS**

COMPARISON OF CRITICAL ACTIVITIES BETWEEN UPDATES #1 & #2

<u>Activity Number</u>	<u>Description</u>	<u>Finish Update #1</u>	<u>Finish Update #2</u>	<u>Days Gained (+) or Lost (-)</u>
1G2120	Pour fdn wall B-1 1 1/2	27 Feb 79	23 Mar 79	-18
1G1360	Pour struct slab F1-1	2 Mar 79	16 Mar 79	-10
1G1390	Pour fill slab F1-2	22 Feb 79	28 Mar 79	-24
1G1160	Erect stl tier 4	6 Mar 79	16 Mar 79	- 8

The primary reasons for these delays include the slow start-up by the forming contractor, steel conflict at S-2 & 18, and a misunderstanding regarding the start of concrete fill slab operation.

The project completion date as of Update #2 indicates the project is behind 9 days rather than the 24 days indicated above. While 24 days were lost from the previous update, most of this lost time was recovered by overlapping ruf-in activities on adjacent floors including all piping activities, ductwork, drywall and integrated ceiling systems. Contractors are urged to review the overlapped activities and their durations as they affect anticipated manpower restrictions. The charts accompanying this update will assist the contractors in their review of the schedule.

Kraus-Anderson has developed an ambitious schedule for the next month; however, with proper coordination, completion of the work outlined on schedule is possible and, in fact, must be accomplished to make up for the time lost last period. The concerns outlined last month regarding enclosure and availability of craftsmen are still present. However, if the schedule, as outlined by Kraus-Anderson, is maintained, piping ruf-in operations could begin on Floor 1 April 4, 1979.

	<u>EARLY START</u>	<u>LATE FINISH</u>	<u>FLOAT</u>
A. <u>ENCLOSURE</u>			
1. Steel erection/detail	Present	26 Apr 79	0
2. Concrete fill slabs F1 2-5	20 Mar 79	18 Apr 79	-9
3. Concrete fdn wall to F1 3	Present	5 Apr 79	1
4. Sloped slabs @ F1 3	6 Apr 79	20 Apr 79	1
5. Architectural precast	17 Apr 79	16 Aug 79	0
6. Curtain wall	15 May 79	27 Sep 79	70
7. Window wall	23 Jul 79	27 Sep 79	7
8. Roofing	27 Aug 79	27 Sep 79	0
9. Unit F Enclosed	28 Sep 79	28 Sep 79	0
B. <u>BASEMENT</u>			
1. Structural slab F1-1	Present	16 Mar 79	
2. Under grd. waste/vent	13 Mar 79	2 Apr 79	
3. Slab on grade	28 Mar 79	10 Apr 79	
4. Fireproof basmt	11 Apr 79	16 Apr 79	
5. Ruf-in: Finish Bsmt	17 Apr 79	17 Dec 79	
C. <u>FIRST AND SECOND FLOORS</u>			
1. Fill slab F1 2	20 Mar 79	28 Mar 79	
2. Mech support devices F1 1 & 2	29 Mar 79	9 Apr 79	
3. Interior fireproof F1 1	29 Mar 79	3 Apr 79	
4. Interior fireproof F1 2	10 Apr 79	13 Apr 79	
5. Ruf-in Floor 1	29 Mar 79	10 Aug 79	
6. Finish Floor 1	24 Jul 79	21 Apr 80	
7. Ruf-in Floor 2	21 Mar 79	31 Aug 79	
8. Finish Floor 2	13 Aug 79	13 Mar 80	

The next contract to be awarded was for early steel procurement (ECS); to alleviate the traditional problem of long delays from fabrication after general contracts had been awarded. This contract for procurement, fabrication and site delivery of steel member was awarded in the amount of \$1,393,000.00 to Paper, Calmenson and Company of St. Paul, Minnesota.

Approximately 2,100 tons of steel were ordered and a delivery schedule developed to coincide with the general construction schedule. The contract was awarded in May, 1978.

The last early contract to be awarded before general construction was for column footings, perimeter foundation and the elevator pit (ECF) to insure steel erection by the Prime General Contractor could occur at the earliest possible date. This early footings contract was awarded for \$78,500.00 to Arkay Construction Company of Minneapolis, Minnesota.

Three prime contracts were awarded for work related to the General Construction of Unit F - Pharmacy/Nursing Facility; General Construction, Mechanical Contract and Electrical Contract.

The General Prime winning award was Kraus Anderson of Minneapolis, Minnesota with a Net Base Bid after deductive alternates of \$9,461,725.00.

The Mechanical Prime winning award was Axel Newman Heating and Plumbing of St. Paul, Minnesota with a Net Base Bid after deductive alternates of \$4,268,400.00.

The Electrical Prime winning award was Electric Repair and Construction of Minneapolis, Minnesota with a Net Base Bid after deductive alternates of \$1,523,875.00.

Progress on construction by the trades was relatively uneventful until labor contract negotiations failed to produce agreement. Strikes occurred in many trades; the first being plasterers in June of 1979 and the last being electricians in April of 1980. Many of the trades strikes overlapped but all schedules on all projects were affected adversely. Strikes ended on June 6, 1980.

Ultimately, the project was to experience a six (6) month delay in the completion date due to strikes and general contractor problems, although the general was absolved of responsibility for the delay.

Due to the bidding climate in the Fall of 1978, it was assumed that the project would need to accept some of the deductive alternates identified in the bid documents. It is the University's practice to identify ten percent (10%) of the proposed construction cost in small packages of work to be omitted for specific values to allow award in the event that bids come back over the amount of funds available.

In Unit F, twenty-seven (27) deductive alternates were identified. Some examples are:

Alternate #27 - Omit suite of rooms for Pharmacy Educational Development.

Alternate #23 - Omit environmental room #9-144.

Alternate #21 - Omit Greenhouse, etc.

At the time of award, fourteen (14) of the deductive alternates were bought back by the University and included in the construction contracts. This buy back totaled \$488,200.00 in construction dollars and was included in the construction award amounts identified earlier in this section of this report.

As in all projects, there were a number of modifications required to either correct and improve the construction or to deal with an unforeseen condition. Unit F had nineteen (19)

change orders written to the General Construction Contract, fourteen (14) written to the Mechanical Construction Contract, and twelve (12) change orders written to the Electrical Construction Contract. These 45 change orders represented 109 separate modifications to the total project. Some of these changes also bought back additional deducts, some improved mechanical systems and controls, and a number were program changes. Often a department would wish to make a small change, due to new equipment coming onto the market or a new requirement due to a change in research directions. All changes or modifications were reviewed and approved by, first the architect, then Engineering and Construction personnel from the University, and the whole process of modifications were monitored and approved by the Health Sciences Planning Office. The Construction Supervision Division then processed a change order to the construction contract that changed the dollar amount of the contract. The Planning Office notified appropriate parties to insure code compliance and adherence to Federal Guidelines. The Health Sciences Planning Office was the representative for the using departments during the construction phase just as they were on the design phases.

During the construction phase, the Health Sciences Planning Office gathered the information and specifications necessary to order the moveable equipment for the project. Bid documents were prepared and bids reviewed and accepted on equipment. They also supervised the installation of all equipment in the project.

The University's Interior Design Division managed the ordering, purchase and installation of furnishings within budget allotments for each department. The Graphics Department provided the expertise and manpower for the design and installation of all room numbering and directional graphics. Artwork selection and purchase was done as a joint effort by the Departments; Interior Design, Graphics and the Health Sciences Planning Office.

Due to the construction delays and pressure upon the School of Nursing and College of Pharmacy to vacate the space they were occupying in Powell and Appleby Halls, the University pressed for an early and phased occupancy of Unit F.

Nursing moved in January of 1981 into the lower floors of the Building assigned to them. Work continued on the upper floors, 7, 8 and 9 after partial occupancy.

Pharmacy moved into the upper floors in September of 1981. The Greenhouse was occupied in April of 1982; completing the occupancy in the complex.

DESIGN AND CONSTRUCTION PROBLEMS

During the construction phases a number of problems arose that were attributable to architectural errors or omissions, construction errors by the contractors or suppliers, or a misunderstanding of the program requirements by all parties involved. These problems do not appear to represent more than the average number of contingencies on a project of this size, with the exception of a heating system failure which occurred after occupancy.

Some examples of a typical error, requiring correction with contingency funds, are: steel supports for folding partitions not included in documents, corrections to countertops around sinks, revisions required due to existing conditions in Unit A columns, and many more fairly typical construction difficulties requiring attention. Extensive effort was needed from the University to insure that the contractor made corrections to the precast exterior panels on the building to insure consistency of color and texture of the aggregate.

After final occupancy in 1981, the midwest experienced a winter (1981-1982) of extraordinary record breaking severity. Although the building was designed for extremes in temperature and weather conditions, it experienced nearly three dozen frozen and burst pipes in soffits and mechanical cores. Corrective measure such as adding heaters and increasing insulation and chaulking are in progress. It is estimated that damages and costs of corrections will exceed \$100,000.00. The causes of the failures seem to be shared by the contractors, architects, and the University's engineers.

Lastly, there is an ongoing problem of lack of control of the greenhouse systems. It appears that the system is too

sophisticated, or over-designed, and is defeating itself in its attempts to provide perfect temperature and humidity control. The University is taking steps to simplify the control system.

The bids for the construction phase of the Unit F project were received on September 28, 1978. The latest construction cost estimates of \$16.5 million had placed the project in the position of having a potential \$224,000.00 project deficit. When the bids were received, the project faced an overall project deficit of \$908,007.00.

The Health Sciences Administration determined that it was in the best interest of the project and the University to award the project. This was done by taking deductive alternates, systematically reducing non-building line items and transferring \$526,000 from the equipment budget to the construction budget. When the Administration decided to allot the \$526,00 to the construction budget, it was agreed that any excess funds at the end of the project, if any, would be returned to the Schools for equipment purchases.

The contingency funds for this project are spread through the construction contracts, the architects fees for modifications, builders' risk insurance, early planning expenditures and project shakedown funds.

The following financial status report indicates the final budget on October, 1978, the time of award, and a comparison of the final budget to the actual expenditures as of May 1, 1982. Obviously, then, some of the actual expenditures will have changed by the time the project is completely shut down.

Additional major expenditures are expected to correct the heating system problems, the greenhouse and additional equipment purchases.

From the original position of a \$908,007.00 deficit to the current status of the project, the project is considered to have been extremely successful.

Source of Funds:

Health Sciences Administration	\$ 30,000.00
HEW Grant - Pharmacy	4,288,811.00
HEW Grant - Nursing	3,976,557.00
State Legislature	<u>12,965,232.00</u>
Total Funds Available	\$21,260,600.00
Projected project expenditures	<u>21,253,705.00</u>
Potential balance of funds	\$ 6,895.00 (1)

(1) Remaining funds will be used for additional Architect and CPMI fees.

UNIT F
FINANCIAL STATUS
MAY 1, 1982

	Final Budget 10/1/78	Actual Project Expenditures
<u>CONSTRUCTION COSTS:</u>		
Prime Contracts:		
Krause Anderson - General	\$ 9,461,725.00	\$ 9,708,925.37
Axel Newman- Mechanical	4,268,400.00	4,355,805.00
Electric Repair & Construction - Electrical	1,523,875.00	1,574,453.48
Total Contracts Previously Awarded:		
ECX - Early Excavation	368,800.00	368,800.00
ECF - Footings Contract	78,500.00	78,855.00
ECS - Early Steel	1,393,000.00	1,403,232.00
Total Construction Costs	\$17,094,300.00	\$17,490,071.85
<u>NON-CONSTRUCTION COSTS (Site):</u>		
Demolition	\$ -0-	\$ -0-
Water service	-0-	621.93
Walks, Steps, curbs	1,569.00	-0-
Landscaping	31,734.00	45,005.89
Remove Utilities	-0-	-0-
Sign and guardrails	3,950.00	590.81
Temporary Drives, etc.	-0-	-0-
Testing and Balancing (included in building activation)	60,000.00	-0-
Electric service	37,530.00	4,821.33
Total Non-Construction (Site)	\$ 134,783.00	\$ 51,039.96
NON-BUILDING COSTS (Fees):		
A/E Base Fee	\$ 1,083,951.00	\$ 1,092,857.24
A/E Extra Services	50,000.00	9,519.35
A/E Reimbursables	50,000.00	42,363.74
Modification Fees	-0-	23,025.27
Redesign Fees	-0-	8,234.40
Total A/E Fees	\$ 1,183,951.00	\$ 1,176,000.00
Cost Planning & Management	\$ 190,000.00	\$ 192,000.00
Cost Planning & Management Reim- bursables	10,000.00	-0-
Total CPMI Fees	\$ 200,000.00	\$ 192,000.00
Virbration Consultant Fees	\$ 7,000.00	-0-
Total Non-Building (Fees)	\$ 1,390,951.00	\$ 1,368,000.00

UNIT F FINANCIAL STATUS
AS OF 5/1/82 (continued)

NON-BUILDING COSTS (Miscellaneous):

Temporary Heat & Power	\$ 90,000.00	\$ 25,490.49
SAC charges	33,000.00	11,200.00
Construction Supervision	213,678.00	243,281.15
Miscellaneous Expenses	71,000.00	2,561.42
Site Survey	-0-	-0-
Miscellaneous Engineering	30,000.00	43,945.22
Materials Testing	25,000.00	7,106.40
Building Activation	25,000.00	54,720.42
Control Center Wiring	50,000.00	50,000.00
Building Permits	34,188.00	34,187.60
Health Sciences Planning Office	106,650.00	161,630.00
Contingencies	512,829.00	-0-
Early Planning	-0-	118,617.48
Builders Risk Insurance	-0-	48,732.41
Project Shakedown	-0-	90,000.00
Kisoks Less Reimbursements		3,900.00
	<hr/>	<hr/>
Total Non-Building (Miscellaneous)	\$ 1,191,345.00	\$ 895,372.58
EQUIPMENT AND FURNISHINGS	<u>1,419,221.00</u>	<u>1,449,221.00</u>
TOTAL PROJECT COST	<u>\$21,230,600.00</u>	<u>\$21,253,705.39</u>

* Not included in the above figures is the previously expended \$919,400 for land acquisition.

** \$30,000 additional in equipment and furnishings is a donation for equipment from Health Sciences Administration

The following is a breakdown of the actual contract award showing the base bid less actual deductive alternates:

CONSTRUCTION COSTS:

Prime Contracts:

1. General Construction

Kraus Anderson, Minneapolis, Minn.

Base Bid: \$9,846,000

Less: Deductive Alternates

G-3	Omit Elevator	114,300
G-4	Omit Rolling Metal Shelves	8,000
G-5	Omit Oven/Dryer/Sterilizer	7,000
G-8	Omit Drying Ovens	43,000
G-9	Omit Certian Lab fume hoods	17,000
G-10	Omit select Laminar flow hoods	3,300
G-12	Omit Pharmacy Environmental rooms	18,600
G-16	Omit Selected plastic laminate casework	9,927
G-17	Omit student lockers 1st floor	65,000
G-18	Omit select metal casework	31,731
G-20	Omit site work	54,342
G-21	Omit greenhouse, potting room equip.	12,075

Total deductive alternates 384,275

CONTRACT AWARD \$9,461,725

Mechanical Contract

Alex-Newman Heating & Plumbing
St. Paul, Minnesota

Base Bid: \$4,360,000

Less: Deductive Alternates

M-1	Use Low pressure chiller system	64,000
M-2	Omit hear recovery unit	6,500
M-9	Omit fume hoods - Pharmacy	3,000
M-12	Omit Environmental Room Pharmacy	500
M-16	Omit Plastic Laminate Casework	400
M-18	Omit Certain Lab metal Case-work	1,200
M-21	Omit Greenhouse, etc.	16,000

Total deductive alternates 91,600

CONTRACT AWARD

\$4,268,400

Electrical Contract

Electric Repair and Construction
Minneapolis, Minnesota

Base Bid:

\$1,534,000

Less: Deductive Alternates

E-1	Use Low Pressure Chiller system (add)	+ 1,100
E-2	Omit heat recover system	- 150
E-3	Omit elevator elec. work	- 125
E-5	Omit Phar. oven/dryer/ sterilizer	- 50
E-9	Omit Lab. fume hood-Pharm	- 400
E-16	Omit select plastic laminate casework	- 1,950
E-18	Omit Select metal lab. case- work	- 550
E-20	Omit site work	5,100
E-21	Omit greenhouse, potting rm, equip.	<u>- 2,900</u>

Total deductive alternates

10,125

CONTRACT AWARD

\$1,523,875

Total contracts previously awarded:

ECX - Early Excavation	368,800
ECF - Foundation contract	78,500
ECS - Steel Contract	<u>1,393,000</u>

TOTAL CONSTRUCTION CONTRACT AWARDS

\$17,094,300

SUMMARY

In effect the completion of Unit F represents the completion of the Health Sciences Expansion Project established by the Long Range Master Plan developed in the 1960's. The structure, with its eleven occupied floors, was constructed within budget using Federal and State funds.

Construction began in November, 1977 and the structure was completed and occupied in September, 1981. The total project cost including fees, services, equipment and furnishings was \$21,230,600.

The structure house the College of Pharmacy and the School of Nursing primarily. For a summary of space assignments, refer to page thirty-seven (37) of this report.

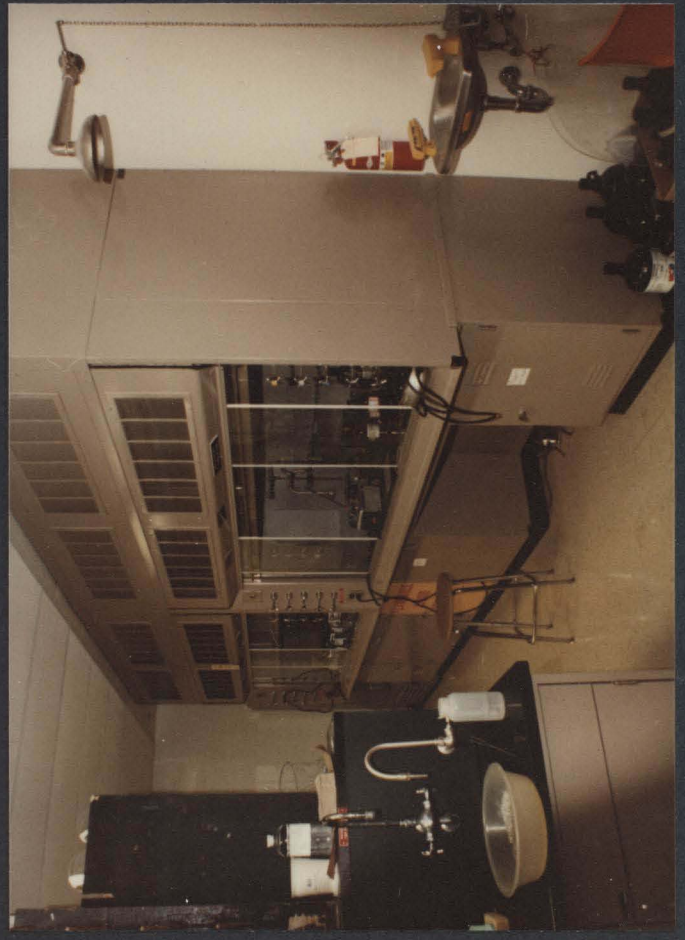
PHOTOGRAPHS

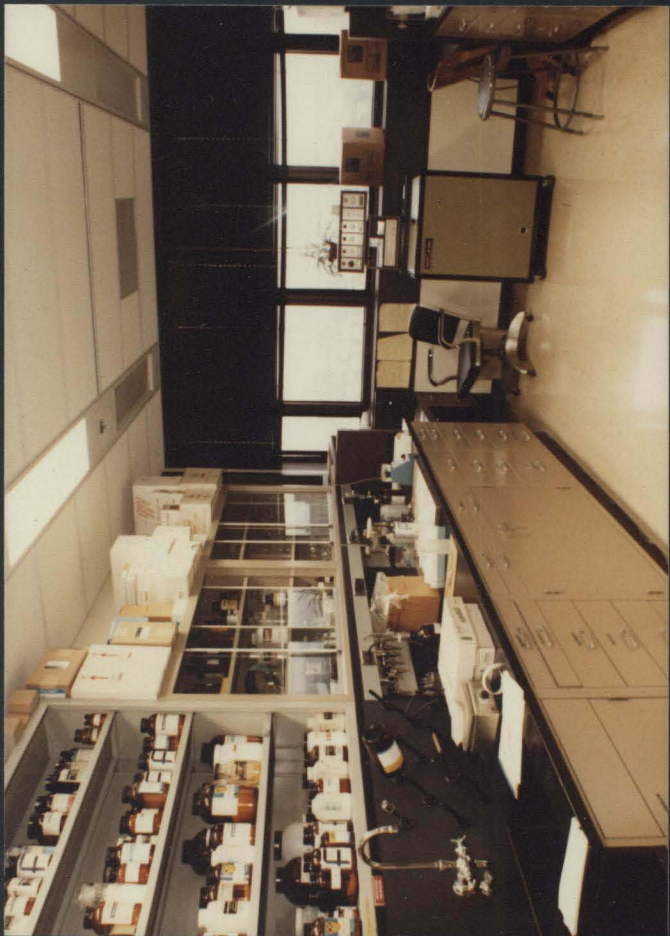


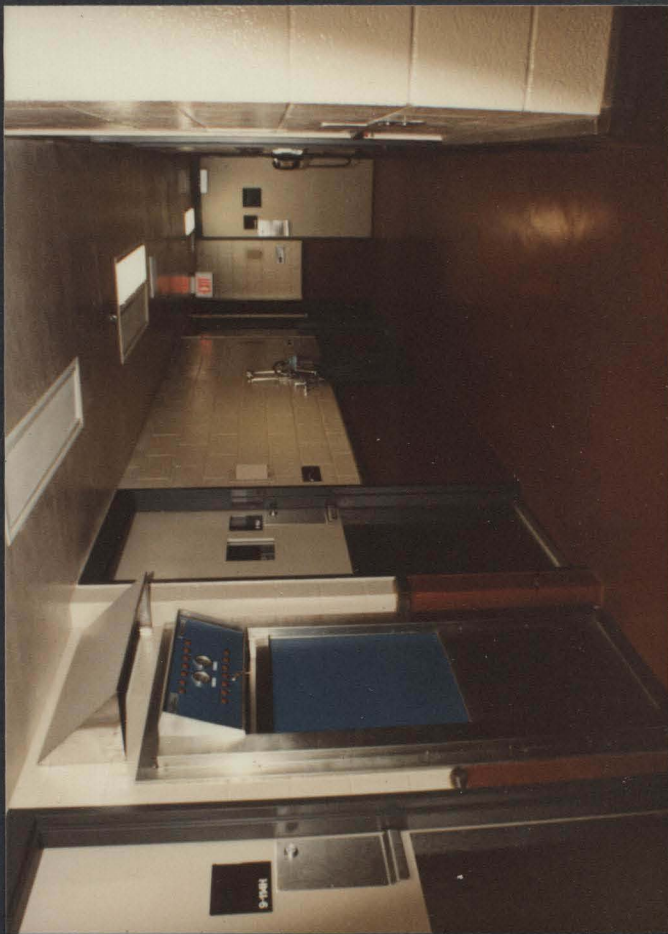












UNIVERSITY OFFICIALS AND STAFF

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Roy Anderson	Engineering and Construction
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Gwen Schagrin	Department of Interior Design
Tom Kyle	Project Manager, Health Sciences Planning Office
Gary Zaworski	Former Project Manager, Health Sciences Planning Office

We wish to acknowledge all the department and staff members who made valuable contributions to this project. While the listing of names is not possible in this report, we are aware that the efforts of these employees were invaluable to the project and successful completion of the Health Sciences Unit F building.