

BASIC DESIGN STUDY REPORT
ON
THE NURSE TRAINING CENTRE PROJECT
IN
THE SOCIALIST REPUBLIC OF THE UNION OF BURMA

MARCH 1983

JAPAN INTERNATIONAL COOPERATION AGENCY

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PREFACE

In response to the request of the Government of the Socialist Republic of the Union of Burma, the Government of Japan decided to conduct a Basic Design Study on the Nurse Training Centre Project and entrusted the survey to the Japan International Cooperation Agency. The J.I.C.A. sent to Burma a survey team headed by Ms. Kimi TSUZUKI, Vice President, Social Insurance Central School of Nursing from 21st November to 3rd December, 1982 (Phase I) and from 11th December to 31st December, 1982 (Phase II).

The team had discussions with the officials concerned of the Government of Burma and conducted a field survey (in Rangoon). After the team returned to Japan, further studies were made and the present report has been prepared.

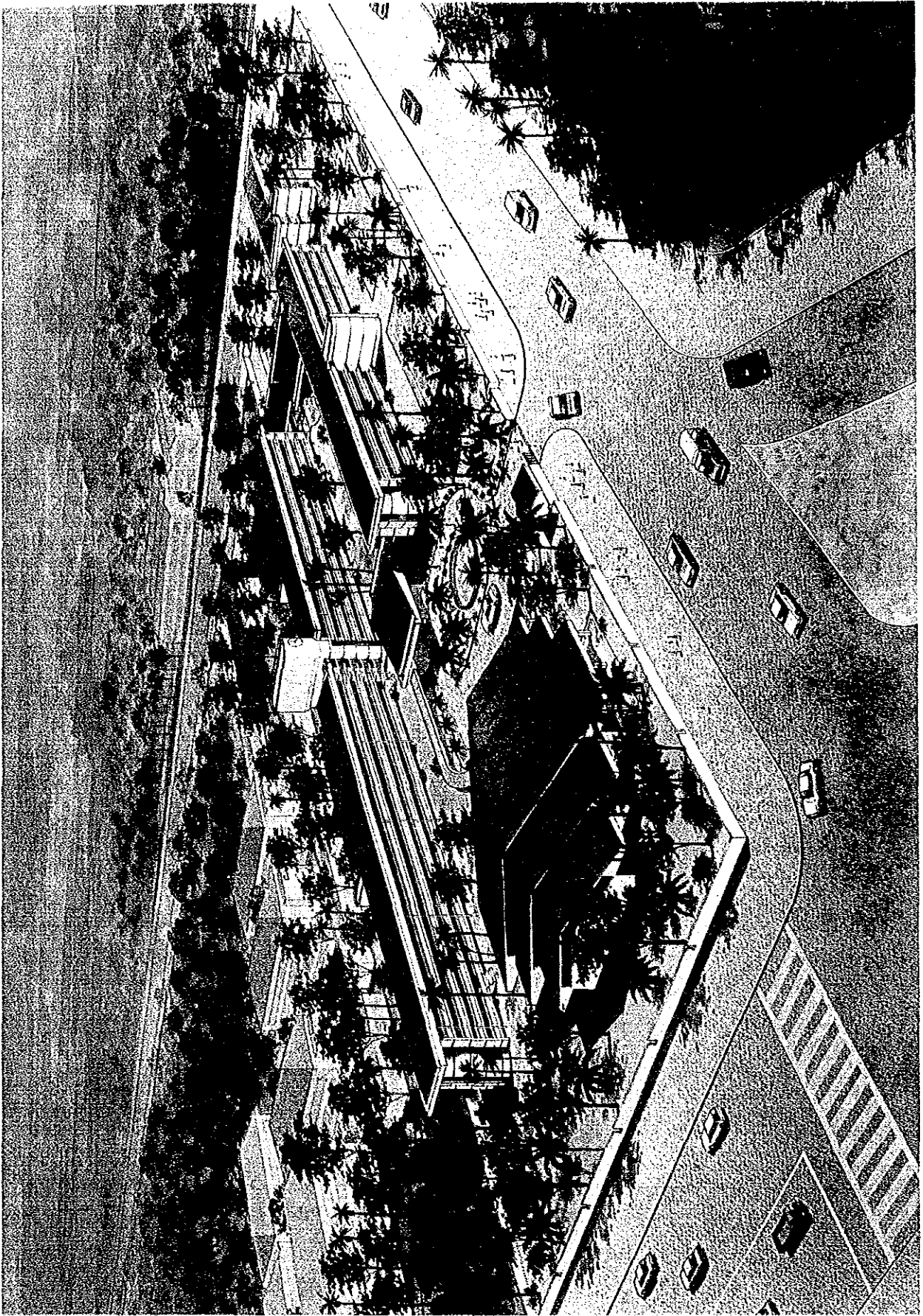
I hope that this report will serve for the development of the Project and contribute to the promotion of friendly relations between our two countries.

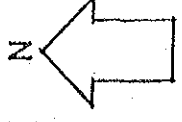
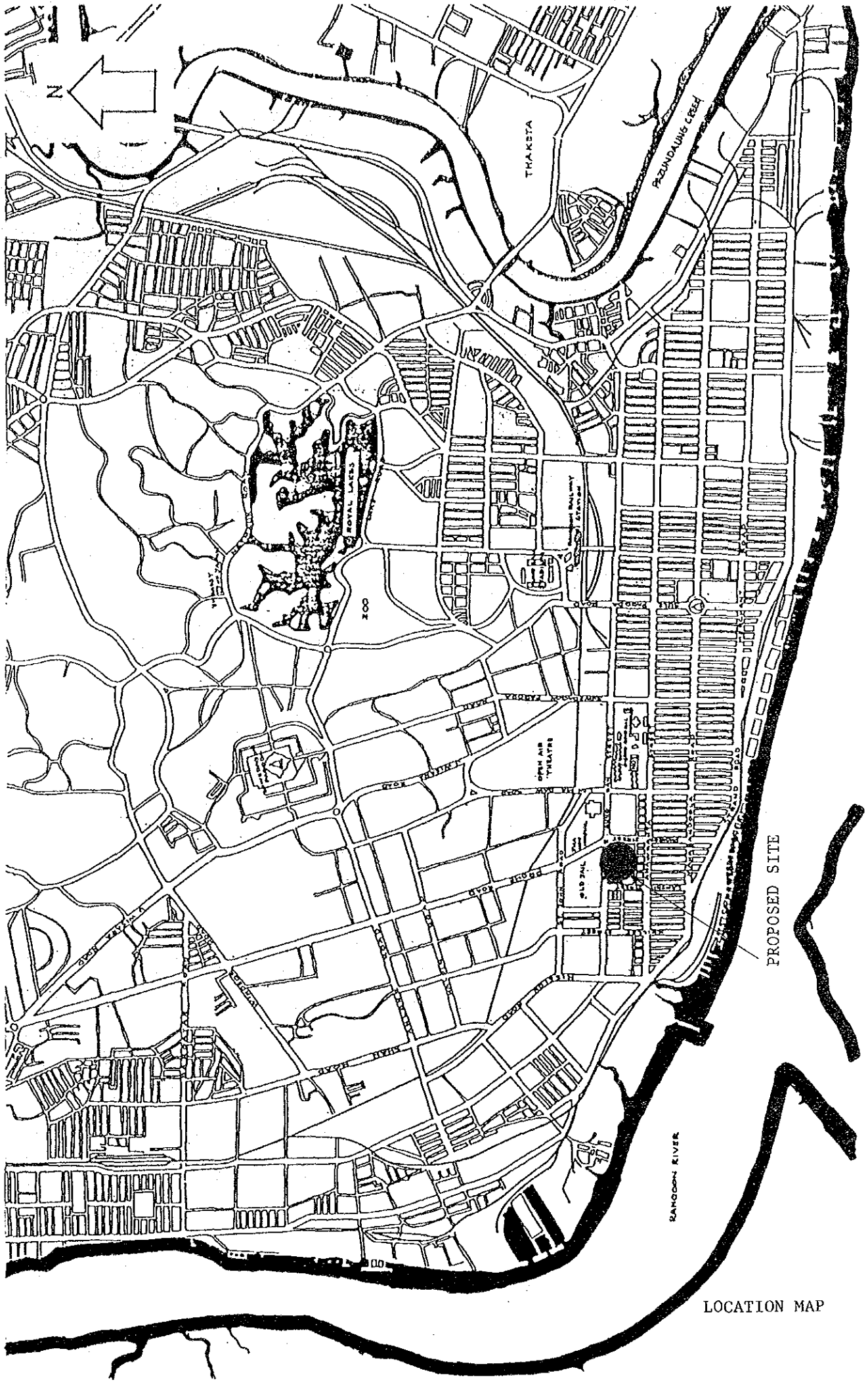
I wish to express my deep appreciation to the officials concerned of the Government of the Socialist Republic of the Union of Burma for their close cooperation extended to the team.

March, 1983



Keisuke Arita
President
Japan International
Cooperation Agency





THAKETA

PEZUNDUNG CREEK

ROYAL LAKES ZOO

OPEN AIR THEATRE

OLD PAL

SARAGOON RIVER

PROPOSED SITE

LOCATION MAP

TABLE OF CONTENTS

PREFACE

PERSPECTIVE

LOCATION MAP

SUMMARY	S - 1
CHAPTER ONE BACKGROUND OF THE PROJECT	1
A. INTRODUCTION.....	1
B. HEALTH, MEDICAL CARE AND NURSING CONDITIONS	1
1. General.....	1
2. Health Administration.....	3
3. Medical Care Conditions.....	4
4. Nursing Conditions.....	5
CHAPTER TWO NURSE TRAINING CENTRE PROJECT	7
A. OBJECTIVES	7
B. IMPLEMENTATION SYSTEM	7
1. Organization	7
2. Budgetary Allocations	9
C. TRAINING PROGRAMME	9
1. Trainees.....	9
2. Syllabus.....	10
D. TEACHING STAFF	14
CHAPTER THREE BASIC DESIGN	15
A. PROPOSED SITE	15
1. Site Selection.....	15
2. Site IV.....	18
3. Soil Conditions	21

B.	DESIGN PRINCIPLES	21
C.	SITE LAYOUT	24
	1. Facilities	24
	2. Approaches	24
	3. Building Layout	25
D.	BUILDING DESIGN	25
	1. Building Planning	25
	2. Structural Design	27
E.	UTILITY DESIGN	29
	1. General	29
	2. Electrical Design	30
	3. Ventilation Equipment	35
	4. Water Supply, Drainage and Sanitary Equipment	35
F.	EQUIPMENT DESIGN	38
G.	PROJECT IMPLEMENTATION PLAN	40
	1. Execution Structure.....	40
	2. Execution Plan	41
	3. Implementation Schedule.....	44
H.	DRAWINGS	45
	Plot Plan, Floor Plans, Elevations, Sections	
CHAPTER FOUR ADMINISTRATION AND MAINTENANCE PROGRAMME		55
A.	ADMINISTRATION AND MAINTENANCE PROGRAMME	55
B.	EXPENSES OF OPERATION AND MAINTENANCE	55
	1. Estimate	55
	2. Water Supply and Electric Charges	57
CHAPTER FIVE EVALUATION OF THE PROJECT.....		59

CHAPTER SIX	CONCLUSIONS AND RECOMMENDATIONS	61
A.	CONCLUSIONS	61
B.	RECOMMENDATIONS	61

APPENDIX

1.	MINUTES OF DISCUSSIONS	1
2.	PERSONNEL CONCERNED	11
3.	SCHEDULES IN BURMA	14

SUMMARY

It is common to all nations of the world to promote more and more the welfare of their people and to strengthen the basis of national production by upgrading health, hygiene and medical care. Burma is not an exception.

In Burma, the People's Health Programme has been established on the basis of its National Health Plan recommended by WHO, and outstanding efforts and achievements are being made in its implementation. However, improvement of present conditions of health and medical care is not entirely adequate due to the socio-economical situation of the country.

Shortage of nurses prevails in Burma. Statistics show 12.4 qualified nurses per 100 thousand population. Increase of nurses is an urgent task for the future development of medical care facilities and improvement of the health and medical care infrastructure. Due to scarcity of nursing training facilities, it is doubtful that proper training programmes could be arranged.

Under these circumstances, the Government of Burma has planned to establish a Nurse Training Centre to relieve the shortage of nurses/ midwives and to upgrade their training level. The Government of Burma has requested grant aid assistance from the Government of Japan for the Project. The Government of Japan has dispatched basic design study teams to confirm the requirements and appropriateness of the Project.

Requirements for trainee output and curriculum of nursing education to be conducted in the Centre were reviewed and confirmed by the study teams. Facilities and equipment appropriately required for training have been designed and selected.

Proposed construction site for the Centre is in an urban district of Rangoon City facing Bogyoke Aung San Road, one of main streets of the city. The site is located near the existing Rangoon General Hospital and a new hospital being constructed by grant aid assistance of Japan.

The location is quite appropriate for nurse training which requires practical training. Topography and subsoil conditions of the site are ideal.

Site area is approximately 23,000 m² which is sufficient to accommodate all of the required facilities. Infrastructure of the site includes easy service connection of electric supply, water supply and drainage, however, for water supply, well boring will be required.

Facilities required for this Centre are principally a Training Wing, Auditorium and Hostel buildings. Additional appurtenant facilities of minor scale will also be required. Training equipment will be required in the Training Wing.

Area of facilities recommended is as follows:

	<u>Floor area</u>
Training Wing	3,327 m ²
Auditorium	900
Hostel buildings	6,707
Dining-Utility	696
Covered walks	297
<hr/>	
Total floor area	11,927 m ²

Period necessary for the construction of this Centre will be 34 months after Exchange of Notes between the two countries.

Governmental authority of Burma responsible for planning and implementation of this Centre is the Department of Health, Ministry of Health. Funds required for fulfillment of Burmese responsibilities in the implementation of the Project and for operation and maintenance of this Centre are to be allocated within the Budget of the Department of Health, Ministry of Health. Teaching staff required for this Centre will be appropriately fulfilled.

It has been confirmed by this Study that this Nurse Training Centre

Project will contribute to the improvement of medical care and health conditions in Burma by establishing a Training Centre which will increase the number of trained nurses/midwives with better training to be turned out every year. By proper implementation and execution, this project will be most appropriate and justifiable as a cooperation project between Burma and Japan.

CHAPTER ONE BACKGROUND OF THE PROJECT

CHAPTER ONE BACKGROUND OF THE PROJECT

A. INTRODUCTION

In response to the request by the Government of the Socialist Republic of the Union of Burma for grant aid assistance for the Nurse Training Centre Project, the Government of Japan has sent, through the Japan International Cooperation Agency (JICA), which is an official agency implementing the technical cooperation of the Government of Japan, Basic Design Study Teams in two phases, Phase I in November/December and Phase II in December 1982.

Phase I Team headed by Ms. Kimi Tsuzuki, Vice President, Social Insurance Central School of Nursing, carried out studies and held discussions with officials concerned of the Burmese Government, the results of which are set forth in the exchanged Minutes of Discussions. A copy of these Minutes is contained in the Appendix of this Report. Based on the results of Phase I studies, Phase II Team made supplementary surveys, mainly regarding the facilities and equipment for the Project. Basic design of facilities and equipment were made in accordance with the basic design studies. The results of field survey, results of discussions, and informations acquired in Burma through assistance and cooperation of officials concerned of the Government of Burma are outlined in this Report. A basic design of buildings, facilities and equipment is also contained.

B. HEALTH, MEDICAL CARE AND NURSING CONDITIONS

1. General

Every sick citizen in Burma has the right to receive medical treatment under the Constitution. However, medical care conditions must be improved as evidenced by the data indicated below:

According to statistics in Burma for 1978, crude birth rate per 1,000 population was 27.0, crude death rate 8.6, and infant mortality rate per 1,000 live births 46.0. Crude death rate decreased greatly in the 1960s, however, it has changed significantly in the 1970s.

Average life expectancy at birth in 1920s was 30.6 for males and 31.0 for females. This reached 56.3 for males and 60.2 for females in 1974. Causes of deaths in 164 urban towns in 1974 were: (1) influenza, pneumonia and bronchitis (11%), (2) enteritis and other diarrhoeal diseases (5.9%), (3) tuberculosis (all forms, 5.7%) and (4) heart diseases (4.3%). Single leading cause of diseases treated in township hospitals in 1970 - 1978 were: (1) malaria (12.9%), (2) enteritis and other diarrhoeal diseases (8.7%), (3) delivery without mention of complication (6.1%) and (4) pyrexia of unknown origin. Disease structure in Burma includes communicable diseases such as plague, cholera, dengue haemorrhagic fever and Japanese B. encephalitis. Nutrition condition in Burma shows that protein, carbohydrate and fat is insufficient in food intake, and there are cases of dermatosis and beriberi caused by avitaminosis.

Top ten ranking of priority health problems of the Country Health Programming in Burma in 1976 were (1) malaria, (2) protein calorie malnutrition, (3) pulmonary tuberculosis, (4) anaemia, (5) tetanus, (6) causes of maternal and perinatal morbidity and mortality, (7) hypovitaminosis, (8) leprosy, (9) cholera, and (10) accidents.

As an illustration of morbidity and medical treatment, figures of hospital service statistics in 1964 and 1974 are shown as follows.

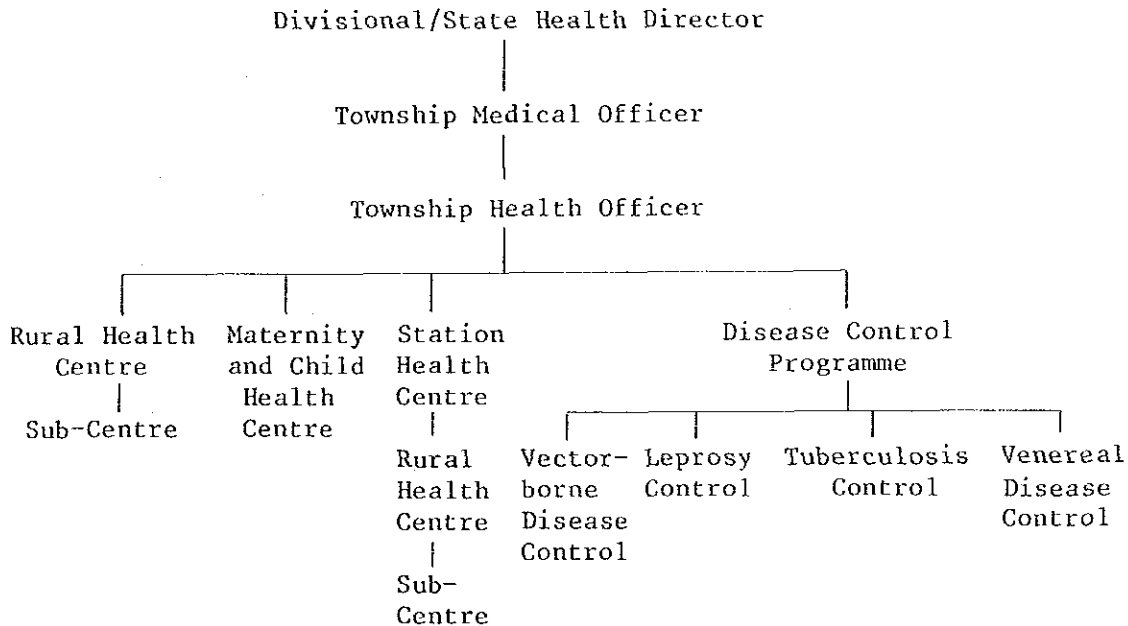
	<u>1964</u>	<u>1974</u>
(1) Average number of in-patient per day	14,190	23,880
(2) Percentage of occupancy	89%	94%
(3) Average turnover of patients per bed per year	26	39
(4) Average duration of stay	12.4	8.9
(5) Average number of out-patients per day	25,052	63,085

2. Health Administration

The authority and responsibility for health administration is with the Department of Health, Ministry of Health.

Activities of the organization for health administration broadly cover fields of medical care, public health care and disease control. These activities are supported by Laboratory Services, Health Statistics Section, Nutrition Project and Health Education Bureau. Also provided are Occupational Health, Environmental Sanitation, Port Health, and Medical Social Work. The Department of Health is headed by the Director-General who is responsible for its overall administration and planning. He is assisted by a Director and five additional Directors (Medical Care, Public Health, Disease Control, Laboratory and Planning, Administration, Finance and Training.).

At the intermediate level and the peripheral level, the administration set up is as follows:



The Department of Medical Education is headed by the Director-General who supervises undergraduate medical education, postgraduate medical education, and training of dental technicians and dental nurses.

There are three medical schools (institutes of medicine), five post-graduate medical schools, a college of dental medicine, and a school for dental technicians and dental nurses under the supervision of the Department of Medical Education. The Department of Medical Research is headed by the Director-General who is assisted in administrative matters by a Deputy Director and in research matters by other Deputy Directors.

There are thirteen Research Divisions and six Research Services Divisions. The Department of Sports and Physical Education is also headed by the Director-General who supervises sports and fitness activities.

3. Medical Care Conditions

National medical care provides, in principle, free services for medical examination and treatment under the Constitution of Burma. However, medical supplies are not always sufficient.

National health - medical care facilities are consisted of 17 General Hospitals (Teaching Hospitals) and Specialist Hospitals in urban areas, Divisional Hospitals (200 beds) and Township Hospitals (16 - 150 beds) and Station Hospitals in relatively urbanized areas, and Primary Health Centres (PHC) and Rural Health Centres (RHC). Total number of hospitals is 614 which have 25,000 beds in total. There are also 1,267 Rural Health Centres.

In hospitals of each type and PHC, doctor(s) and nurses/midwives are engaged in medical care. In RHC, Health Assistant is responsible for medical care services and is assisted by a Lady Health Visitor (LHV) and a Midwife.

Medical care facilities and medical manpower in Burma in 1981/82 are as listed as follows.

	<u>Total number</u>	<u>Per 100 thousand population</u>
Beds	25,283	72.5
Doctors	7,831	22.5
Nurses	4,326	12.4

The Government of Burma has made efforts to develop hospitals and health centres in order to improve existing conditions, and beds have been increased at a rate of 800 each year. This trend is to be continued in the future. There is a need to have a well planned programme for the production of nurses to meet the future requirement.

4. Nursing Conditions

a. Nurse Training

Nursing education is performed by established courses for applicants who have completed basic education and who have passed selective examination in order to turn out nurses, midwives and lady health visitors. The graduates are registered in the Midwives and Nurses Council. Lady Health Visitors are qualified by finishing the training course after years of experience as a midwife. Teaching staff of the training units are also qualified after finishing specified courses.

For nurse and nurse/midwife training, courses have been revised in 1980 to combine 3-year nurse training and 6-month midwife courses for nurse/midwife qualification. Entrance qualification for trainees is as follows.

Age	18 - 27 years
Education	11 year schooling (basic education, passed higher level examination)
Application	Accepted in each 7 States and 7 Divisions
Selection	Competitive examination in each State and Division

b. Training Facilities

There are seven nurse training units in Burma to turn out approximately 200 nurses/midwives every year.

<u>Units</u>	<u>Total Trainees</u>	<u>Intake</u>
1. Rangoon General Hospital	327	Twice a year
2. East Rangoon General Hospital	20	Once every 3 years
3. North Okkalapa General Hospital	30	Once a year
4. Mandalay General Hospital	83	Once a year
5. Moulmein General Hospital	45	Once a year
6. Taunggyi General Hospital	20	Once every 3 years
7. Bassein General Hospital	10	Once every 3 years

These seven training units conduct training by utilizing portions of the hospitals. Three of the seven units are not provided with sufficient classroom space and teaching staff to admit trainees every year, and once admitted, next entry of trainees is three years later after previous trainees have completed their training.

The Training Unit of Rangoon General Hospital has an enrollment of 450 trainees and seven teaching staff (six general nursing tutors plus one from the Hospital). This Unit uses a portion of the Hospital buildings built in 1906. Small classroom is packed with trainees and one classroom has round columns which hinder sight of the trainees. Teaching equipment such as anatomical models provided are rather old and out of date, and the facility built 76 years ago is at the end of its life span. It is clear that new facilities are required.

CHAPTER TWO NURSE TRAINING CENTRE PROJECT

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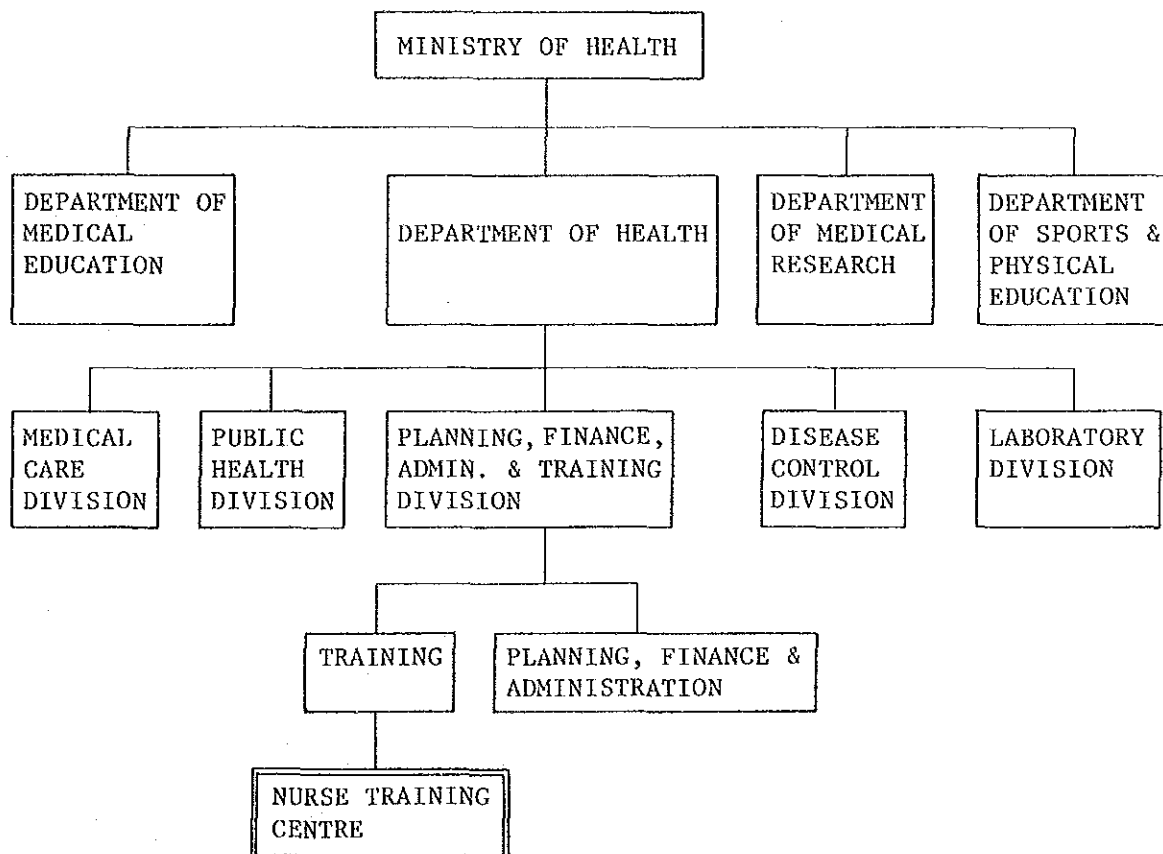
A. OBJECTIVES

Objectives of this Project are to increase the production of the trained nurses and to improve the quality of nursing training by constructing a Nurse Training Centre. The Centre will serve as the model centre for training of nurses and will contribute to the improvement of the health situation in Burma.

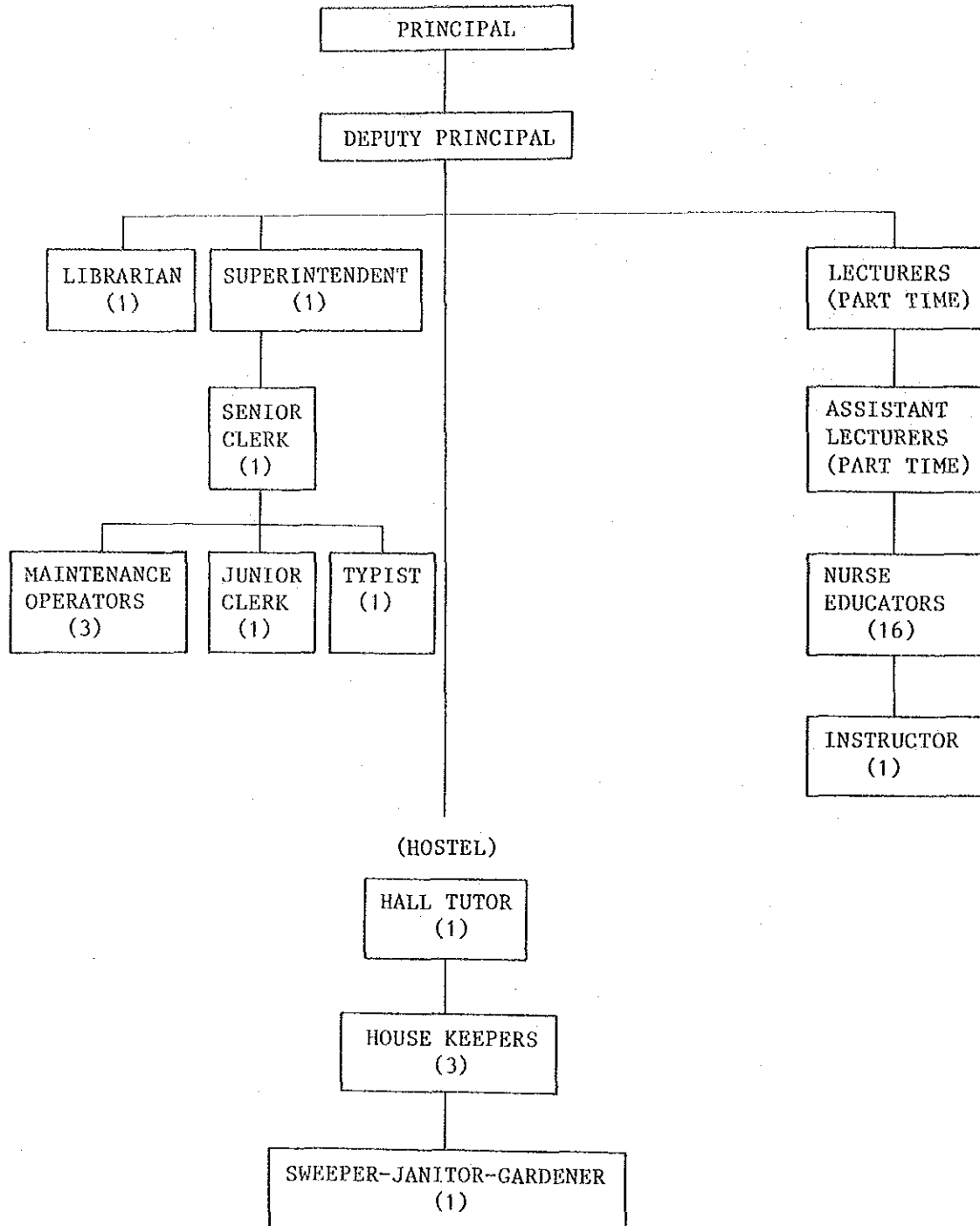
B. IMPLEMENTATION SYSTEM

1. Organization

The Nurse Training Centre, when established, will be under the jurisdiction of the Department of Health, Ministry of Health



Organization for training and administration of this Centre is as shown below.



2. Budgetary Allocations

Budget allocation of the Ministry of Health for the nursing division for the training of nurses/midwives/lady health visitors, and budgets during the years 77 - 78 to 82 - 83 are indicated in Chapter Four Administration and Maintenance Programme, B. Expenses of Operation and Maintenance.

C. TRAINING PROGRAMME

1. Trainees

Announcement for admittance of trainees is advertised in main newspapers and notified to heads of Divisions and States.

Qualifications and other particulars for applicants are as follows:

Age	18 - 27 years
Qualification	11-year schooling (basic education, higher level examination)
Selection	Competitive examination in each State and Division
Syllabus	As listed hereinafter
Number of trainees to be admitted	80 during each six-month
Training course duration	3-1/2 years
Registration	To be registered after graduation in the Midwives and Nurses Council

2. Syllabus

Syllabus for the training is as listed below. Figures of training hours are assumed as tentatively and are only for reference.

First Year

1. Available hours: 30 hs x 4 ws x 11 months = 1,320 hs.
2. School hours: 6 hours/day, 5 days/week
3. Vacation: 1 month/year

<u>Subjects</u>	<u>Lectures</u>	<u>S.Practice*</u>	<u>C.Practice**</u>
1. Social Science & Allied Arts			
History of Nursing	10		
Present Trends & Nursing Problems	15		
Ethics Applied to Nursing	10		
Personal & Professional Adjustment	6	4	
General Psychology	15		
2. Basic Sciences			
Anatomy and Physiology	105	25	
Physics and Chemistry	50	50	
3. Personal & Communal Health			
Personal Hygiene	10		
Community Hygiene	10	20	
Health Education	10		
Physical Education			20
4. Medicine (clinical)			
Drugs & Solutions	10	10	
Microbiology & Principles of Asepsis	16	9	
5. Nursing & Allied Arts			
Principles & Practice of Nursing I	90	150	
First Aid	15	15	
Nutrition & Dietetics I	20	11	
6. Others			
Preliminary State Exam.	15		
Extra Curricular Activities		15	
Registration, Physical Exams.		10	
7. Clinical Practice (2 days/w)			574
Total	407	339	574

* School Practice

** Clinical Practice

Second Year

1. Available hours: 1,320 hs.
2. School hours: 6 hours/day, 5 days/week
3. Vacation: 1 month/year

<u>Subjects</u>	<u>Lectures</u>	<u>S.Practice</u>	<u>C.Practice</u>
Internal Medicine & Nursing	60		
Pharmacology	24		
Principles and Practice of Nursing II	40	85	
Infectious Diseases	16		
Skin Conditions & Nursing	8		
Nutrition & Dietetics II	14	6	
Venereal Diseases	4		
Tuberculosis	10		
Surgery & Surgical Nursing Care	48		
Ophthalmics & its Nursing Care	8		
Ear, Nose & Throat	10		
Orthopedics & its Nursing Care	10		
Extra Curricular Activities		55	
State Examination	15		
Medical Exam.		5	
Clinical Practice			902
 (20.5 hours/3-1/2 days/w whole day for 2 days, half day for 3 days)			
Total	267	151	902

Third Year

1. Available hours: 1,320 hs.
2. School hours: 6 hours/day, 5 days/week
3. Vacation: 1 month/year

<u>Subjects</u>	<u>Lectures</u>	<u>S.Practice</u>	<u>C.Practice</u>
Theatre Procedures	15	10	
Anaesthesiology	8		
Pediatric & Pediatric Nursing	30		
GYN & GYN Nursing	16	8	
Mental Disorder & Nursing	24		
Public Health I	30	40	
Public Health II	24	40	
Extra Curricular Activities		70	
Physical Exams.		5	
Final Exams. (include preparation)	64		
Clinical Practice			936
 (21.5 hs/3-1/2 days/w whole day for 2 days and half day for 3 days)			
Total	211	173	936

6 Month Midwifery Course

1. Available hours: 720 hs.
2. School hours: 6 hours/day, 5 days/week

<u>Subjects</u>	<u>Lectures</u>	<u>S.Practice</u>	<u>C.Practice</u>
1. Introduction to Midwifery, history, ethics, etc.	2		
2. Female Sex Organs Anatomy & Physiology	10		
3. Normal Pregnancy & Delivery	18	20	
4. Normal Delivery & Nursing Care	12	10	
5. Care of New Born Baby (Normal & Abnormal)	29	10	
6. Abnormal Pregnancy & Delivery	28		
7. Disease with Pregnancy	30		
8. Care of Baby & School Child	30		
9. State Examination	15		
10. Clinical Practice (21 hs/3-1/2 days/w)			506
Total	174	40	506

D. TEACHING STAFF

Teaching staff is to be consisted of the following:

Principal

Deputy Principal

Lecturers (part-time)

Assistant Lecturers (part-time)

Nurse Educators 16 educators

Instructors

In addition to the teaching staff listed above, doctors teach part time free of charge. Lecturers and assistant lecturers will come from medical colleges and hospitals. Nurse educators are to be increased gradually up to 16. Seven nurse educators at the existing Training Unit of Rangoon General Hospital are to be transferred to this Centre. Qualification for this nurse educator course is five years or more experience as a senior staff nurse. In the future, this qualification is to be changed to five years or more of experience as a registered nurse or midwife, age limit for admittance is to be 40 years or younger, for application and examination. It is assured that nurse educators required for the Nurse Training Centre will be provided.

CHAPTER THREE BASIC DESIGN

CHAPTER THREE BASIC DESIGN

A. PROPOSED SITE

1. Site Selection:

Sites offered initially by the Burmese Government for the establishment of the Nurse Training Centre were Sites I, II and III. Locations of these sites are as shown on Fig. 3-1. These sites were studied in regard to their area, location, orientation, environment and infrastructure as possible sites for the establishment of the proposed facilities. Due to consideration stated below, they were all judged to be inappropriate for the project site. However, Site IV which was subsequently offered as a possible site by the Burmese Government was investigated and selected as the proposed site for the Centre Project.

- a. All sites including Site IV are located in the urban district of Rangoon near hospitals, making them convenient sites in respect to practical aspects of nurse training.
- b. Site I is within the compounds of the Rangoon General Hospital, however, the 3,400 m² area available is too small for the Project, and it was abandoned during the Phase I Basic Design Study.
- c. Site II is part of the Central Women's Hospital. The area of this rectangular site facing the Leed Road is approximately 9,000 m². Its location within a quiet environment is excellent for a training or educational institution. However, due to the position and shape of the two existing nurse living quarters on south and west adjacent land, the effective usable area of the site is estimated to be roughly 7,600 m². This limited area made this site inappropriate to accommodate all of the facilities.

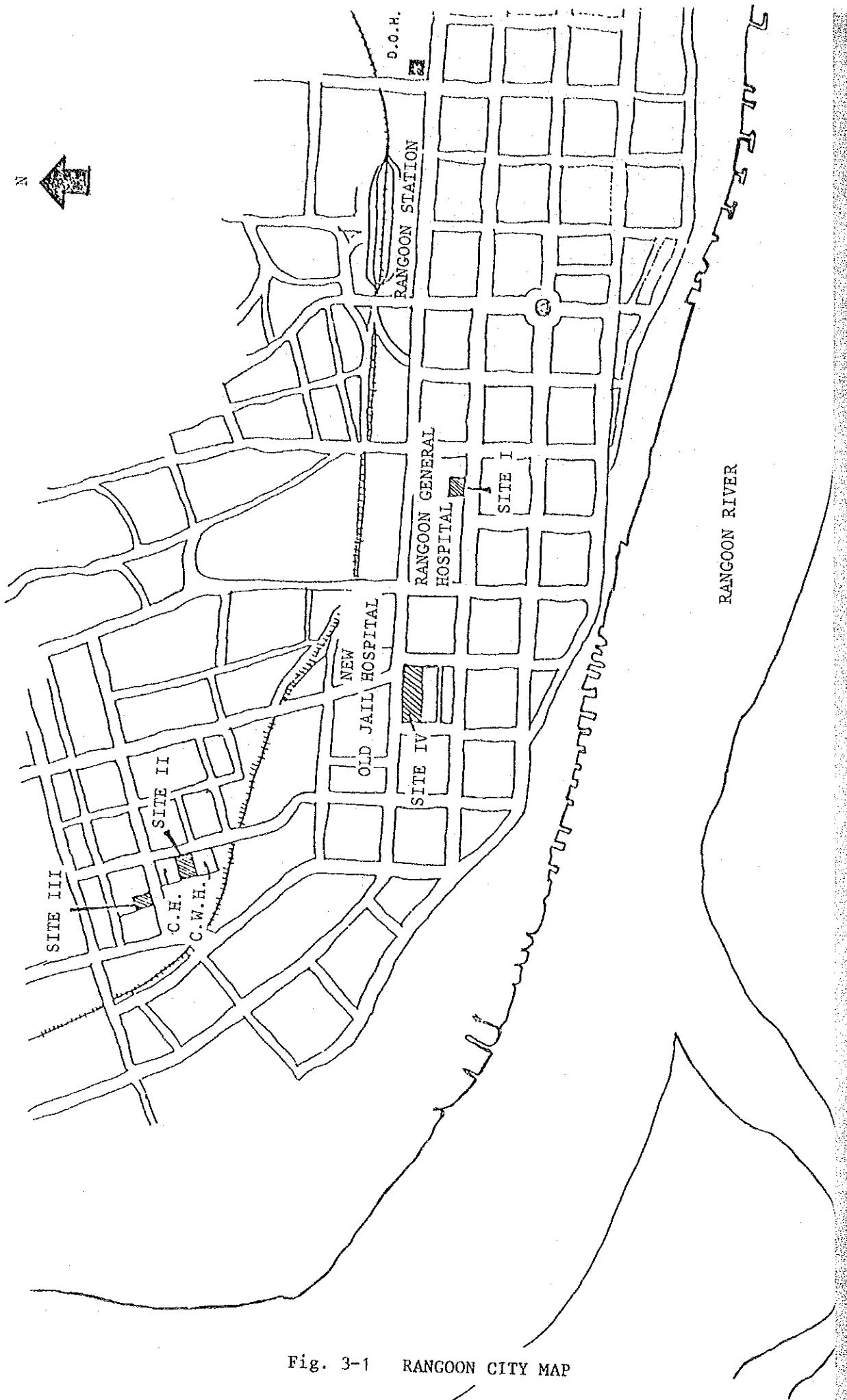


Fig. 3-1 RANGOON CITY MAP

- d. Site III is located along Pyidaungsu Yeiktha Road on the opposite side of the Children's Hospital. It is a rectangular site with an area of about 5,600 m² and a road frontage of 60 m in the north-south direction. Neighbouring sites are the Chinese Embassy on one side and a USA military attache residence on the other side. The site is located within a wooded residential district. This site is also inappropriate to accommodate all of the proposed facilities.
- e. Though both Sites II and III, when considered individually, are inadequate in area to accommodate the proposed facilities, due to the short distance of about 400 m between the two, a concept can be considered of locating training facilities on one of the sites and the living quarters on the other. The possibility of establishing the living quarters on Site II and the training facilities on Site III was studied. However, in both of the sites, sufficient cross ventilation and sunlight can not be obtained due to the physical restrictions of the sites. Furthermore, utilities presently available at Sites II and III are limited as follows:
- (1) Existing capacity of the electric power supply distribution system of the Electric Power Corporation is limited. Installation of a new cable main from a considerable distance will be required in case the Centre is established on these sites.
 - (2) Water supply in this district is available from a 6" main provided by the Rangoon City Development Committee, however, water supply is limited to only 3 hours each day.
 - (3) No drainage system is available at the site. Drainage and sewerage will have to be handled domestically within the sites.

- f. In view of the considerations stated above and fundamentally because of deficiency in site area, Sites II and III were judged to be inappropriate for the establishment.

2. Site IV:

a. General:

Site IV is located at Lanmadow No. 11 Block and has an area of about 23,000 m². It is rectangular in shape with the longer sides facing south and north. The north side faces the Bogyoke Aung San Road. Phoneygi Road and Morton Road face the site on its east and west sides respectively. On the south side is an adjoining site on which exists a 4-story reinforced concrete housing complex. Located diagonally across the intersection of Prome Road is a new hospital being constructed under Japanese aid, and the Rangoon General Hospital is located one block to the east of the site. The site slopes gently down towards the south with no height difference in the east to west direction. No earthwork will be required to prepare the site for the Project. (Fig. 3-2)

b. Infrastructure:

- (1) Electric power can be obtained from either the 3.3 kV or the 6.6 kV main existing under the Bogyoke Aung San Road on the north side of the site.
- (2) It will be possible to obtain water from the 9-inch water main embedded under the Bogyoke Aung San Road. However, it is the recommendation of the City Development Committee that water is to be obtained from new wells sunk at the site and that the city water is to be used as a backup supply only. There exists under the site a 4-inch water supply pipe which serves the housing complex on the south side of the site.

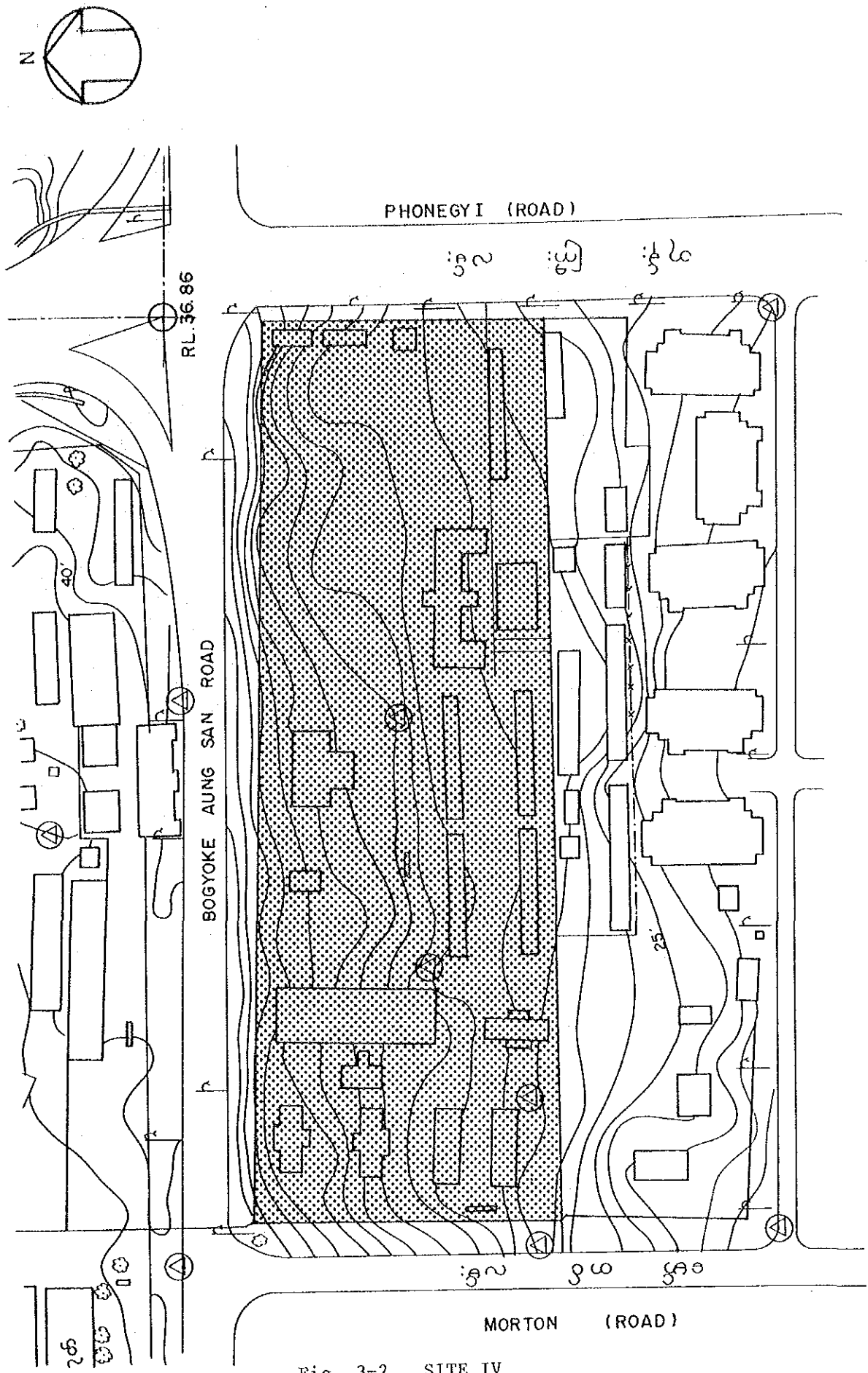


Fig. 3-2 SITE IV

(3) Sewerage is to be disposed through the existing pump station near the intersection of Morton Road and Canal Street to a sewer main. Rain and miscellaneous waste water is to be disposed to gutters at the perimeter of the site.

c. Environment:

At the north of the site across the Bogyoke Aung San Road is a spacious site on which there are plans to build a new general hospital by funds of the Asian Development Bank. The adjoining site at the south is a housing complex of the Construction Corporation. Housings on this site are 4-storey reinforced concrete structures. On the space between these housings and the proposed Centre site is a wooded area and parking space in part. Blocks on both east and west side of the site are quiet areas with abundant trees. In part of the block towards the west is a small retail district.

d. Existing Conditions:

The site is presently occupied by jail staff houses, a jail storage, a primary school, a hindu mosque and squatters. These establishments must be removed prior to commencement of project construction works.

e. Ownership of the Site:

Site IV is under the jurisdiction of the Ministry of Home and Religious Affairs. Its transfer to the Ministry of Health will be required.

f. Building Regulations:

Though there are no statutory requirements, it is the policy of the authorities to require that new buildings in this area be built to four storeys in height.

g. Conclusion

Site IV has been found appropriate in respects to its area, topography, infrastructure, proximity to hospitals and medical educational facilities, and environment.

As there is no alternative site which can be considered, this site has been selected as the proposed site in spite of problems regarding the removal of occupants and buildings from the site, and the initiating of legal procedures to obtain the right to establish the Centre on the site.

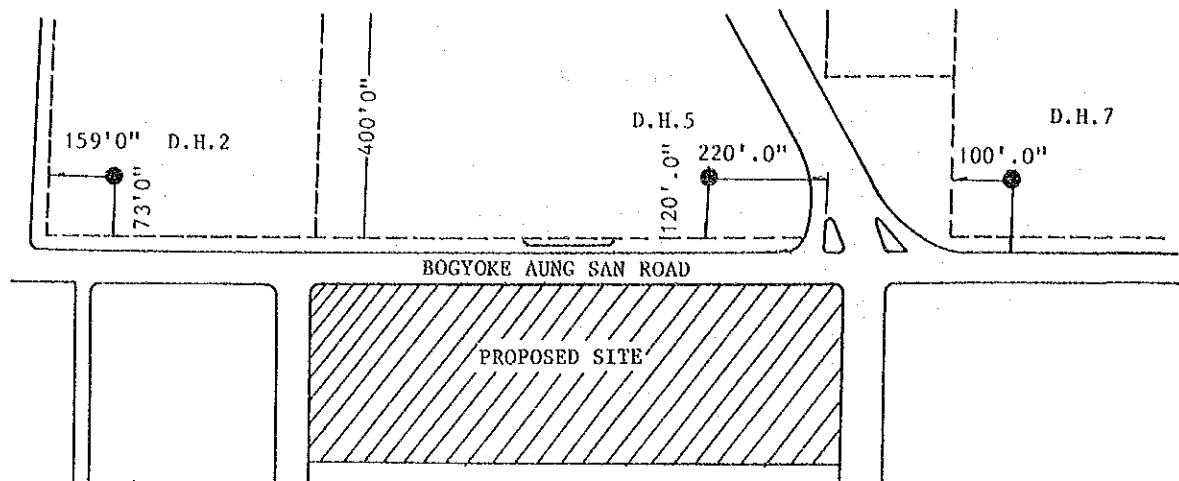
3. Soil Conditions:

Soil exploration by boring was not possible within the period of the basic design study because ownership of the site belongs to another Ministry, and as there were occupants on portions of the site. However, subsoil conditions of the site are adequately assessed from boring data of nearby locations which were provided by the Construction Corporation. (See Fig. 3-3 & 3-4)

B. DESIGN PRINCIPLES

The fundamental principle of the basic design of the Nurse Training Centre is to design facilities worthy of an institution which is to serve as the national centre for nursing education. Building design is to take into consideration local climatic conditions, building methods and engineering practices to their full extent. Facilities are to be designed durable, and easy and economical to maintain.

- a. Structure and building methods are to be designed and engineered to be clear-cut and simple, complying to local practice, and which are well adapted to local weather conditions which include heavy rains during the monsoon season as well as severe heat during the dry season.



DRILL HOLE (BORING) LOCATIONS

TABLE 1.2. "N" VALUES & NATURAL MOISTURE CONTENT TEST RESULTS

JOB: UPGRADING OF HOSPITALS PROJECT (RANGOON)

DRILL HOLE NO. 2.

SPL -IT' NO.'	DEPTH Meter	VISUAL CLASSIFICATION	"N" VALUES 'Blows/30cm'	MOISTURE CONTENT %
1	0.0 - 0.61	Dark Brown Silty SAND, with pieces of Bricks.	14	11.6
2	0.61- 1.22	Reddish Gray Silty SAND, some Clay	12	11.7
3	1.22- 1.83	- do -	4	15.2
4	1.83- 2.44	- do -	6	15.4
5	2.44- 3.05	- do -	6	16.1
6	3.05- 3.66	Reddish Gray SAND & SILT, some Clay	5	17.2
7	3.66- 4.27	- do -	8	14.6
8	4.27- 4.88	Reddish Gray Silty SAND, trace Clay	10	12.9
9	4.88- 5.49	- do -	11	11.7
10	5.49- 6.10	- do -	10	12.1
11	6.10- 6.71	- do -	10	13.8
12	7.62- 8.23	Yellowish Brown Silty SAND, trace Gravel	12	13.4
13	9.14- 9.75	- do -	12	18.3
14	10.67-11.28	- do -	12	18.1
15	12.19-12.80	- do -	15	18.6
16	13.72-14.33	- do -	20	16.5
17	15.24-15.88	- do -	31	16.4
18	16.76-17.37	Brown SAND some Silt	18	14.2
19	18.29-18.90	- do -	20	13.5
20	19.81-20.42	Brown fine Gravelly SAND, some Silt	26	11.5
21	21.34-21.95	- do -	30	11.3
22	22.86-23.47	- do -	32	11.0

MyintLwin/4281*

Fig. 3-3 BORING LOGS (1)

TABLE 1.5. "N" VALUES & NATURAL MOISTURE CONTENT TEST RESULTS

JOB: UPGRADING OF HOSPITALS PROJECT (RANGOON) DRILL HOLE NO. 5.

SPL -IT NO.	DEPTH Meter	VISUAL CLASSIFICATION	"N" VALUES 'Blows/30cm'	MOISTURE CONTENT %
1	0.00- 0.61	Dark Brown SAND, some Silt, some Brick pieces	21	13.8
2	0.61- 1.22	Reddish Grey SAND & SILT, some Clay.	6	14.8
3	1.22- 1.83	- do -	6	15.4
4	1.83- 2.44	- do -	6	17.2
5	2.44- 3.05	Reddish Brown Silty SAND, trace Clay	7	17.7
6	3.05- 3.66	- do -	6	18.1
7	3.66- 4.27	- do -	8	17.1
8	4.27- 4.88	- do -	9	15.3
9	4.88- 5.49	Reddish Brown SAND, some Silt	10	13.4
10	5.49- 6.10	- do -	11	13.3
11	6.10- 6.71	- do -	11	13.2
12	7.62- 8.23	- do -	19	20.0
13	9.14- 9.75	Reddish Brown SAND, some Silt, some Gravel	13	19.1
14	10.67-11.28	- do -	13	18.4
15	12.19-12.80	Yellowish Brown SAND, some Silt	14	17.8
16	13.72-14.33	- do -	19	17.7
17	15.24-15.85	- do -	21	15.1
18	16.76-17.37	- do -	26	18.8
19	18.29-18.90	Yellowish Brown SAND, some Silt, some Gravel	28	17.9
20	19.81-20.42	- do -	30	17.7
21	21.34-21.95	- do -	35	16.2
22	22.86-23.47	- do -	37	15.5
23	24.38-25.00	- do -	40	16.0
24	25.91-26.52	Brown SAND, some fine Gravel, some Silt	43	13.1
25	27.43-28.04	- do -	44	13.9
26	28.96-29.57	Brown SAND, some Silt, trace Gravel	44	14.3
27	30.48-31.09	Yellowish Brown SAND, some Silt	45	15.8
28	32.00-32.61	Brown SAND, some Silt, trace Gravel	47	15.4
29	33.53-34.14	- do -	48	18.0
30	35.05-35.66	- do -	53	18.2
31	36.58-37.19	Yellowish Brown SAND, some Silt	54	16.7
32	38.10-38.71	- do -	55	15.4
33	39.62-40.23	- do -	62	16.0

TABLE 1.7. "N" VALUES & NATURAL MOISTURE CONTENT TEST RESULTS

JOB: UPGRADING OF HOSPITALS PROJECT (RANGOON) DRILL HOLE NO. 7.

SPL -IT NO.	DEPTH Meter	VISUAL CLASSIFICATION	"N" VALUES 'Blows/30cm'	MOISTURE CONTENT %
1	0.0 - 0.61	Brownish Grey Silty & Clayey SAND	8	11.2
2	0.61- 1.22	- do -	8	18.8
3	1.22- 1.83	- do -	10	17.6
4	1.83- 2.44	Yellowish Brown Silty SAND, some Clay	14	17.1
5	2.44- 3.05	- do -	17	18.9
6	3.05- 3.66	Reddish Grey Silty SAND, trace Clay	14	19.3
7	3.66- 4.27	- do -	19	17.0
8	4.27- 4.88	- do -	14	17.9
9	4.88- 5.49	Reddish Grey SAND, some Silt, trace Clay	9	19.5
10	5.49- 6.10	- do -	12	21.3
11	6.10- 6.71	- do -	15	20.9
12	7.62- 8.23	- do -	16	18.4
13	9.14- 9.75	- do -	17	15.4
14	10.67-11.28	- do -	15	13.2
15	12.19-12.80	- do -	16	17.5
16	13.72-14.33	Yellowish Brown SAND, some Silt, trace Clay	19	19.0
17	15.24-15.85	- do -	24	18.8
18	16.76-17.37	Reddish Grey SAND, some Silt, trace Gravel	24	18.4
19	18.29-18.90	- do -	26	16.2
20	19.81-20.42	- do -	31	16.7
21	21.34-21.95	- do -	32	14.1
22	22.86-23.47	- do -	34	12.8

ML/5181*

Fig. 3-4 BORING LOGS (2)

- b. Local construction methods and building materials are to be incorporated as far as possible to utilize local labour and material, as well as to facilitate future maintenance of the buildings.
- c. Buildings and their surroundings are to be designed to enable performance of full-time educational activities.
- d. Provisions are to be considered for future activities to be performed in these facilities such as postgraduate education and training programmes.
- e. Japanese codes and standards, modified to meet local conditions, are to be applied to the engineering and design of structures of the buildings in cases where local regulations are not available.

C. SITE LAYOUT

1. Facilities:

Training Wing	3-storey
Auditorium	single-storey
Hostel (Female)	4-storey, 2 buildings
Hostel (Male)	3-storey
Dining-Utility	single-storey

2. Approaches:

Main and service approaches are to be provided. Main approach is from Bogyoke Aung San Road with the gate located a little to the east of the centre of site to facilitate traffic between the Rangoon General Hospital and from Bogyoke Aung San Road and Prome Road. Service approach is to be provided at the west side of the site.

3. Building Layout

In order to provide a quiet environment for the primary functions of this educational facility, buildings are to be setback as far as possible from the roads, and a green buffer zone provided between the buildings and the road. Longitudinal axes of buildings are to be in the east-west direction to attain maximum cross ventilation, south to north in the monsoon season and north to south in the dry season. This building orientation is desirable also to avoid the heat of afternoon sunshine.

Training Wing and Auditorium which are the principal buildings of the Centre are to be placed on both sides of the main approach. Auditorium is to be located near the intersection of main roads on the east side of the site to keep training facilities away from traffic noise, as well as have the Auditorium serve as an aesthetic feature of the site when viewed from the outside.

Hostel buildings are to be placed behind the Training Buildings to be isolated from the outside. Hostel building for males is to be placed at a distance from those for females. Dining-Utility Building is to be located conveniently for the delivery of supplies.

D. BUILDING DESIGN

1. Building Planning

a. Training Wing

(1) Types and sizes of facilities

Training Wing is consisted of rooms for training and administration. Rooms required for fulfillment of functions of this Centre are: Lecture rooms, special classrooms (demonstration room and laboratory), teaching staff rooms, audio-visual storage room, library and

administrative rooms (Principal, Deputy Principal, reception and conference).

- (2) Lecture rooms are planned to accommodate 80 students or 40 students, and seminar rooms. Number of classrooms has been determined by considering number of class units which is 14 in total, curricula for each grade, and rotation of the use of different types of classrooms. Number of classrooms, the minimum number to fulfill the needs of the Centre is as follows:

Lecture rooms (80 students)	2 rooms
Lecture rooms (40 students)	7 rooms
Seminar rooms	4 rooms

- (3) Floor planning

Rooms in Training Wing when classified according to their function, are general lecture rooms, special training rooms, teaching staff rooms and administrative rooms. Arrangement of rooms has been planned with due considerations given to their relative positions to attain efficiency in the use of entire facility as well as each individual room.

b. Auditorium

Auditorium is planned on the basis of a 300-person capacity.

c. Hostels

Each room is to be planned to accommodate 4 students. Size of room has been determined by studies in regard to bed sizes and alternative layouts. Rooms have been planned in accordance to information acquired by investigating similar facilities in Burma. Each room is planned to be 28.125 m² in floor area.

d. Dining room

Is planned to serve 600 persons in three sitting shifts of 200 persons per shift.

2. Structural Design

Structural design is to be based on applicable requirements of the Building Standard Law of Japan and Standards of the Architectural Institute of Japan. They are to be modified as required to meet local conditions.

a. General

(1) Foundation

Independent footings or continuous foundations are to be adopted as piles are judged to be unnecessary from information of past soil explorations performed in the neighbourhood of the proposed site as well as from technical data of existing buildings nearby. Soil bearing strength is assumed as 10 t/m^2 for structural calculations. This is to be confirmed by soil bearing strength tests to be performed before the design is finalized.

(2) Structural frame

Principal structural frames are to be concrete rigid frames.

(3) Roof

For training and hostel buildings, structural steel trusses are to be provided to support corrugated slate roofs over reinforced concrete slabs. For Auditorium and Dining-Utility Building, no reinforced concrete slabs are to be provided under structural steel trusses roofed with corrugated slate. Wood roof truss is generally employed in Burma, however, as pyinkado timber is becoming difficult

to obtain, the more substantial steel truss has been adopted. Structural steel is to be imported.

(4) Floor

Reinforced concrete floor slabs are to be adopted.

(5) Walls

Gable end walls, stair case walls and seismic walls are to be reinforced concrete construction. Other exterior walls and interior partitioning are, in principle, to be brick wall. Light partitions are to be of wood.

Thickness of brick walls is to be 9" for exterior and 4-1/2" for interior partitioning.

b. Design Loads

(1) Seismic force

As earthquake zones exist in Burma, Standards for Anti-seismic Force Calculations (draft) is available and is to be applied. Lateral seismic coefficient $K=0.12$ is to be used against structure weights.

(2) Wind force

Wind force of 130 kg/cm^2 is to be assumed. Wind pressure coefficients are to be determined by shapes of buildings.

(3) Design loads

(a) Dead load

To be calculated for each building element by adding weight of the structural frame and finishing material.

(b) Live load (kg/m²)

	<u>Floor</u>	<u>Frame</u>	<u>Seismic force</u>
Training Wing	230	210	110
Hostel buildings	180	130	60

(4) Structural Material

Concrete:	Design standard strength	180 kg/cm ²
Steel:	Plain reinforcing bar	SR24*
	Deformed reinforcing bar	SD30*
	Structural steel	SS41*

*Japanese Industrial Standards

E. UTILITY DESIGN

1. General

Design principles for utility systems are to follow principles stated hereinbefore in B. DESIGN PRINCIPLES. Due considerations are also to be given to items listed below in the planning and design of utilities.

- a. Conditions of tropical climate
- b. Manners and customs of the people of Burma
- c. Hygiene
- d. Hygienic education
- e. Economy and energy conservation
- f. Availability of local equipment and material
- g. Durability
- h. Ease of operation

- i. Ease of maintenance and repair
- j. Availability of spare parts and supplies
- k. Local practices

2. Electrical Design

a. Electric Power Service Connection

Power service connection is to be the responsibility of the Burmese Government. One 3 phase, 3 wire, 50 Hz underground service connection from existing 6.6 KV main of the Electric Power Corporation under the Bogyoke Aung San Street up to the primary of a substation to be provided under the Grant will be required.

b. Substation Equipment

3 phase, 3 wire, 6.6 KV power supply is to be stepped down to 3 phase, 4 wire, 400/230 V at the substation.

Electric power demand roughly estimated at this stage is as follows:

Training Wing	$40 \text{ W/m}^2 \times 4,000 \text{ m}^2 = 160 \text{ KW}$
Hostels	$20 \text{ W/m}^2 \times 9,000 \text{ m}^2 = 180$
Power (well pumps, etc.)	40
Total	380 KW

c. Power Supply Mains

Supply voltages to power control and lighting panelboards in each building are to be as follows:

Power	3 phase, 3 wire, 400 V
Lighting and service outlets	3 phase, 4 wire, 400/230 V

d. Lighting System

Secondary wiring from control panelboards to lighting fixtures, switches, service outlets and ceiling fans is to be installed through conduit pipes. To conserve running costs, switching pattern is to be so that small areas can be individually controlled. In hostels, students are to be provided with individual desk lights.

e. Lighting Fixtures

Most lighting fixtures are to be fluorescent fixtures from consideration of economical operation. Incandescent and mercury lamps are to be used in special cases as required.

Lighting intensities in principal rooms are to be as follows:

Administration and Laboratory Rooms	300 - 400 lux
Lecture Rooms and Demonstration Room	200 - 300 lux
Auditorium and Hall	100 - 200 lux
Hostel Rooms	50 - 100 lux
Corridors and Storages	20 - 50 lux

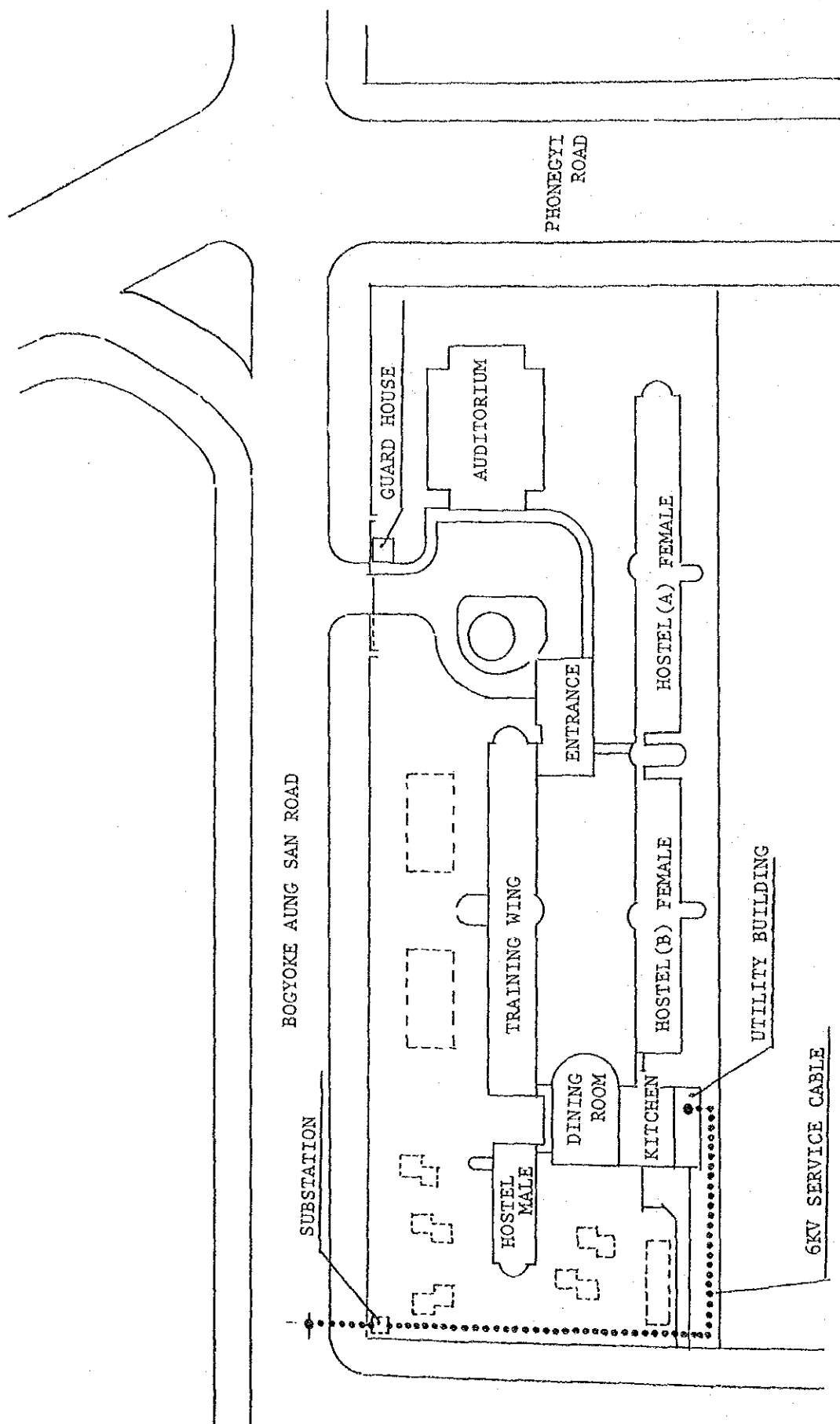


Fig. 3-5 OUTSIDE WIRING

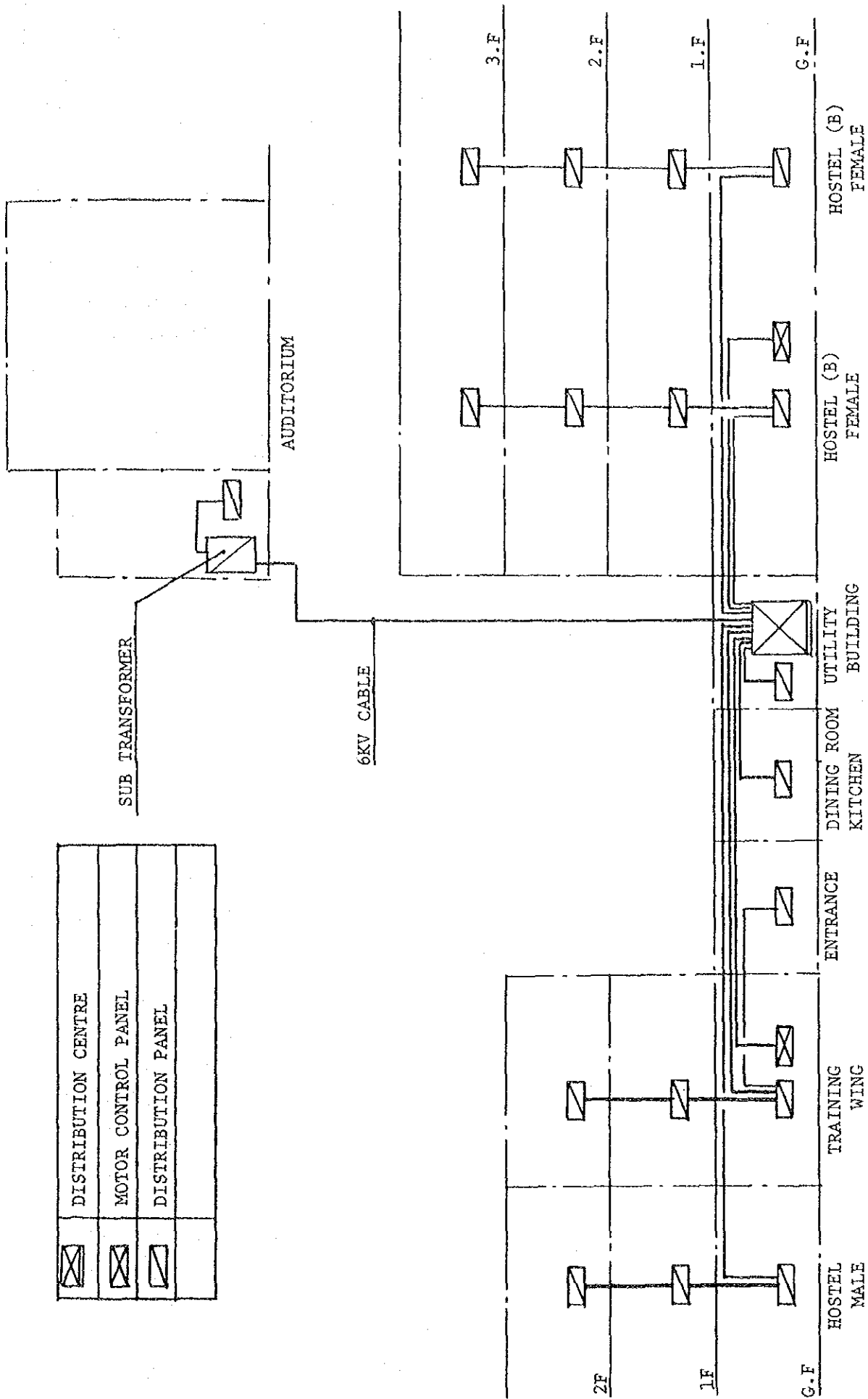


Fig. 3-6 POWER FEEDER DIAGRAM

f. Telephone System

Telephone service cable from the Posts & Telecommunication Corporation telephone main up to the MDF panelboard on the ground floor of the Training Wing is the responsibility of the Burmese Government. Of four incoming PTC circuits, two are to be for the Training Wing, and two for the Hostels. Telephone switchboard is to be a push-button system which can accommodate ten (10) local lines.

g. Public Address System

Amplifier is to be installed in the Administration Room on the ground floor of the Training Wing. Announcements, paging and time signals can be transmitted to required areas within the building.

h. Interphone System

Interphone system is to be installed for communication between training rooms, teaching staff room and administration room.

i. Television Antenna System

Television signals received by a master antenna are to be distributed to outlets as required.

j. Fire Alarm System

A manual fire alarm system is to be installed to positively inform occupants of emergencies.

k. Lightning protection system

A lightning protection system with an air terminal installed on the highest roof is to be provided.

3. Ventilation Equipment

a. General

Cooling equipment is not to be provided for the facilities. Achievement of comfortable environment is to be accomplished by architectural planning and design measures such as building orientation for ventilation by the north wind during the dry season and the south wind in the rainy season, provision of tall ceilings for natural ventilation and roofed balconies for sun control.

b. Ceiling fans

Ceiling fans widely used in Burma are to be installed in training rooms and auditorium for forced ventilation during the humid rainy season and hot season.

4. Water Supply, Drainage and Sanitary Equipment

a. Water supply

Daily water consumption is estimated in accordance with standards of the Rangoon City Development Committee as follows:

$$\begin{aligned} & 700 \text{ persons} \times 30 \text{ gallons/capita/day} \\ & = 21,000 \text{ gallons/day or } 95 \text{ m}^3/\text{day} \end{aligned}$$

Water supply source is to be mainly wells bored in the premises. City water supply is to be used as backup for the primary well water source. Depending on the quality of the well water obtained, facilities for sand sedimentation, filtration and sterilization are to be provided as necessary. From sanitary considerations, an open mounted panel-type prefabricated reservoir tank is to be installed. The tank capacity is to be approximately 50 m³ which corresponds to a half-day consumption of the facilities. Two lift pumps are to be installed for alternate operation. An elevated tank for providing head for water distribution is to be installed on the roof of

the 4-storey hostel. Though a larger capacity is desirable in view of occasional power supply interruptions, restrictions of installation space and weight limit its capacity to 25 m³ which is a quarter-day supply for the facilities.

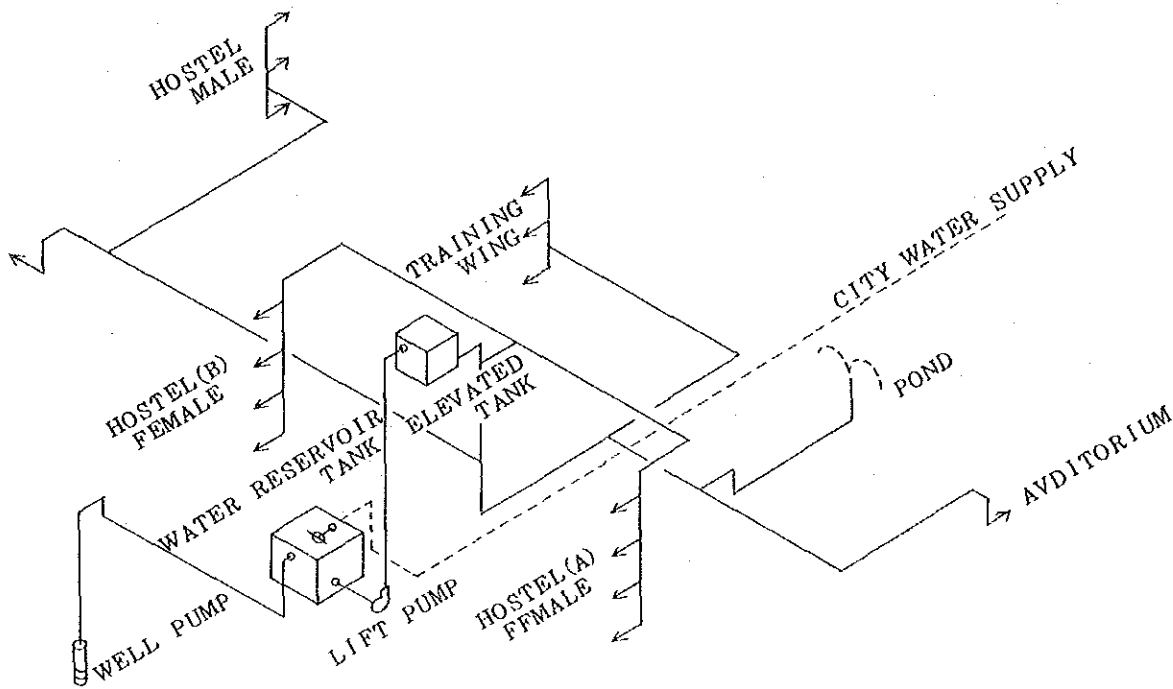


Fig. 3-7 DIATRAM OF WATER SUPPLY SYSTEM

b. Drainage Equipment

Drainage from buildings is to be a separated sewage and waste water drainage system. Septic tank for treatment of sewage is to be constructed by the Burmese Government and connected by the same to an existing sewage pump station. Connections up to the septic tank from buildings is to be provided under the Grant. Waste and rain water is to be discharged to existing ditches along the site perimeter. Kitchen drain is to be provided with traps for removing grease and deposits.

c. Sanitary fixtures

In selecting sanitary fixtures, due considerations are to be given to the Burmese living customs. Water closets are to be Burmese

types, however, provisions for flushing by water is to be provided. Shower rooms are to be equipped for both shower and laundering uses. An ample number of lavatories, are to be provided in line with the fundamental objective of the Centre which is to emphasize hygiene. Plumbing fixtures are to be white sanitary ware.

d. Fire protection equipment

Though local requirements for installation of fire protection equipment have not yet been established, water outlets for exclusive use of fire fighting are to be provided for self-protection. Since a fire station is located nearby, siamese connections are to be provided outside buildings at ground level and interior hose connections provided on upper levels. Though pond water is available for fire fighting, fire reservoirs are to be provided as required.

e. Kitchen equipment

Kitchen equipment is to be Burmese type equipment provided by the Burmese Government. Kitchen is to be planned on the basis of manual cooking methods. Considerations are to be given especially to hygiene, such as insect and rodent control, separation of service counters, provision of dish washing space, sanitary methods of food storage, and provision of toilets for the exclusive use of kitchen staff.

F. EQUIPMENT DESIGN

Training equipment in the Nurse Training Unit in the Rangoon General Hospital, two general hospitals with attached nurse training units and one midwifery school were surveyed. Existing equipment in these training units requires considerable up-grading.

Detailed discussions were held between Burmese Government personnel and the Design Survey Team to determine appropriate type and quantity of equipment of each required category.

Required equipment can be broadly classified as follows:

- (1) Training equipment for nursing
- (2) Audio-visual aids
- (3) Laboratory equipment
- (4) Equipment for preparation of teaching material including texts
- (5) Storage equipment

List of Equipment

	<u>Equipment</u>	<u>Quantity</u>
a. Training Equipment for Nursing	(1) Anatomical charts for all Body Systems	2 sets
	(2) Models for Anatomical illustration	2 sets
	(3) Pelvis and Foetal Dolls	6 ea
	(4) Skull (Foetal)	6 ea
	(5) Sculptured skelton	2 sets
	(6) Weighing Machine (2 ea for Adult and Baby)	4 ea
	(7) Sterilizer	2 ea
	(8) Refrigerator	1 ea

	<u>Equipment</u>	<u>Quantity</u>
	(9) Thermometer, 140 - 200 degrees F	6 ea
	(10) Sphygmomanometer	10 ea
	(11) Stethoscope	10 ea
b. Audio-visual aids	(1) Overhead Projector (220 volt)	3 ea
	(2) Slide Projector, remote control, automatic slide changing or manual slide changing	3 ea
	(3) Movie Projector, 16 mm with Projector Screen	2 sets
	(4) Screen, roll-up type	6 ea
	(5) Wireless amplifier, speaker, microphone set	3 sets
c. Laboratory equipment	(1) Microscope	20 ea
	(2) Incubator	1 ea
	(3) Sterilizer	1 ea
	(4) Refrigerator	1 ea
	(5) Fixed type centrifuge, capacity: 50 ml x 4	1 ea
	(6) Balance, capacity 200g	2 ea
	(7) Weights for above	2 sets
d. Equipment for preparation of teaching material	(1) Copying machine, plain paper	2 sets
	(2) Duplicating machine (automatic)	2 sets

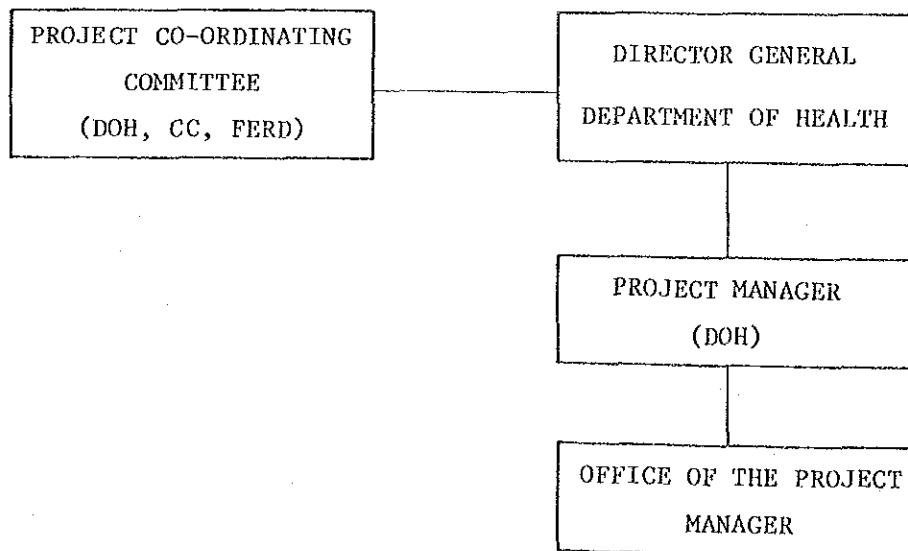
	<u>Equipment</u>	<u>Quantity</u>
(3)	Duplicating machine (manual)	2 sets
(4)	Typewriter	6 ea
(5)	Calculator, medium size	5 sets
e.	Storage equipment (1) Steel cabinet	20 ea

G. PROJECT IMPLEMENTATION PLAN

1. Execution Structure

Governmental organization of Burma responsible for this Project is Department of Health of the Ministry of Health, and person responsible for various contract procedures such as contract for detail design and supervision, construction, as well as for banking arrangements is the Director General of the Department of Health, Ministry of Health.

Execution organization of the Burmese Government for this Project is the Project Coordinating Committee consisted of representatives of the Department of Health, the Construction Corporation and the Foreign Economic Relations Department. The Director General of the Department of Health will be assisted by a Project Manager assigned from the staff of the Department of Health.



Foreign Economic Relations Department is the agency of the Burmese Government for Grant aid projects, and the Myanma Foreign Trade Bank is the agency for bank procedures.

2. Execution Plan

a. Procedures before Construction Work

This Project is to be executed on the basis of a Grant Aid from the Government of Japan. After implementation of this Project has been determined, the Government of Burma will make arrangements with a Foreign Trade Bank in Tokyo to delegate the right of receiving Grant aid payments. Agreements are to be made by the Department of Health with a Japanese consultant for preparation of detail design documents, tendering, supervision and administration of construction works. An agreement is also to be made by the Department with a Japanese construction contractor to execute the construction of the Project.

b. Project implementation

(1) Japanese Portion

In conjunction with the construction of this Centre, the following items are recommended to be provided or built by the Government of Japan.

(a) Facilities

(i) Training Wing

(ii) Auditorium

- (iii) Hostel (Female) 2 buildings
- (iv) Hostel (Male)
- (v) Dining-Utility Building
- (vi) Connecting Corridors (Covered Walks)
- (vii) Roads within the Site

(b) Utility Works

- (i) Elevated Water Tank
- (ii) Water Supply System (well lift water equipment, pump, wiring and piping)
- (iii) Drainage System within the Site
- (iv) Electrical work within the Site
- (v) Lightning Protection System

(c) Equipment

- (i) Training equipment (Blackboards, body models, etc.)
- (ii) Laboratory equipment
- (iii) Audio-visual aids
- (iv) Office equipment (Typewriters, steel cabinets, etc.)

(2) Burmese Portion

In conjunction with the facilities of this Centre, it is recommended that the following items be undertaken by the Burmese Government.

- (a) Preparation of construction site (Demolition and removal of existing buildings, partial removal or replanting of existing trees)
- (b) Temporary electric and water supply for construction during construction period

(c) Testing of soil bearing strength

(d) Facilities

Guard House

(e) Exterior Works

(i) Drainage Work outside the premises including Drainage
Ditches

(ii) Fencing and Planting

(iii) Reservoir and Pond for Fire Use

(f) Utility Works

(i) Water Supply (well boring)

(ii) Exterior Drainage System (outside the premises and sewer to
the existing sewage pump station)

(iii) Electrical Supply up to the Site

(iv) Telephone (up to connection to MDF)

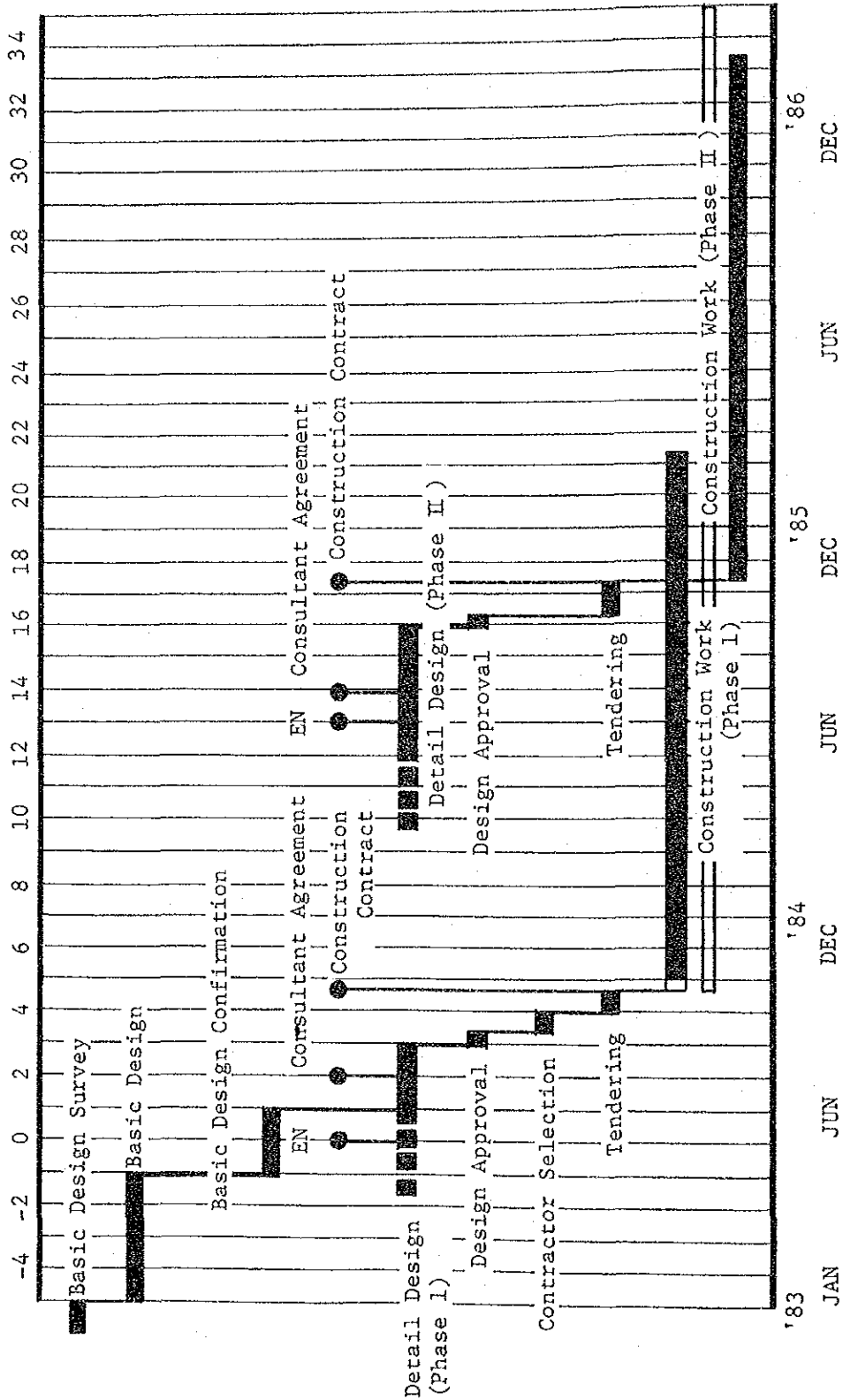
(v) Septic Tank

(g) Furniture and Furnishings

(i) Desks and Chairs for Training and Office Use

(ii) Beds, Desks and Cupboards for Hostels

3. Implementation Schedule



NURSE TRAINING CENTRE

OLD JAIL

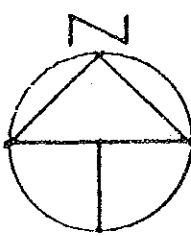
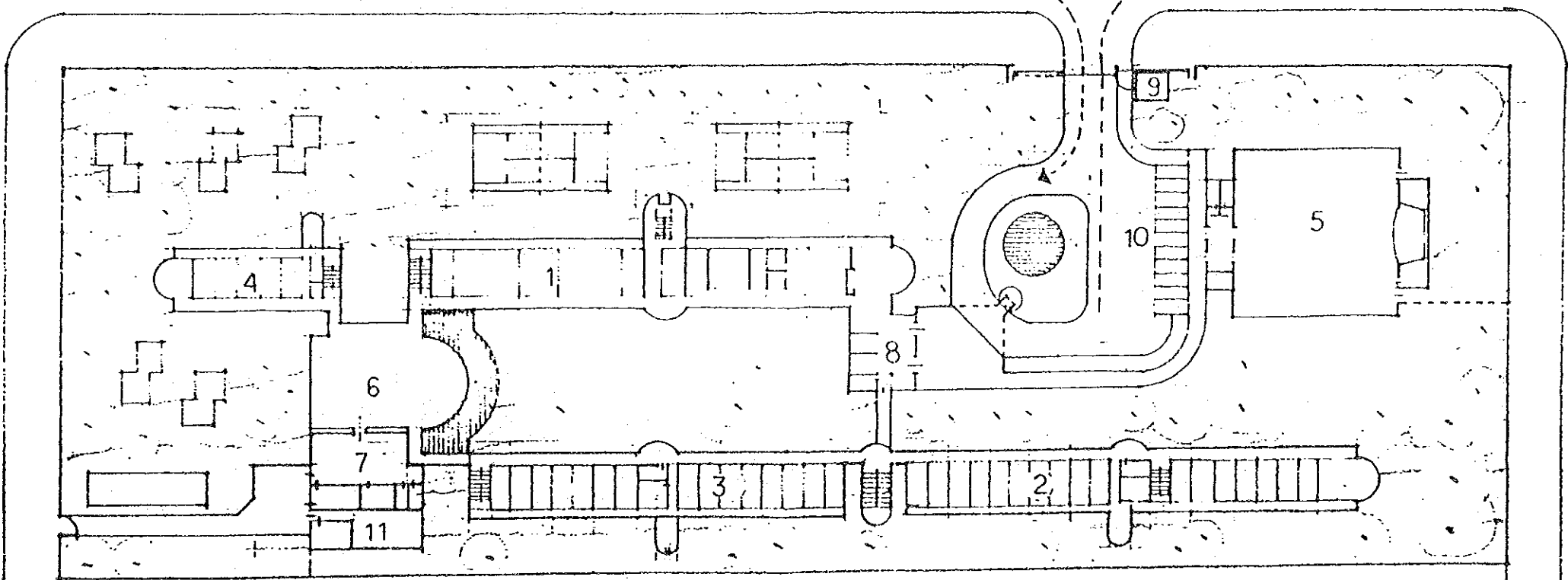
PROKE ROAD

BOGYOKE AUNG SAN ROAD

ONE WAY

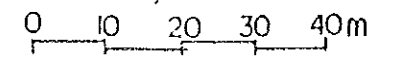
MORTON ROAD

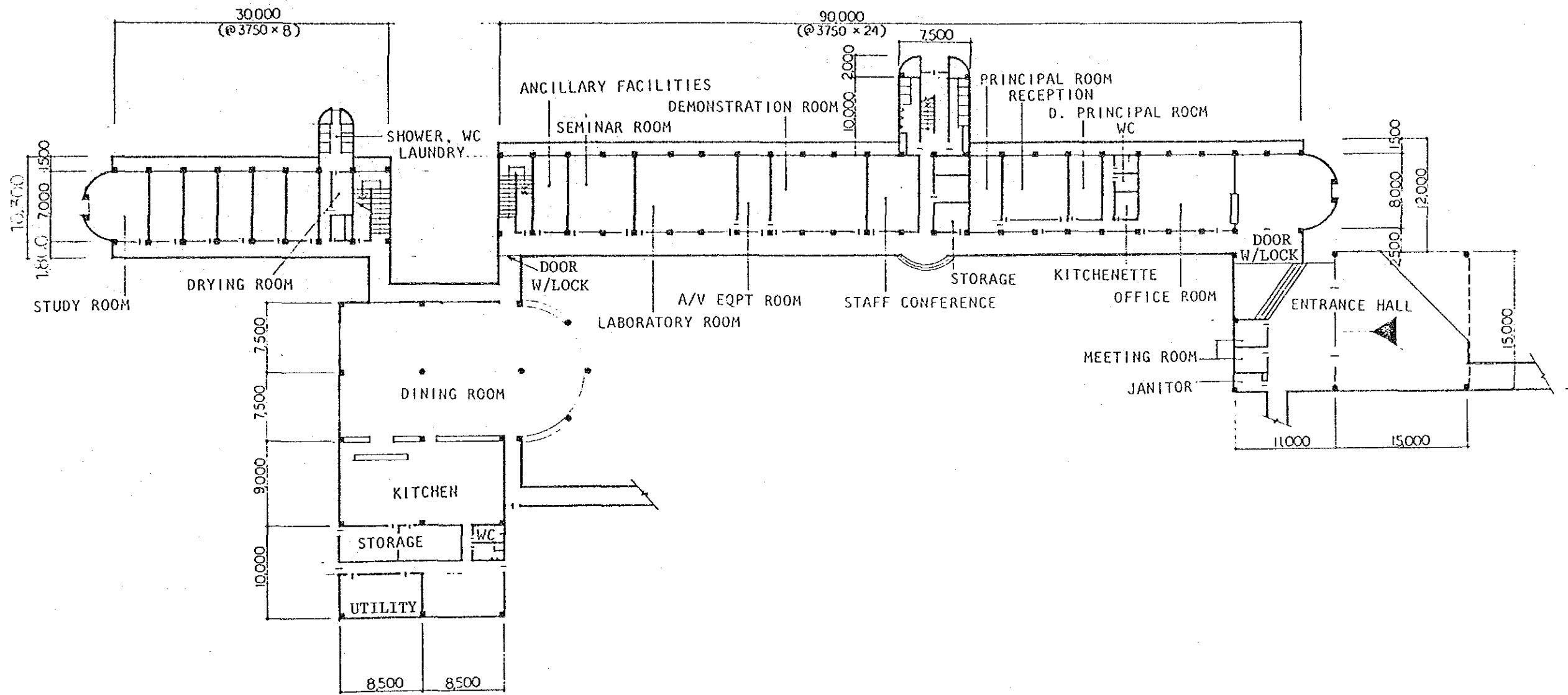
PHONEGYI ROAD



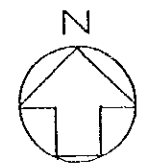
- 1. TRAINING WING
- 2. HOSTEL (A) FEMALE
- 3. HOSTEL (B) FEMALE
- 4. HOSTEL MALE
- 5. AUDITORIUM
- 6. DINING ROOM
- 7. KITCHEN
- 8. ENTRANCE
- 9. GUARD HOUSE
- 10. PARKING
- 11. UTILITY BUILDING

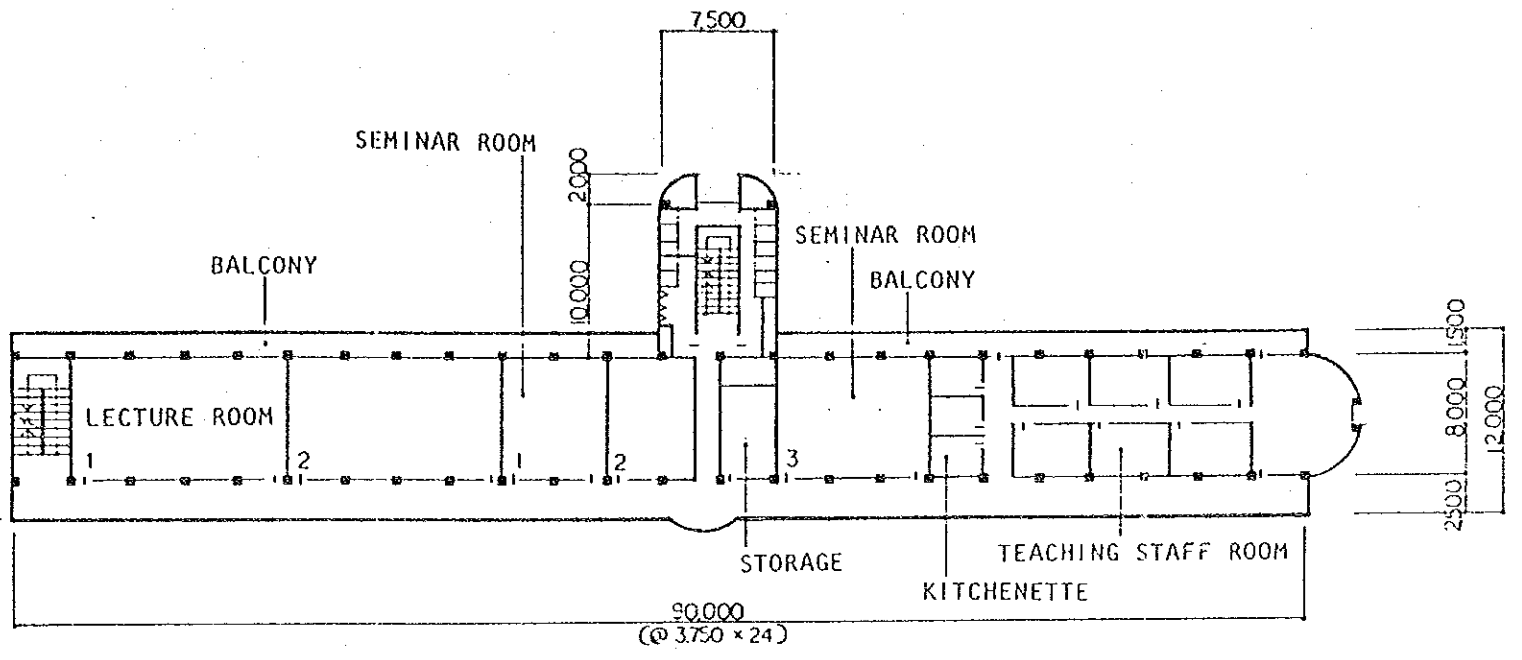
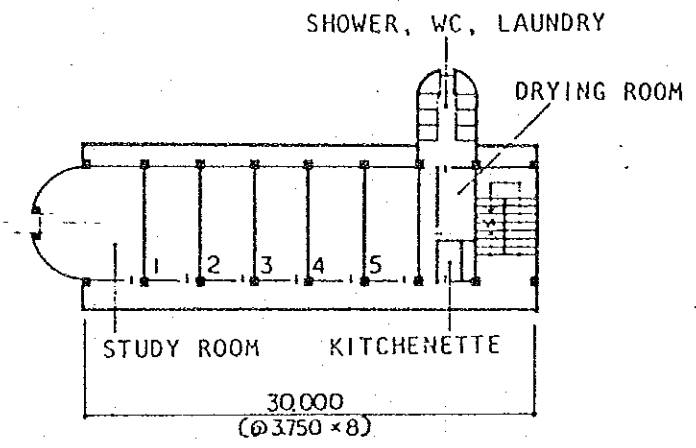
SITE IV PLOT PLAN
NURSE TRAINING CENTRE



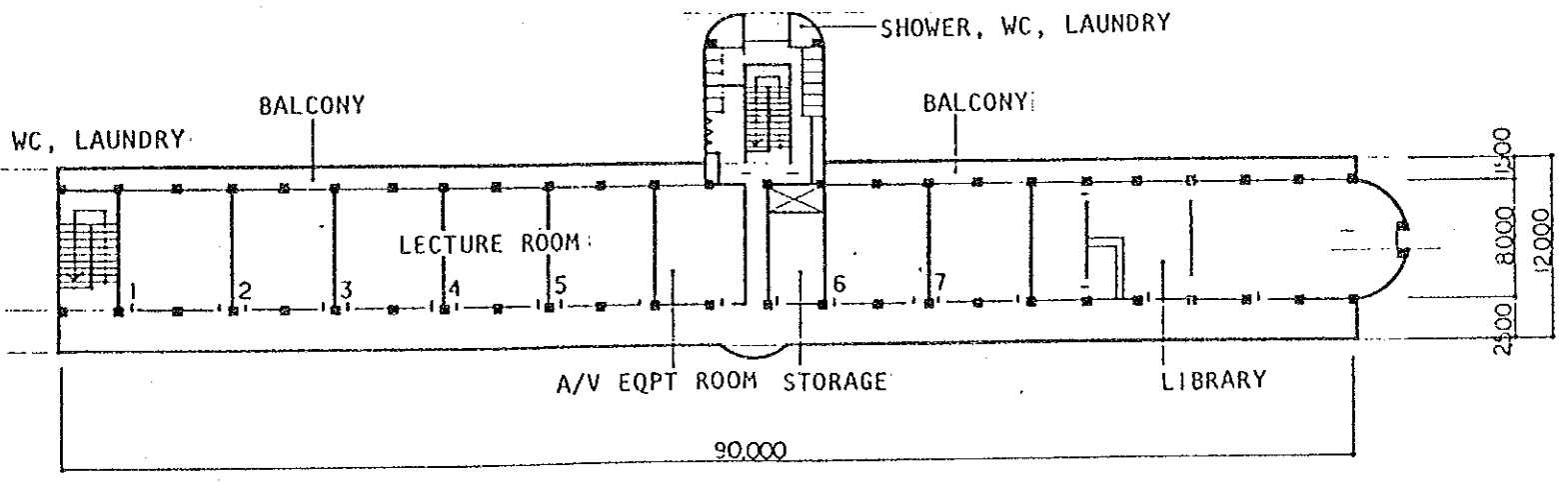
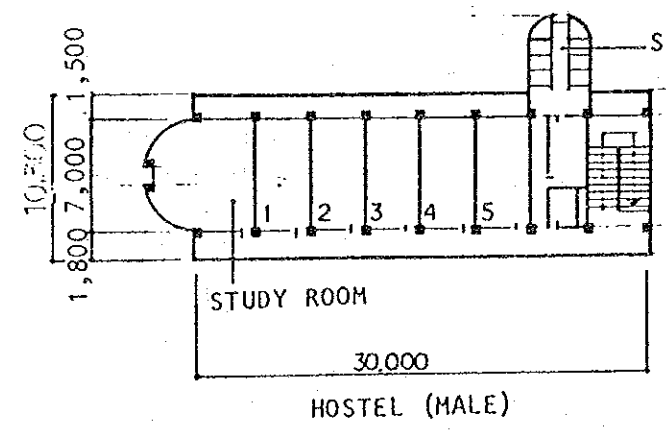


TRAINING WING GROUND FLOOR PLAN
NURSE TRAINING CENTRE



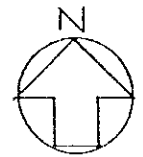
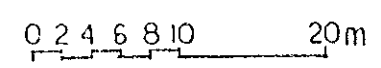


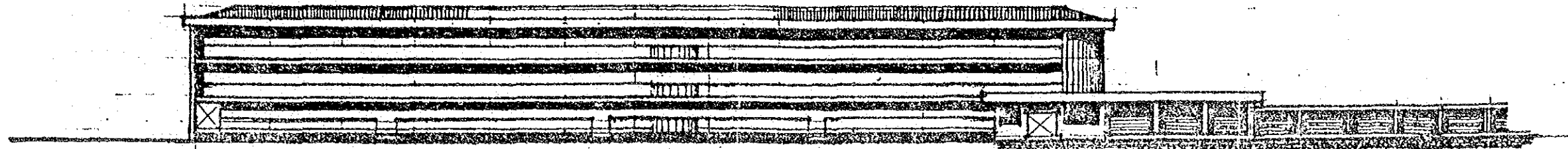
1ST FLOOR PLAN



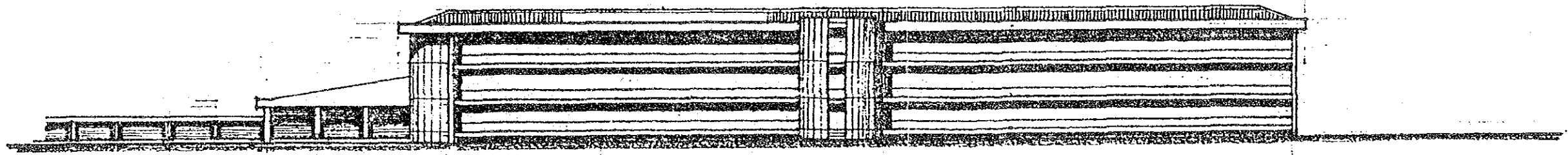
2ND FLOOR PLAN

TRAINING WING
 NURSE TRAINING CENTRE

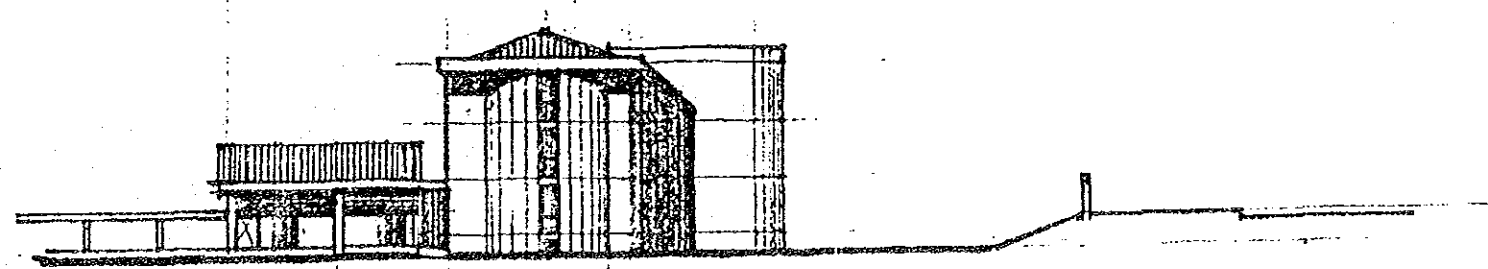




SOUTH ELEVATION

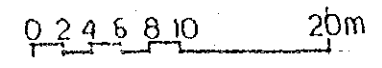


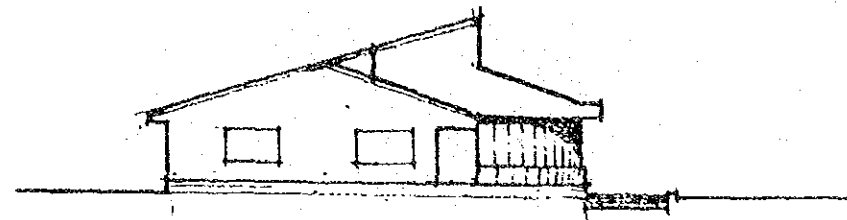
NORTH ELEVATION



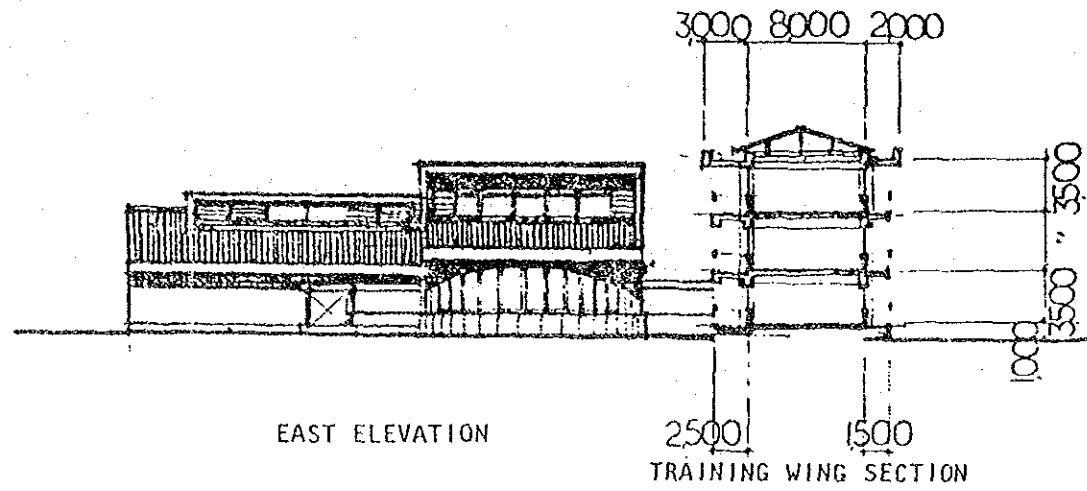
EAST ELEVATION

TRAINING WING ELEVATION
NURSE TRAINING CENTRE



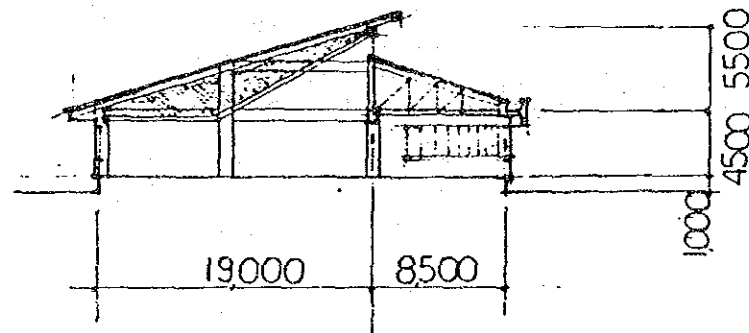


SOUTH ELEVATION

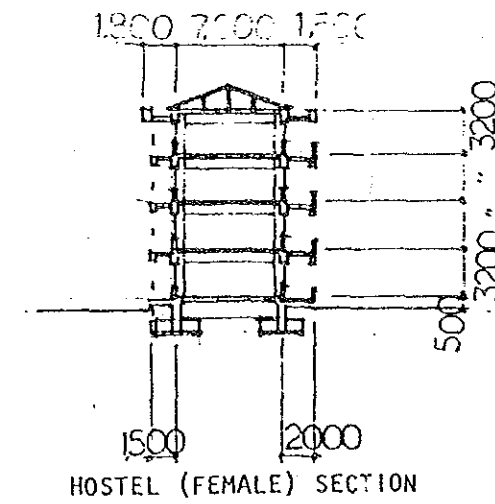


EAST ELEVATION

TRAINING WING SECTION



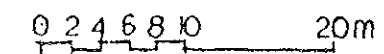
SECTION

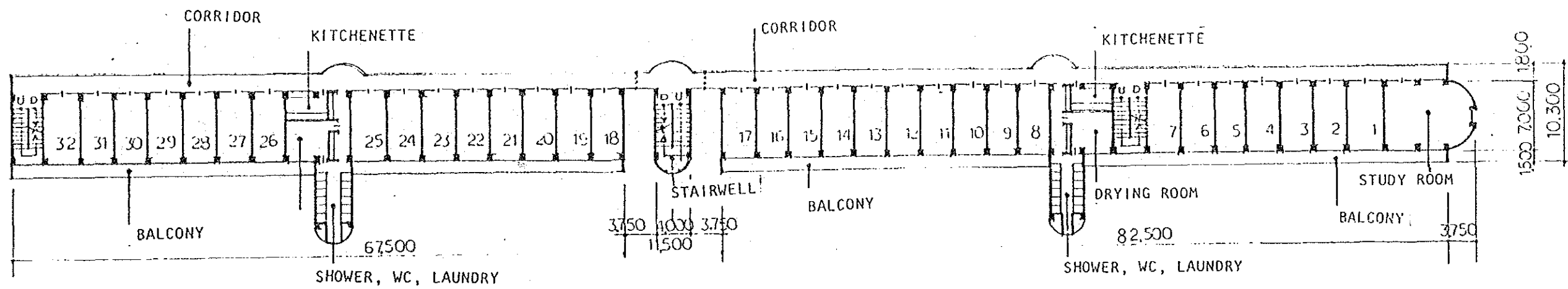
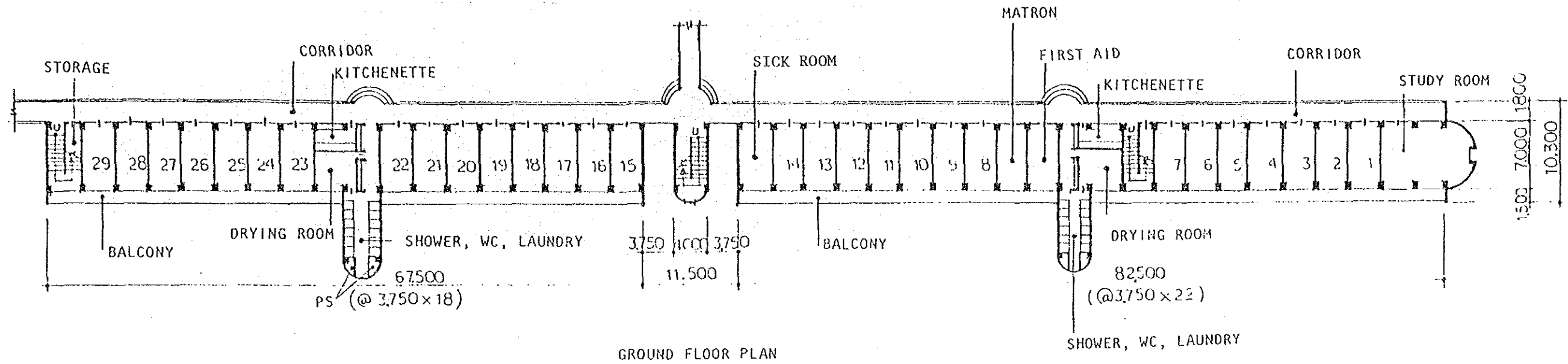


HOSTEL (FEMALE) SECTION

DINING-UTILITY BUILDING ELEVATIONS & SECTIONS

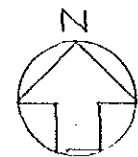
NURSE TRAINING CENTRE

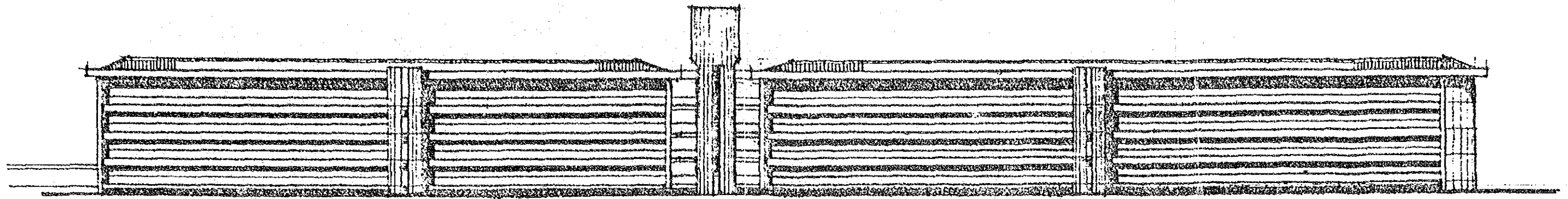




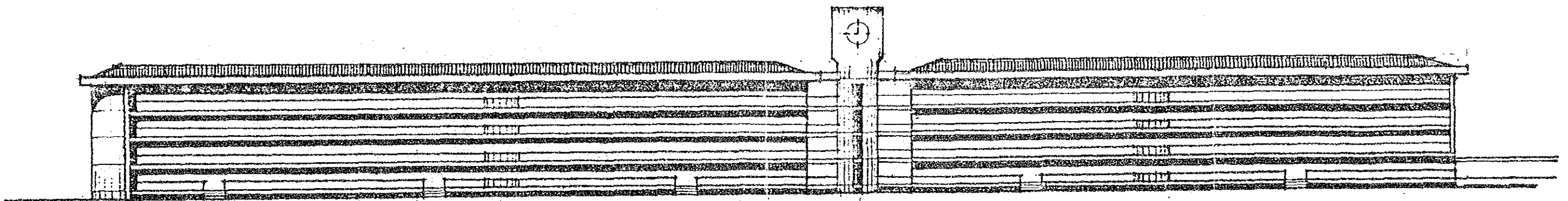
HOSTEL (FEMALE) PLAN
NURSE TRAINING CENTRE

0 2 4 6 8 10 20m

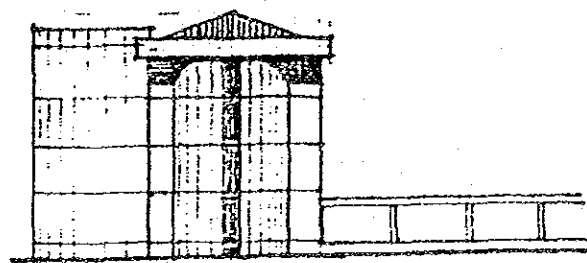




SOUTH ELEVATION



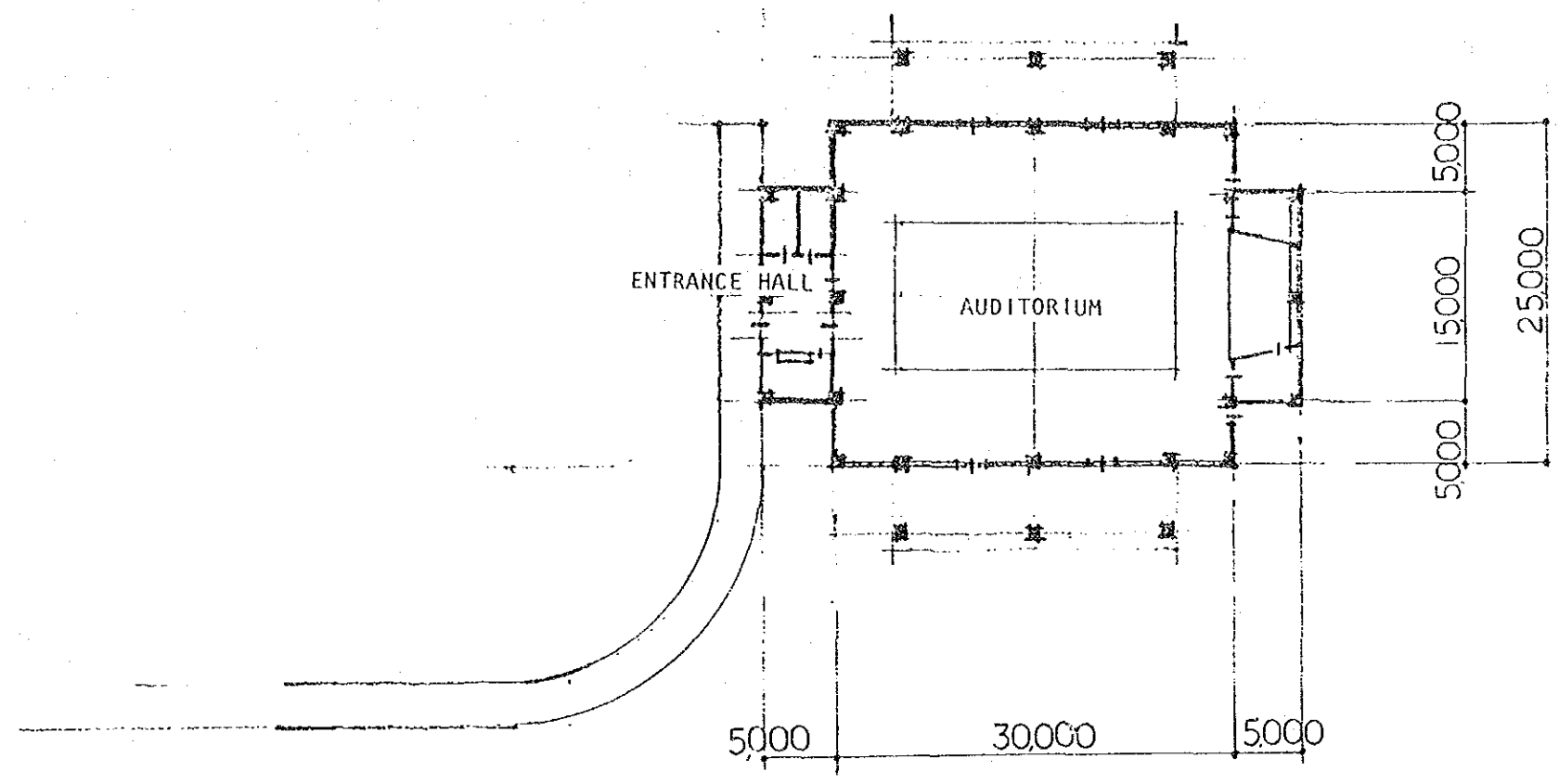
NORTH ELEVATION



WEST ELEVATION

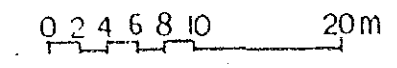
HOSTEL (FEMALE) ELEVATION
NURSE TRAINING CENTRE

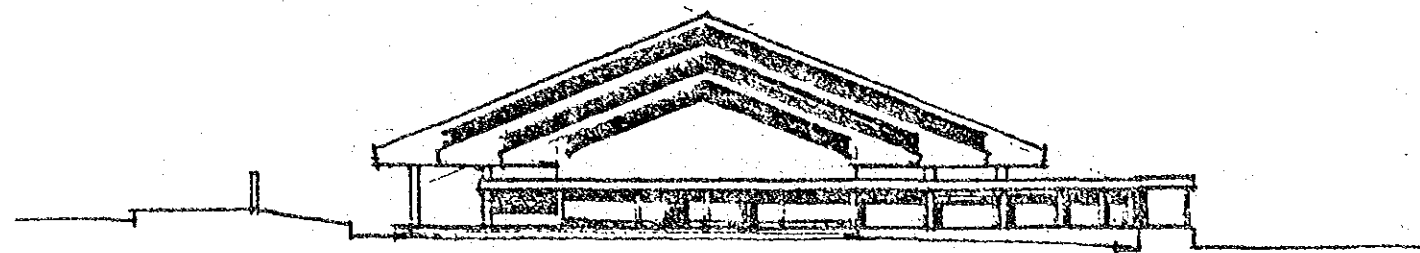




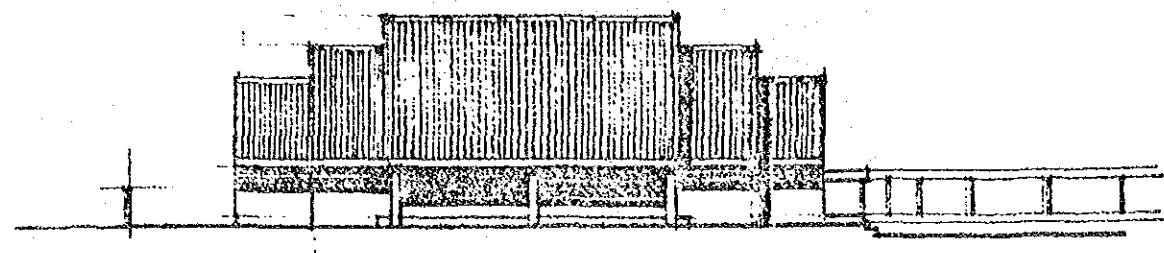
GROUND FLOOR PLAN

AUDITORIUM
NURSE TRAINING CENTRE

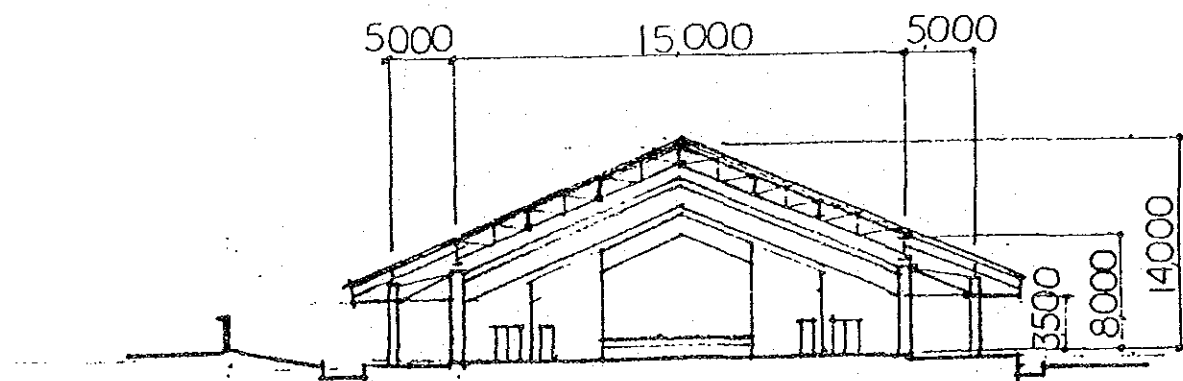




WEST ELEVATION

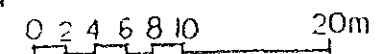


SOUTH ELEVATION



SECTION

AUDITORIUM ELEVATION & SECTION
NURSE TRAINING CENTRE



CHAPTER FOUR ADMINISTRATION AND MAINTENANCE PROGRAMME

CHAPTER FOUR ADMINISTRATION AND MAINTENANCE PROGRAMME

A. ADMINISTRATION AND MAINTENANCE PROGRAMME

Principal and supporting staff are to be assigned to this Training Centre by the Department of Health for training and administration. Administration and maintenance is to be the responsibility of the Centre. Training and administration is to be performed by the Centre staff, and utility operation and maintenance by the Department of Health. The Centre facilities are to be designed with conservation of energy and easy maintenance without any special technology as a prime consideration. Guidance and training of the maintenance staff is to be started before completion of building construction.

B. EXPENSES OF OPERATION AND MAINTENANCE

1. Estimate

Operation expenses consist mainly of personnel expenses and utility expenses for electricity and water. Annual operation and maintenance expenses are estimated as follows:

Personnel expenses

Centre staff salary	188,484 Kyats
(Principal & Deputy Principal: 7,596 Kyats/year each, Librarian: 4,920, Nurse Educators (16): 121,536, Hall Tutor: 7,596, House Keepers (3): 17,820, Senior Clerk: 4,920, Junior Clerk: 3,300, Typist: 3,300, Maintenance Operators (3): 9,900, Total: 188,484 Kyats/year)	
Stipend for students (75 Kyats/month x 560 students x 12)	504,000
Maintenance and service staff salary	48,000
Water, fuel, light	234,072
Miscellaneous	30,000
Total	<hr/> 1,004,556 Kyats/year

Annual budget for the existing Nurse Training Unit of Rangoon General Hospital is as listed below. Expenses of the proposed Training Centre is more than twice as much as that of the existing Training Unit, however, when considered as part of the budget of the Nursing Division for Training of Nurse/Midwife/L.H.V. of the Department of Health, the amount is not unreasonable and judged to be within allocational range which can be financed without difficulty.

Budget allocation for the Department of Health, budget for Nursing Division for Training of Nurse/Midwife/L.H.V., and budget for Nurse Training Unit of Rangoon General Hospital for the years 77 - 78 to 82 - 83 are as listed below.

(1) Budget allocation for the Department of Health, Kyats

77 - 78	78 - 79	79 - 80	80 - 81	81 - 82	82 - 83
205,751,369	222,984,063	234,737,008	250,035,682	316,536,715	313,208,210

(2) Budget for Nursing Division for Training of Nurse/Midwife/L.H.V., Kyats

77 - 78	78 - 79	79 - 80	80 - 81	81 - 82	82 - 83
2,245,730	2,036,879	2,085,307	2,065,848	2,307,760	2,424,688

(3) Budget for Nurse Training Unit of Rangoon General Hospital, Kyats

	78 - 79	79 - 80	80 - 81	81 - 82	82 - 83
Personnel expenses	39,840	41,340	38,760	39,960	41,160
Allowances	7,860	7,224	7,224	14,724	14,724
Stipend, 75 Kyats/month/student	274,500	231,300	269,400	282,600	289,800
*Incidentals	2,000	1,500	1,000	500	1,000
Total	324,200	280,364	316,384	337,784	346,684

*Incidentals: Fuel, water-electric charges, house rent, repairs, etc. (Electric charges, maintenance cost, etc. are mostly financed by the Rangoon General Hospital.)

2. Water Supply and Electric Charges

Operation cost for the proposed Centre is estimated as follows. In the tentative calculation of electric charges, assumption of use hours per day and utilization factor is as shown below. For example, water supply is assumed to be well water from two new wells.

a. Electricity

(1) Monthly consumption assumed:

Training Wing, lighting	160 kW x 7 hrs/day x 22 days/month x 0.4* = 9,856 KWH/month
Hostels, lighting	180 kW x 8 hrs/day x 30 days/month x 0.5* = 21,600
Power	40 kW x 24 hrs/day x 30 days/month x 0.6* = 17,280
Total	48,736 KWH/month

*utilization factor

(2) Electric charges:

Rate for general use

100 KWH or less	0.46 Kyats
More than 100 KWH and 300 KWH or less	0.42 Kyats
More than 300 KWH	0.40 Kyats

(3) Monthly charges

$$\begin{aligned} & 100 \text{ KWH} \times 0.46 + 300 \text{ KWH} \times 0.42 \\ & + 48,336 \text{ KWH} \times 0.40 = 19,506.4 \text{ Kyats/month} \end{aligned}$$

b. Water Supply

(1) Water demand:

$$\begin{aligned} & 700 \text{ persons} \times 40 \text{ gallons/day} \times 30 \text{ days} \\ & = 840,000 \text{ gallons/month} \end{aligned}$$

(2) Water charges:

No municipal water is to be used and water charges are not applicable.

CHAPTER FIVE EVALUATION OF THE PROJECT

CHAPTER FIVE EVALUATION OF THE PROJECT

The implementing of this Project will positively fulfill the objectives of upgrading the level of medical care in Burma by increasing the output of trained nurses/midwives and to improve the quality of their training.

Facilities and equipment designed is appropriate for the planned increase of nurse/midwife trainees. A 20% increase of nurse/midwife output will be achieved by establishment of this Centre. Level of nursing education curriculum will also be improved with adequate training facilities made available to them.

It has been confirmed that no difficulties will be encountered in the implementation of the Project. The Burmese Government has shown great enthusiasm towards the need and realization of this Project and is financially prepared to fulfill its responsibilities to implement the Project.

It has also been confirmed that expenses for operation and maintenance of this Centre are to be financed by the Department of Health of the Ministry of Health, and that the administration and training staff for this Centre will be well qualified and sufficient.

When completed, this Centre will become a model centre for nurse/midwife training, and will serve as a forerunner for future centres of this nature.

After establishment of this Centre, nurses/midwives in greater number and with better training will spread out throughout the country and contribute directly to the improvement of health and medical care services. This Centre will function long into the future as a model institute of nursing education in Burma, and as a manifestation of Burmese-Japanese cooperation and friendship.

CHAPTER SIX CONCLUSIONS AND RECOMMENDATIONS

CHAPTER SIX CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

This Project will contribute to the improvement of medical care and health conditions in Burma by establishing a Training Centre which will increase the number of trained nurses/midwives with better training to be turned out every year. Early execution of this Project within the scope of the Japanese economic cooperation in grant form is recommended.

B. RECOMMENDATIONS

1. Early execution and assistance from the Burmese Government as follows will be most essential for the successful realization of this Project.
 - a. Acquisition of the authority to use the site for the Project.
 - b. Removal of existing buildings on site and preparation of the site for construction of buildings.
 - c. Preparation of utility lines for temporary electric power and water supply.
 - d. Timely acquisition of local material and equipment allocations.
 - e. Prompt import custom and delivery of material and equipment to be imported for this Project.
2. Arrangements for the use during implementation of the Project of construction equipment available in Burma.

APPENDIX

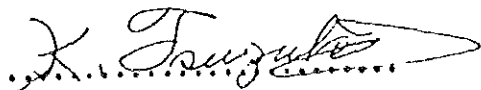
MINUTES OF DISCUSSIONS
ON
THE NURSES TRAINING CENTRE PROJECT
IN
THE SOCIALIST REPUBLIC OF THE UNION OF BURMA

In response to the request by the Government of the Socialist Republic of the Union of Burma, the Government of Japan has sent, through the Japan International Cooperation Agency (hereinafter referred to as "JICA"), a team headed by Ms. Kimi TSUZUKI (Vice President, Social Insurance, Central School of Nursing) to conduct a Basic Design Study of the Nurses Training Centre Project in Rangoon (hereinafter referred to as "the Project") from 22nd November to 2nd December 1982.

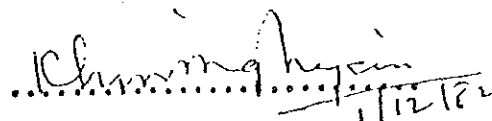
The Team has conducted the field survey and held a series of discussions and exchange views with the official concerned of the Government of Burma.

Both parties have agreed to recommend their respective Governments and authorities concerned to examine the results of the study attached herewith toward the realization of the Project.

1st December, 1982



Ms. Kimi TSUZUKI
Team Leader, Japanese Study Team
J I C A



DR. KHIN MAUNG NYEIN
Director General,
Department of Health,
Ministry of Health,
The Socialist Republic of the
Union of Burma.

2

ATTACHMENTS

1. The Objectives of the Project

The objectives of the Project are to increase the production of the nurses and to improve the quality of nursing training by constructing a Nurses Training Centre (hereinafter referred to as the Centre). The Centre will serve as the model centre for training of nurses and will contribute to the improvement of health situation in Burma.

2. The Executing and Coordinating Agency of the Project

Department of Health,
Ministry of Health,
The Socialist Republic of the Union of Burma.

3. The Activities of the Centre

1. In accordance with the changes in the system of nursing education in Burma since 1980, the Centre will provide 3 years and 6 months training course.

The curriculum is shown as in Annex - 1.

The Centre will admit 80 trainees every 6 months with a total of 160 per year.

After the completion of the training programme and passing the State Examination, the trainees will be qualified as Registered Nurses and Registered Midwives.

2. The Centre will provide training facilities which would improve the quality of nursing training.

4. Proposed Site

The proposed site for the Centre is the property of Department of Health.

The Site is shown in the attached map.

If the space is not sufficient, the Department of Health will make available another site.

K. T.

5. Undertaking of Japanese Study Team

The Japanese Study Team will convey the desires of the Government of Burma to the Government of Japan that the latter will take necessary measures to cooperate in the implementation of the Project by providing items as listed in Annex-II within the scope of Japanese economic cooperation in grant form.

6. Measures to be taken by the Burmese Side

The Government of Burma will take necessary measures as listed in Annex - IV on condition that the grant assistance by the Government of Japan is extended to the Project.

7. Notes

The scale of the Centre is subject to change after detail study by the Japanese Architectural Team.

Kim W

K.T.

SYLLABUS FOR THE BASIC NURSING EDUCATION
FIRST YEAR

1. Available hours.: 30 hs x 4 ws x 11 months = 1320hs.
2. School hours : 6 hours/day, 5 days/week
3. Vacation : 1 month/year

<u>SUBJECTS</u>	<u>Lectures</u>	<u>S.Practice*</u>	<u>C.Practice**</u>
1. Social Science & Allied Arts			
History of Nursing	10		
Present Trends & Nursing Problems	15		
Ethics Applied to Nursing	10		
Personal & Professional Adjustment	6	4	
General Psychology	15		
2. Basic Sciences			
Anatomy and Physiology	105	25	
Physics and Chemistry	50	50	
3. Personal & Communal Health			
Personal Hygiene	10		
Community Hygiene	10	20	
Health Education	10		
Physical Education		20	
4. Medicine (clinical)			
Drugs and Solutions	10	10	
Microbiology & Principles of Asepsis	16	9	
5. Nursing & Allied Arts			
Principles & practice of Nursing I	90	150	
First Aid	15	15	
Nutrition & Dietetics I	20	11	
6. Others			
Preliminary state Exam.	15		
Extra Curricular Activities		15	
Registration, physical Exams.		10	
7. Clinical Practice (2 days/w)	---	---	<u>574</u>
TOTAL	<u>407</u>	<u>339</u>	<u>574</u>

* School Practice

** Clinical Practice

K.T.

K. T.

SECOND YEAR

1. Available hours : 1320 hs.
2. School hours : 6 hours/day, 5 days/week
3. Vacation : 1 month/year

<u>SUBJECTS</u>	<u>Lectures</u>	<u>S.Practice</u>	<u>C.Practice</u>
Internal Medicine and Nursing	60		
Pharmacology	24		
Principles and practice of Nursing II	40	85	
Infectious Diseases	16		
Skin Conditions and Nursing	8		
Nutrition and Dietetics II	14	6	
Venereal Diseases	4		
Tuberculosis	10		
Surgery and Surgical Nursing Care	48		
Ophthalmics and its Nursing Care	8		
Ear, Nose and Throat	10		
Orthopedics and its Nursing Care	10		
Extra Curricular Activities		55	
State Examination	15		
Medical Exam.		5	
Clinical Practice (20.5 hours/3½ days/w whole day for 2 days, half day for 3 days)			902
TOTAL	<u>267</u>	<u>151</u>	<u>902</u>

K.T.

K. T.

THIRD YEAR

1. Available hours : 1520 hs.
2. School hours : 6 hours/day, 5 days/week
3. Vacation : 1 month/year

<u>SUBJECTS</u>	<u>Lectures</u>	<u>S.Practice</u>	<u>C.Practice</u>
Theatre Procedures	15	10	
Anaesthesiology	8		
Pediatric & Pediatric Nursing	30		
GYM & GYM Nursing	16	8	
Mental Disorder & Nursing	24		
Public Health I	30	40	
Public Health II	24	40	
Extra Curricular Activities		70	
Physical Exams.		5	
Final Exams. (include preparation)	64		
Clinical Practice (21.5 hs/3½ days/w whole day for 2 days and half day for 3 days)			936
TOTAL	<u>211</u>	<u>173</u>	<u>936</u>

6 MONTHS MIDWIFERY COURSE

1. Available hours : 720 hs.
2. School hours : 6 hours/day, 5 days/week

<u>SUBJECTS</u>	<u>Lectures</u>	<u>S.Practice</u>	<u>C.Practice</u>
1. Introduction to Midwifery, history, ethics, etc.	2		
2. Female Sex Organs Anatomy & Physiology	10		
3. Normal Pregnancy & Delivery	18	20	
4. Normal Delivery and Nursing Care	12	10	
5. Care of New born Baby (Normal and Abnormal)	29	10	
6. Abnormal pregnancy & delivery	28		
7. Disease with pregnancy	30		
8. Care of baby & school child	30		
9. State examination	15		
10. Clinical practice (21 hs / 3½ days/w)			506
TOTAL	<u>174</u>	<u>40</u>	<u>506</u>

K. T.

K. T.

COMPONENTS OF THE CENTREQuantity

A. BUILDINGS

1. Teaching Facilities	
1.1 Auditorium (for 500 capacity)	1
1.2 Lecture room (60 students capacity)	2
(40 students capacity)	7
1.3 Seminar room (20 students capacity)	4
1.4 Demonstration room (40 students capacity)	1
1.5 Laboratory room	1
1.6 Teaching staff room	6
1.7 Audio-visual equipments store room	1
2. Library	1
3. Ancillary facilities (each floor)	1
4. Administrative block	
4.1 Principal room	1
4.2 Deputy Principal room	1
4.3 Guest room	1
4.4 Office room (5 persons capacity)	1
4.5 Staff conference room (20 persons capacity)	1
5. Hostels	
- 500 students (female) capacity	1
- 60 students (male) capacity	1

B. EQUIPMENTS

The Equipments is shown in Annex - III.

The required equipments and their specifications will be decided later.

K. T.

K. T.

EQUIPMENTS

<u>SR.No.</u>	<u>ARTICLES</u>	<u>QUANTITY</u>
1.	Plain Paper Copying Machine including accessories	2
2.	Duplicating Machine (Automatic)	2
3.	Duplicating Machine (Manual)	2
4.	Typewriter (English)	4
5.	Over-head Projector (220 - Volts)	6
6.	Slide Projector, remote control, Automatic slide changing or Manual slide changing	6
7.	Screen Roll-up type	6
8.	Movie Projector (16)mm with Projector screen	2
9.	Calculator medium size	5
10.	Short wave wireless amplifier and speaker	5
11.	Anatomical charts for all Body Systems	2 sets
12.	MODELS for Anatomical Illustration	2 sets
13.	Pelvis and Foetal Dolls	6
14.	Skull (Foetal)	6
15.	Sculptured Skeleton	4
16.	Steel Cabinet	20
17.	Weighing Machine (Adult)	2
18.	Weighing Machine (Baby)	2
19.	Sterilizer	3
20.	Microscope	40
21.	Refrigerator (large)	3
22.	Incubator for Media Lab.	2
23.	Fixed type centrifuge, capacity: 50 ml x 4	2
24.	Balance capacity 200 g, sensitivity 1 mg.	1
25.	Weights for above, 1 mg - 100 g	3
26.	Thermometer, 140-200 degree C	6
27.	Sphygmomanometer	10
28.	Stethoscope	10

H. T.

K. M. W.

1. To secure necessary land for the construction.
2. To clear, fill and level the site of the Centre when needed before the construction starts.
3. To provide data and information necessary for the Project.
4. To provide facilities for distribution of electricity, water supply, drainage and other incidental facilities within the scope of Japan's Grant Aid Programme.

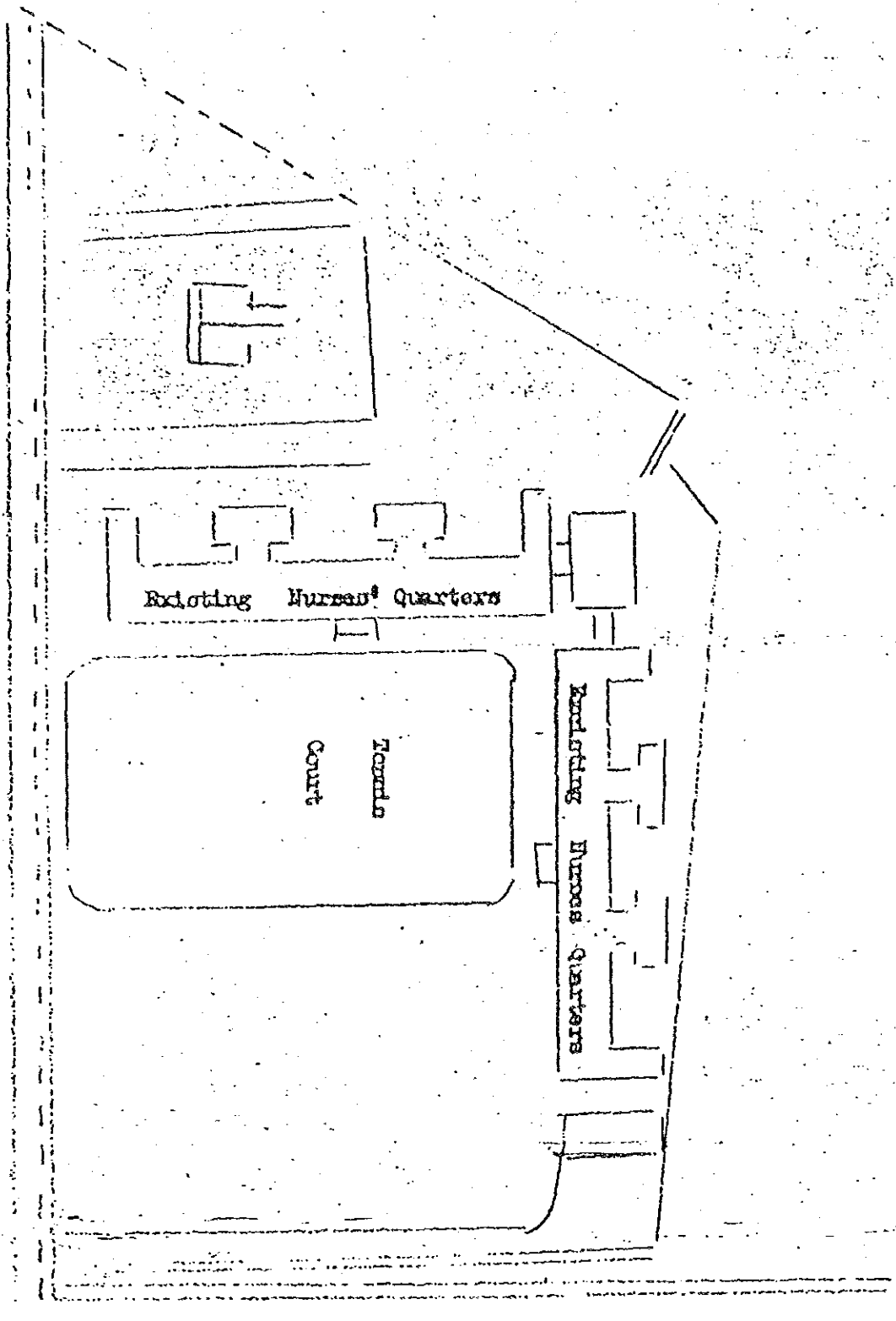
K.T.

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SCALE = 1" = 100 FT.

"

L E S D ROAD



A.T.

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APPENDIX 2

PERSONNEL CONCERNED

1. Burma

a. Department of Health

Dr. Khin Maung Nyein	Director General
Dr. Kyaw Sein	Director
Dr. Thein Dan	Deputy Director (Planning)
Dr. Than Win	Deputy Director (Training)
Dr. Than Zaw	Medical Officer
Daw Tin Kyi	Assistant Director (Nursing)
Daw Saw Yi	Deputy Nursing Chief
Daw Saw Yin	Deputy Nursing Chief
Naw Winsome Myaing	Sister Tutor

b. FERD

U Thein Myint	Director General
U Myint Htu	Assistant Director

c. Construction Corporation

U Win Kyu	Staff Officer 1 (Q.S. & Research)
U Aung Myint	S. O. I. (Architect)
U Kyi Sein	S. O. II. (Architect)
Mr. E. de Souza	S. O. II. (Q.S. & Research)
U San Pe	S. O. II. (Q.S. & Research)

d. Rangoon City Development Committee

U Thein Naing	Deputy Head, Water & Sewage Dept.
U Khin Maung	Deputy Head, Water & Sewage Dept.

e. Electric Power Corporation

U Kyaw Myint	Divisional Engineer (Rangoon Division)
U Htun Shein	Executive Engineer
U Aung Khin	Assistant Engineer
Daw Shwe Pyi	Assistant Engineer

f. Rangoon General Hospital, General Nursing School & Dormitories

Dr. U Khin Maung Gyi	Medical Superintendent
Dr. U Tin Aung Tun	Deputy Medical Superintendent
Daw Graung	Nursing Superintendent
Daw Tin Tin Nyunt	Assistant Nursing Superintendent
Daw Khin Hla Shwe	Sister Tutor

g. North Okkalapa General Hospital

Dr. Mya Maung	Medical Superintendent
Dr. Min Thu Aung	Assistant Medical Staff I
Daw Khin Htwe	Matron
Daw Say Ku	Sister Tutor
Daw Mai Chit San	Ward Sister
Dr. Khin Than Swe	A. M. S. II

h. East Rangoon General Hospital

Dr. Myint Thein	Medical Superintendent
Dr. Tin Tin Hla	Deputy Medical Superintendent
Daw Chit Si	Matron
Daw Hla Yin	Sister Tutor

i. Institute of Medicine (I)

Dr. Tun Min	Rector
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2. Japan

a. Basic Design Study Team, Phase I

Ms. Kimi Tsuzuki, Leader

Vice President
Social Insurance Central School of Nursing

Mrs. Yasuko Higuchi, Nursing Education

Director
Institute for Postgraduate Nurses
Japanese Red Cross Society

Mr. Ichiro Takeuchi, Programming Cooperation

Secretary-General
The International Nursing Foundation of Japan

Mr. Sen-ichi Kimura, Planning Control

Grant Aid Department
Japan International Cooperation Agency

b. Basic Design Study Team, Phase II

Mr. Kazuo Hirukawa, Head, Building Planning

Matsuda, Hirata & Sakamoto
Architects, Planners & Engineers, Inc.

Mr. Yoshihide Igata, Building Design

Matsuda, Hirata & Sakamoto
Architects, Planners & Engineers, Inc.

Mr. Sumio Matsuda, Structural Design - Estimation

Matsuda, Hirata & Sakamoto
Architects, Planners & Engineers, Inc.

Mr. Kiyotaka Otani, Building Utility - Equipment Planning

Matsuda, Hirata & Sakamoto
Architects, Planners & Engineers, Inc.

APPENDIX 3

SCHEDULES IN BURMA

November/December 1982 (Phase I Team)

23rd	Tue	Embassy of Japan, JICA, FERD, Department of Health
24th	Wed	Department of Health
25th	Thu	Site I, II, General Women's Hospital, East Rangoon General Hospital
26th	Fri	Children's Hospital, Rangoon General Hospital
27th	Sat	Department of Health
28th	Sun	
29th	Mon	Department of Health
30th	Tue	
1st (Dec.)	Wed	Department of Health, Embassy of Japan
2nd	Thu	JICA

December 1982 (Phase II Team)

13th	Mon	Embassy of Japan, JICA, Department of Health
14th	Tue	Site II, III, Central Women's Hospital
15th	Wed	Department of Health
16th	Thu	Rangoon General Hospital, Department of Health, FERD
17th	Fri	North Okkalapa General Hospital, Department of Health, Site IV, East Rangoon General Hospital
18th	Sat	Site IV
19th	Sun	(Data Analyses)
20th	Mon	Embassy of Japan, Medical College, Department of Health

21st	Tue	Construction Corporation, Department of Health
22nd	Wed	Department of Health
23rd	Thu	Department of Health
24th	Fri	Department of Health
25th	Sat	(Data Analyses)
26th	Sun	(Data Analyses)
27th	Mon	Department of Health
28th	Tue	Department of Health
29th	Wed	Department of Health

JICA