

Chapter 4 Basic Design

4.1 Design Principles

The basic design must be worked out in line with the following principles:

(1) to be functional

For the local staff, the facilities must be easy to operate, maintain and manage. In order to secure efficient control by a select few, excessive division of space must be avoided. In selecting equipment, that of requiring highly technical training and much energy must be avoided.

(2) to be flexible

The facilities must be of such style and arrangement as to permit remodeling and changes of function in the future.

(3) to be durable

The facilities must be constructed and finished so as to withstand the local natural condition.

(4) to use local materials

In order to achieve smooth progress in construction work as well as reduction of construction costs, local materials must be used to the greatest possible extent.

(5) to adopt the local method of construction

The method of construction which is widely in use locally must be adopted with partial revisions where necessary.

(6) to prevail weather conditions

In view of the high temperature and plentiful rainfall, consideration must be given to the design of rooms so that they can have thorough ventilation.

(7) to be low story buildings

The proposed buildings must be one-storied or two-storied at the highest. The reasons for this are:

- a) The building site is spacious enough to allow the structure to stand low.
- b) The construction period is relatively short.
- c) When local materials and method of construction are used, the low-rise structure has more advantages than the high-rise one.
- d) From the functional point of view, the high-rise structure requires lifts and other means of transport that eventually lead to the increased construction and maintenance cost.
- e) Taking into consideration the scale of the proposed hospital, the high-rise structure involves many functional disadvantages. For instance, the hospital's total number of beds - 23 - is within the standard number of a nursing unit. This, coupled with the demerits set forth in the preceding item (d), shows the ward of the proposed hospital is most suitable to be one-storied.

4.2 Layout Plan

4.2.1 Layout Plan for the Leulumoega Hospital

Special emphasis must be laid on the effective use of land because the building site is relatively small. The steep slope runs on the northern bounds of the site, over which part of the existing structure stretches. The construction of the proposed hospital on this plot of land must be avoided as far as possible, because it is certain to increase the cost and the period of construction.

Along the road and in front, a spacious piece of land is reserved for forecourt and parking lots. On the right stands the clinic block, and deep on the right the ward block, both of which are linked with a roofed connecting passageway. This arrangement offers a peaceful view from the road, and provides the ward block with a restful location.

On the left are the staff restroom unit. On the western side of the ward block, the patient relatives' fale is located.

All buildings are effectively arranged in terms of ventilation and function, leaving adequate space between the buildings.

4.2.2 Layout Plan for the Sataua Hospital

For the Sataua hospital, the basic idea is the same as Leulumoega with the clinic block arranged close to the road and the ward deeper in the site. But the site is spacious enough to leave more space between the buildings.

4.3 Architectural Plan

4.3.1 Floor Plan for Each Building

(1) Clinic Block

The clinic block has a square shape and is divided in the following four sections with each section conveniently arranged along each side: (1) reception, dispensary, examination and treatment (2) operation and delivery (3) laboratory (4) dental clinic and inspectors' and district nurses' offices. The four corridors stretching from the center of the block to the sides can be utilized as waiting space. The top of the central section is open, permitting the sun and air in, freely and unrestrictedly, thus improving ventilation and lighting. Under this arrangement, the internal space is as open and free as the external one. Each function selects the room that satisfies its needs from among the three -- more open room, medium and less. Each room refuses to adopt the bearing walls, securing the flexibility for the remodeling of the future.

(2) Ward Block

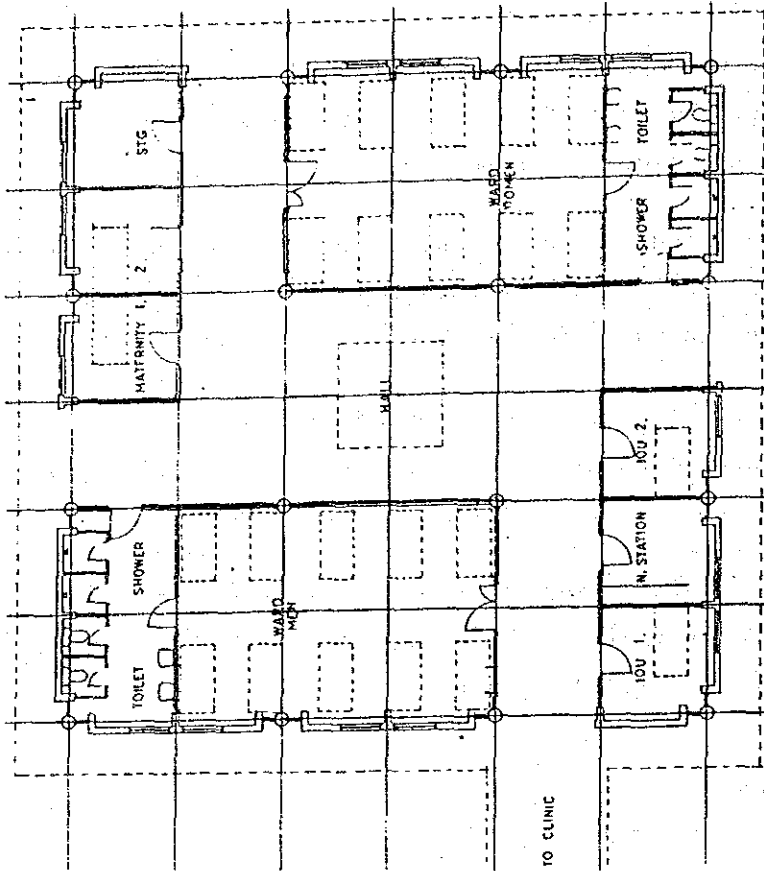
At first, the survey team recommended a draft plan which was made with following principles securing through ventilation;

Of the 24 beds, 4 are housed in two private rooms for the very serious cases and two maternity rooms. The remaining 20 beds are housed in two large common rooms, 10 for men and another 10 for women. The way to divide the whole block and the interior space is the same as the clinic block. The ward block is split in (1) large common room (a), (2) large common room (b), (3) private rooms for the serious cases and the nurse station and (4) the maternity ward. The space in the central section is maintained as free and unrestricted as in the case of the clinic block.

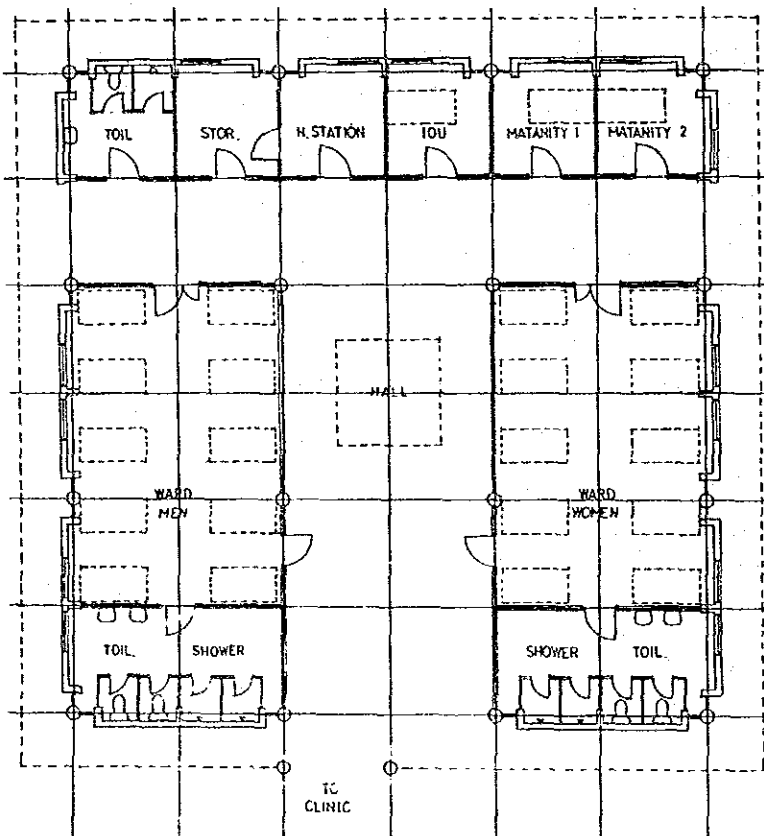
Though the officials concerned of the Government of Western Samoa accepted most of these, they requested to make some alterations on the following two points;

- 1) Nurse-Station, I.O.U. Maternity rooms are to be arranged together into single block. Consequently, this arrangement reduce the ventilation effect to a certain extent.
- 2) One of two I.O.U. Rooms is to be changed to a store room, and both rooms must have direct access from Nurse-Station. As a result, total number of beds is to be 23.

After careful study and discussion about how to satisfy the conditions, the draft plan was altered to the final one. (See the drawings on the next page.)



DRAFT PLAN



FINAL PLAN

(3) Doctors' Restroom Unit and Conference Room

The restroom unit for medical officers and technicians equipped with toilet and kitchen, is installed. Built in the center is the conference room for the hospital staff, which is designed to serve multi-purposes such as dining and rest.

(4) Nurses' Training Unit

For six nurses, comprising 3 staff nurses and 3 nurse aids, three 2-bed rooms are set aside. The rooms are supplemented by a common toilet, kitchen and dining room. Also to be set up is the health consultation room which is designed to serve multi-purposes, including the following.

- (a) Lectures to be given to nurse aids
- (b) Staff meetings within the district
- (c) Women's committee meetings
- (d) Joint meetings in the region

The storage chamber in the building is designed to store miscellaneous articles of the hospital.

(5) Patient Relatives' Fale

A one-room structure is built for patient relatives, using the local traditional method of construction. No walls are erected. The toilet, kitchen and laundry are housed in an annex.

4.3.2 Floor Plan for Each Building (Sataua)

(1) Clinic Block

The basic concept is the same as in Leulumoega. But the room arrangement is slightly different from that of Leulumoega, because the X-ray photo room is included.

(2) Ward Block

The basic concept is the same as in the case of Leulumoega.

- (3) Doctors' Restroom Unit, Technicians' Restroom Unit and Nurses' Training Unit

The unit to accommodate the hospital staff must be two because the building site is more spacious than in Leulumoega and also because the restroom for the X-ray engineers is necessary. The total number of buildings for the hospital staff has now increased to 3, including the nurses' training unit. The room arrangement plan is almost the same as in Leulumoega.

- (4) Fale and Annex

The fale and annex are the same as in Leulumoega.

4.3.3 Elevation and Vertical Section

The proposed hospital must adopt the style matching the local weather condition and the traditional construction style, giving great care to ventilation. To achieve it, the utmost care must be given to the following points.

- (1) Build high-ceilings and lofty structures.
- (2) Board ceilings and keep the attic well-ventilated.
- (3) Make openings as big as possible.
- (4) Build high-floor structures.
- (5) Secure sufficient roof slope.
- (6) Pillars, poles and other supports must be arranged in a well-balanced way.
- (7) Both the upper and lower ends of partition must be kept open to keep the room well-ventilated, unless such steps disturb the function.

4.3.4 Finishing Plan

In finishing the exterior and interior of the building, each item listed in the basic principle must be followed. Although the locally adopted method of construction has been widely incorporated, it is partially revised to meet the functional and other needs. For instance, materials of high durability are used for the exterior.

This inevitably brings high initial cost, but it is offset by holding down the maintenance cost to the lowest possible level. In view of the nature of the hospital (handling patients), walls and ceilings should preferably be finished with noncombustible or fireproof materials of better quality, ensuring safety.

However, how far such principle can apply is determined by the function of each unit such as clinic block, ward block, hospital staff restroom unit and canteen. Details are given in Table 4.3.4 (a) through (c).

Table 4.3.4 (a) CLINIC BLOCK WARD BLOCK : Finishing to be applied

Element	Local Type Finishings					Remarks
	A	B	C	D	E	
Roof	Straw-thatched	Corrugated Galvanized Iron Sheet	Same as B	Same as B	Asphalt Single	To secure high durability
External Wall	None	Wooden Siding Painted	Same as B	* Painted (C.B Surface or Mortar Troweled)	** Porcelain Tile	* Local Type Finishing with relatively high durability ** Partially used for accentuation
Base	None	Mortar Troweled and Painted	Same as B	* Mortar Troweled and Painted		* Ditto
Doors	*** None	Wooden Panel door	Same as B	* Same as B	** Aluminum	* Ditto ** Used where high durability is required *** Make as many opening as possible to secure wind circulation
Windows	*** None	Wooden Casement window with Glass	Aluminum Sash Jalousie Window	* Same as C		* Ditto *** Ditto
Ceiling	Roof board exposed	Wooden Ceiling board painted	Particle Board	Same as C	* Rock Fiber board Painted	* Fire-resistance and good appearance
Wall	None	Wooden siding painted	Same as B	* Painted (C.B Surface or Mortar Troweled)	** Vinyl cloth	* Local Type Finishing can function well enough ** Partially used for accentuation
Base	None	Wooden Base painted	Same as B	* Ditto	** Vinyl Base	* Ditto ** Good appearance and relatively low cost
Floor	* Mortar troweled	Wooden strip Flooring	Vinyl Tile	** Same as C	*** Porcelain Tile	* Used where expected to be washed ** Local Type Finishing can function well enough *** Used partially for accentuation
Doors	None	Wooden Panel door	Wooden Flushdoor	* Same as C	** Steel	* Local Type Finishing can function well enough ** Used where high durability is required
	Traditional Pale (Wooden)	Relatively old style wooden building (American Style)	Relatively New style wooden building	New style Ferro-concrete or concrete block building	Applied on relatively high grade building in Western Samoa	

Table 4.3.4 (b) DOCTOR'S RESTROOM UNIT NURSE TRAINING UNIT : Finishing to be applied

Element	Local Type Finishings					Remarks
	A	B	C	D	E	
Roof	Straw-thatched	Corrugated Galvanized Iron Sheet	Same as B	Same as B	Asphalt Single	To secure high durability
External Wall	None	Wooden Siding Painted	Same as B	* Painted (C.B Surface or Mortar troweled)	** Porcelain Tile	* Local Type Finishing with relatively high durability
Base	None	Mortar Troweled and Painted	Same as B	* Mortar Troweled and Painted		* Ditto
Doors	None	Wooden Panel door	Same as B	* Same as B	** Aluminium	* Ditto ** Used where high durability is required *** Make as many openings as possible to secure with circulation
Windows	None	Wooden Casement window with glass	Aluminum Sash Jalousie Window	* Same as C		* Ditto *** Ditto
Ceiling	Roof board exposed	Wooden Ceiling board painted	Particle Board	* Same as C	Rock Fiber board Painted	* Use of Gypsum board also shall be studied
Wall	None	Wooden siding painted	Same as B	* Painted (C.B Surface or Mortar Troweled)	** Vinyl cloth	* Local Type Finishing can function enough ** Partially used for accentuation
Ease	None	Wooden Base painted	Same as B	* Ditto	** Vinyl Ease	* Ditto ** Good appearance and relatively low cost
Floor	* Mortar troweled	Wooden strip Flooring	Vinyl Tile	** Same as C	*** Porcelain Tile	* Used where expected to be washed ** Local Type Finishing can function enough
Doors	None	Wooden Panel door	Wooden Flush door	* Same as C	Steel	* Local Type Finishing can function enough
Remarks	Traditional Fale (Wooden)	Relatively old style wooden building (American Style)	Relatively new style wooden building	New style Ferro-concrete or concrete block building	Applied on relatively high grade building in Western Samoa	

Table 4.3.4 (c) PATIENT RELATIVES' FALE		Local Type Finishings					Others		Remarks
Element	Types	A	B	C	D	E	Remarks		
Roof		Scraw-hatched	Corrugated Galvanized Iron Sheet	Same as B	Same as B	Asphalt Single	To secure high durability		
External Wall		None	Wooden Siding Painted	Same as B	Painted (C.B Surface or Mortar troweled)	Porcelain Tile	Traditional local type finishing can function well enough		
Base		None	Mortar Troweled and Painted	Same as B	Mortar Troweled and Painted	"	"		
Doors		None	Wooden Panel door	Same as B	Same as B	Aluminum	"		
Windows		None	Wooden Casement window with glass	Aluminum Sash Jalousie Window	Same as C	"	"		
Ceiling		Roof board exposed	Wooden Ceiling board painted	Particle Board	Same as C	Rock Fiber board Painted	"		
Wall		None	Wooden siding painted	Same as B	Painted (C.B Surface or Mortar Troweled)	Vinyl cloth	"		
Base		None	Wooden Base painted	Same as B	Ditto	Vinyl Base	"		
Floor		Mortar troweled	Wooden strip Flooring	Vinyl Tile	Same as C	Porcelain Tile	"		
Doors		None	Wooden Panel door	Wooden Flush door	Same as C	Steel	"		
Remarks		Traditional Pale (Wooden)	Relatively old style wooden building (American Style)	Relatively new style wooden building	New style Ferro-concrete or concrete block building	Applied on relatively high grade building in Western Samoa			

4.4 Structural Plan

The proposed hospital consists of the following units.

- * Clinic block
- * Ward block
- * Fale
- * Dining Room, Kitchen
- * Doctors' Restroom Unit
- * Inspector's Restroom Unit
- * Nurses' Training Unit

Each unit is planned to be a one-storied building. In working out the structural plan, consideration must be given to the following:

- a) The method of construction shall be selected from among many which are locally prevalent, considering durability and accuracy of construction.
- b) Screen walls using perforated concrete blocks shall be used partially for outer walls or partition walls, securing natural ventilation through buildings.

(1) Doctors' Restroom Unit, Technicians' Restroom Unit, Nurses' Training Unit

These units adopt more partition walls than other units to meet their functions. Making use of these characteristics, the structural plan for these units shall be as follows:

Main structure: Concrete block building

Roof-truss: Wooden truss

Fundamental style: Continuous footing

Also, the inner and outer walls shall be screen walls except the main structure. The bearing wall of the concrete block resists the horizontal force, and the roof-truss shall be so designed as to resist the unstressed weight of the roof and wind pressure exerted on the roof.

(2) Clinic Block, Ward Block, Fale, Kitchen.

Main structure: RC building (Cantilever pillar)

Roof-truss: Wooden truss

Foundation: Independent footing

The cantilever pillar resists horizontal force.

The roof-truss shall be so designed as to resist the unstressed weight of the roof and wind pressure exerted on the roof. As a result of the first-hand inspection and test drilling, the bearing capacity of soil of the building site shall be $F_e=10t/m^2$.

4.4.2 Design Standard

The structural design shall be worked out using the method prevalent in present-day Western Samoa, reinforced by supplementary techniques.

In Western Samoa, the New Zealand Standard (NZS) shall apply to the construction of large-scale buildings. For the construction of small-scale reinforced masonry, the detailed draft building regulations have been established with regard to the materials and construction method.

In the projected hospitals, the method of construction and design load are based on NZS, and the design of wooden truss and concrete block walls is worked out in accordance with the above regulations.

4.4.3 Design Load

- (1) In accordance with the regulations of NZS, the seismic force to be exerted on the building can be obtained through the following equation.

$$V=Cd.Wt$$

where

V: Total horizontal force at the time of seismic tremor

Cd: $Cd=C.I.S.M.R$

C: Coefficient determined by the regionally classified types of the ground and a cycle peculiar to the building.
 $C=0.15$ (in NZS figure 3, pp125, the region is classified as A and the cycle as $T < 0.45$ sec)

I: Coefficient determined in accordance with the importance of the building. $I=1.3$ (In Table 4, pp 127, of NZS, it falls in the category of Class 2)

S: Coefficient determined by the style of construction.
 $S=2.0$ for both directions of X and Y. (In Table 5A, pp 127, Item=A1)

M: Coefficient determined by the types of construction.
In the case of RC building, $M=10$. (In Table 6, pp 128, Item=3)

R: Risk coefficient determined by the use of the building
R=1.0 (In Table 7, pp 129, Item=1)

Wt: Gross weight of the building

From the above, F_d is:

$$C_d = 0.15 \times 1.3 \times 2.0 \times 1.0 \times 1.0 = 0.39$$

(2) Wind Load

Wind load for design is obtained in accordance with the following equation:

$$P = q \cdot C \cdot A$$

where

$$q = 60\sqrt{h}$$

h: Height of the building $h = 3.0\text{m}$

C: Wind pressure coefficient $C = 1.2$

A: Wind receiving space

Therefore, wind pressure $q \cdot c = \sqrt{3} \cdot 1.2 = 0.124 \text{ t/m}^2$

4.5 Mechanical and Electrical Systems

4.5.1 General Descriptions

Mechanical and Electrical systems are to be designed in accordance with Laws and Regulations of Western Samoa, New Zealand Drainage and Plumbing Regulations (1978) and New Zealand Wiring Regulations (1976). Considering the local circumstances, simple systems which require less maintenance will be adopted.

Plumbing system which includes local air-conditioning and ventilation and Electrical system are to be installed.

4.5.2 Plumbing System

(1) Estimation of Design Water Consumption

Design water consumption is estimated as follows.

LEULUMOEGA HOSPITAL

Consumers	Number of Consumers	Consumption per capita	Daily Consumption (lit)
Doctors and Nurses	10	200 (lit/day)	2000
Inpatients	24	200 (lit/day)	4800
Attendants	24	100 (lit/day)	2400
Outpatients	50	10 (lit/cap)	500
Total			9700

SATAUA HOSPITAL

Consumers	Number of Consumers	Consumption per capita	Daily Consumption (lit)
Doctors and Nurses	14	200 (lit/day)	2800
Inpatients	24	200 (lit/day)	4800
Attendants	24	100 (lit/day)	2400
Outpatients	50	10 (lit/cap)	500
Total			10500

As there is little difference in consumption in both hospitals, the daily design consumption can be determined as $11\text{m}^3/\text{day}$ for each hospital.

(2) Water Supply System

As buildings in both hospitals are one-storeyed, city pressure system will be adopted. Rainwater storage tanks will be installed for emergency as in existing hospitals.

Peak flow rate being estimated 1409 lit/min , the service pipe diameter becomes 50 (mm) limiting the velocity to 1.5 (m/s) . Polyvinyl chloride (PVC) Pipe will be used because of its anti-corroding nature, easier installation and maintenance, and low cost. Capacity of rainwater storage tanks will be equivalent to the capacity of design daily water consumption. Four locally made galvanized corrugated iron tanks of 3m^3 will be installed in each hospital as shown in Fig. 4.5.1.

(3) Hotwater Supply System

A solar hot water system for hand basins and to preheat the water for sterilizers will be installed in the operation and delivery section of clinic. No other hot water system than above-mentioned will be installed.

(4) Drainage, Waste and Vent System

Foul drains will be gathered with New Zealand system and treated at a septic tank. The effluent from the septic tank is treated by soak field.

(5) Septic Tanks and Soak Fields

Septic tanks will treat both soil and waste water. As described earlier in this report, septic tanks in existing buildings are scattered near each toilet, a single septic tank however will be installed for this project considering the installation cost and easier maintenance. Capacity of a septic tank is determined by the detention time of two days, resulting capacity becomes $22\text{ (m}^3\text{)}$. Soak field area will be $55\text{ (m}^2\text{)}$ based on the treating capacity of $0.2\text{ (m}^3/\text{m}^2\text{day)}$.

(5) Cooking Range

Bio-burners will be installed by the request of the Health Department of Western Samoa for the purpose of saving fuel. Woods including coconut shells can be burnt by bio-burners.

(7) Ventilating and Air-conditioning System

Although natural draft will be mainly utilized, local ventilation fans will be installed upon the necessity. Ceiling fans will be installed in the inpatient rooms inward and other rooms not facing outside.

Window-type air-conditioners will be installed in the operation theater and the delivery room.

(8) Plumbing Fixtures Installed

Plumbing fixtures to be installed are shown in Fig. 4.5.2 for Leulumoega Hospital, and in Fig. 4.5.3 for Sataua Hospital respectively. These figures only show the kinds of fixtures to be installed, and the layout of fixtures in each room is to be precisely determined at the detailed design stage.

4.5.2 Electrical System

(1) Estimation of Demand Load

Electrical demand is estimated as follows.

Leulumoega Hospital				
Appliances	Floor Area or Installed Capacity	Load	Usage Factor	Load (VA)
Luminaires	1140 (m ²)	15 (VA/m ²)	100%	17100
Receptacles	1140 (m ²)	5 (VA/m ²)	30%	1710
Medical Equipment	15700 (VA)		50%	7850
Window Coolers	5750 (VA)		100%	5750
Total				32410

Sataua Hospital

Appliances	Floor Area or Installed Capacity	Load	Usage Factor	Load (VA)
Luminaires	1230 (m ²)	15 (VA/m ²)	100%	18450
Receptacles	1230 (m ²)	5 (VA/m ²)	30%	1845
Medical Equipment	45700 (VA)		50%	22850
Window Coolers	5750 (VA)		100%	5750
Total				48895

(2) Leading-in

At Leulumoega Hospital, the existing 3-phase 50KVA transformer will be changed to a larger capacity transformer which will supply electricity to the hospital by overhead wiring.

At Sataua Hospital, the electricity will be supplied from an existing single-phase 75KVA transformer to the hospital by overhead wiring.

(3) Distribution in Sites

Watt-hour meters will be installed as shown in Fig.4.5.4 for metering with the request by the Health Department of Western Samoa. Watt-hour meters are to be installed in a distribution panel in each building.

In both hospitals, a main distribution board will be installed in the clinic building which will distribute the electricity to a distribution panel in each building by overhead wiring as shown in Fig. 4.5.5.

From each distribution panel the electricity will be distributed with vinyl wires in conduct pipes.

(4) Lighting Fixtures and Receptacles

Intensity of illumination will be as follows.

Places	Illumination
General Rooms	150 (lux)
Corridors and Waiting	100 (lux)
Ward Beds	150 (lux)
Operation, Delivery Room and Laboratory	300 (lux)

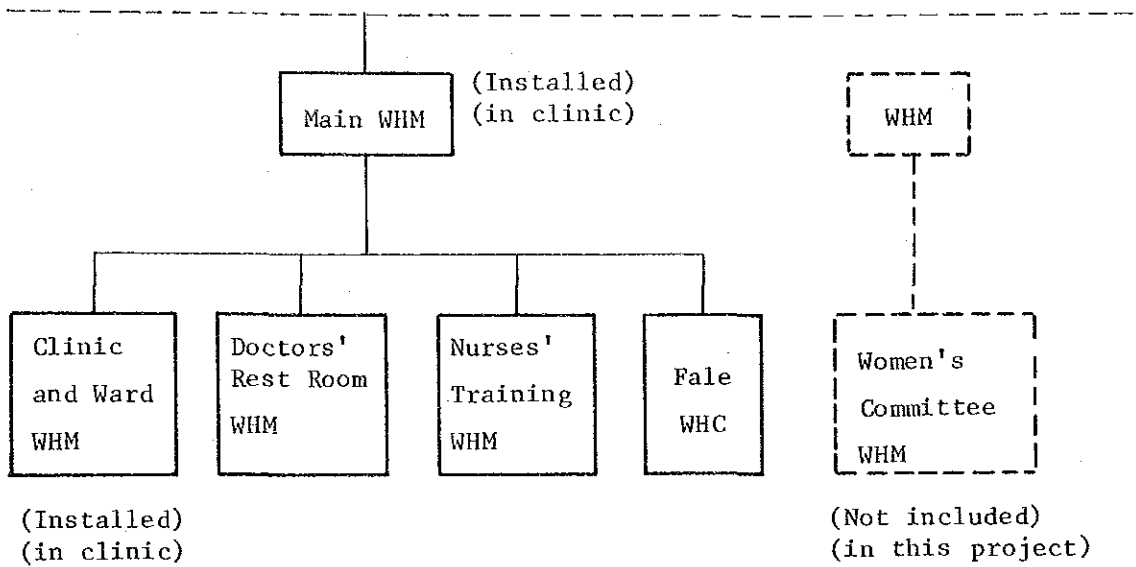
Fluoriscient lights will be mainly used while incandescent lights being used partially. Covered lighting fixtures will be used except in fixtures will be installed near tables in laboratories and in sterilizer rooms.

Receptacles are installed for general purposes, medical equipments, air-conditioners, ceiling fans and ventilating fans.

(5) Intercommunication System

In clinic buildings, an intercommunication system will be so installed that the patients in the recovery room and the antenatal room can call a nurse in the reception by push buttons and can speak through a ceiling speaker.

In wards, an intercommunication system will also be installed between inpatient beds and the nurse station.



Note 1. WHM: Watt-hour Meters

Note 2. In Sataua Hospital, an additional WHM will be installed in Technicians' Rest Room Unit.

Fig. 4-5-4 Electricity Metering System

4.6 Medical equipment

The medical equipment installed in each room is listed in Table 4.6.

Table 4-6 MEDICAL EQUIPMENT & TOOLS
FOR A DISTRICT HOSPITAL

EXAMINATION ROOM

BACKLESS CHAIR	2
CONSULTATION TABLE	1
OPERATOR'S STOOL	1
EXAMINER'S STOOL	1
EXAMINING TABLE	1
STETHOSCOPE	3
SPHYGMENOMETER	2
SCHAUKASTEN/FILM-VIEWER	1
EXAMINING SET	1 set
TABLE TOP INSTRUMENT STERILIZER	1
STATURE SCALE	1
WEIGHT SCALE	1

DRESSING ROOM

EXAMINING TABLE	1
RESUSCITATOR	1
PORTABLE SUCTION UNIT	1
AN ASTRAL LAMP (STAND TYPE)	1
DRESSING INSTRUMENT & OTHERS	1 set
INSTRUMENT CABINET	1
IRRIGATOR STAND	1

ANTENATAL ROOM

CONSULTATION TABLE	1
OPERATOR'S STOOL	1
EXAMINOR'S STOOL	1
EXAMINING TABLE	1

DELIVERY ROOM

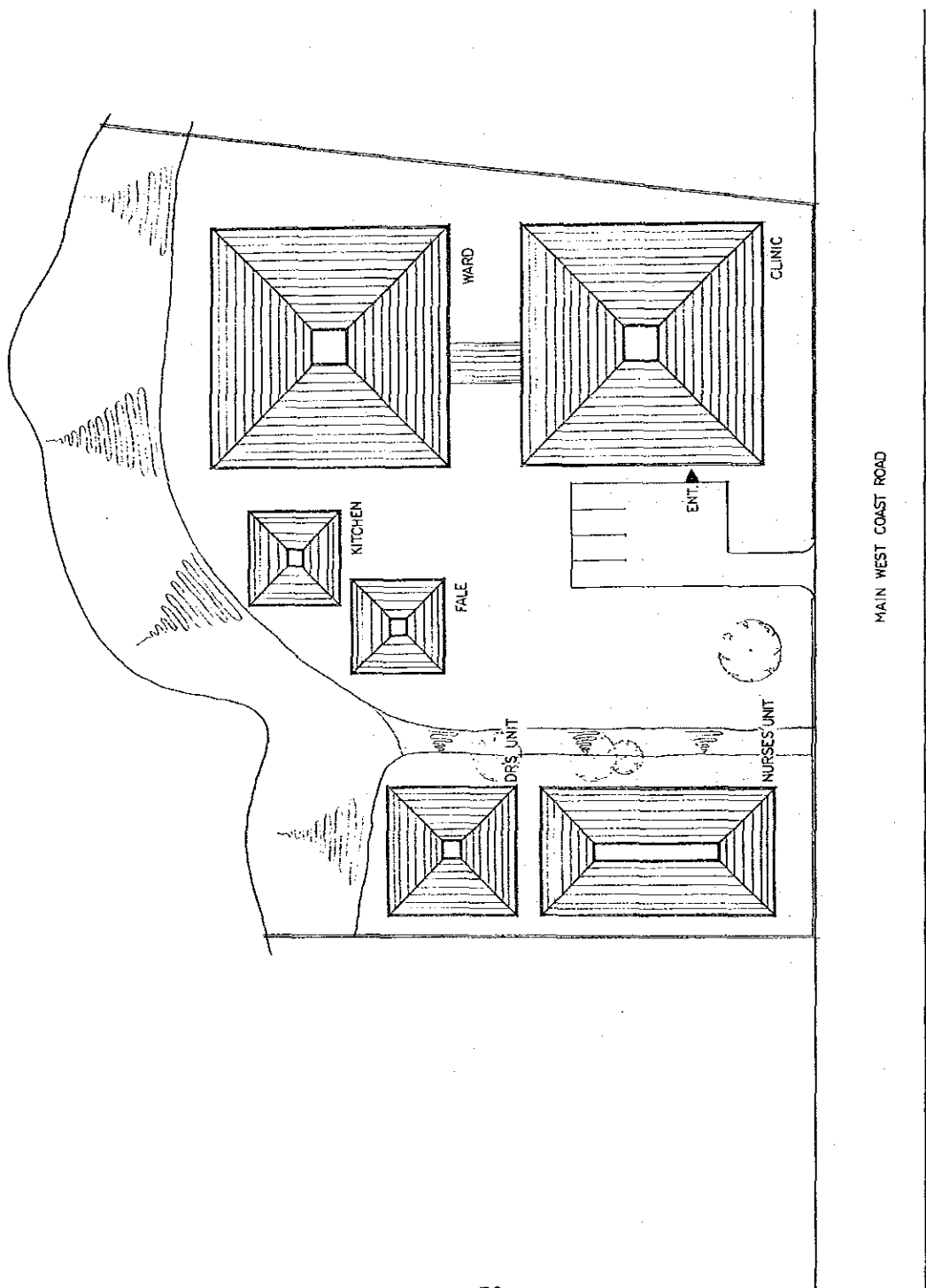
DELIVERY TABLE	1
PLACENTA BASIN	1
OBSTETRIC BASIN	1
VACUUM EXTRACTOR	1

CANNULA SET FOR ABORTION	1
NEONATAL ADULT RESUSCITATOR	1
INFANT DRESSING TABLE	1
INFANT SCALE	1
GYNECOLOGICAL EXAMINING UNIT	1
AN ASTRAL LAMP	1
VAGINAL FORCEPTS/SPECULUM	
INSTRUMENT CABINET	1
INFANT BED	2
POTABLE INFANT INCUBATOR	2
BABY STETHOSCOPE	2
STETHOSCOPE	2
SPHGMENOMETER	1
SMALL OPERATION THEATER	
UNIVERSAL OPERATING TABLE	1
ANASTRAL LAMP	1
SCHAUKASTEN/FILM-VIEWER	1
ANESTHESIA MACHINE	1
RESUSCITATOR	1
INSTRUMENT CABINET	1
GENERAL OPERATION INSTRUMENT SET & OTHERS	1 set
WASHING MACHINE	1
STRETCHER	1
PORTABLE SUCTION UNIT	1
RESUSCITATOR	
SPHYGMOMANOMETER	1
1-ch ELECTROCARDIOGRAPHS	2
IRRIGATOR STAND	1
LABORATORY	
WATER SOFTENER	
WATER PURIFIER	1
AUTO STILLS	1

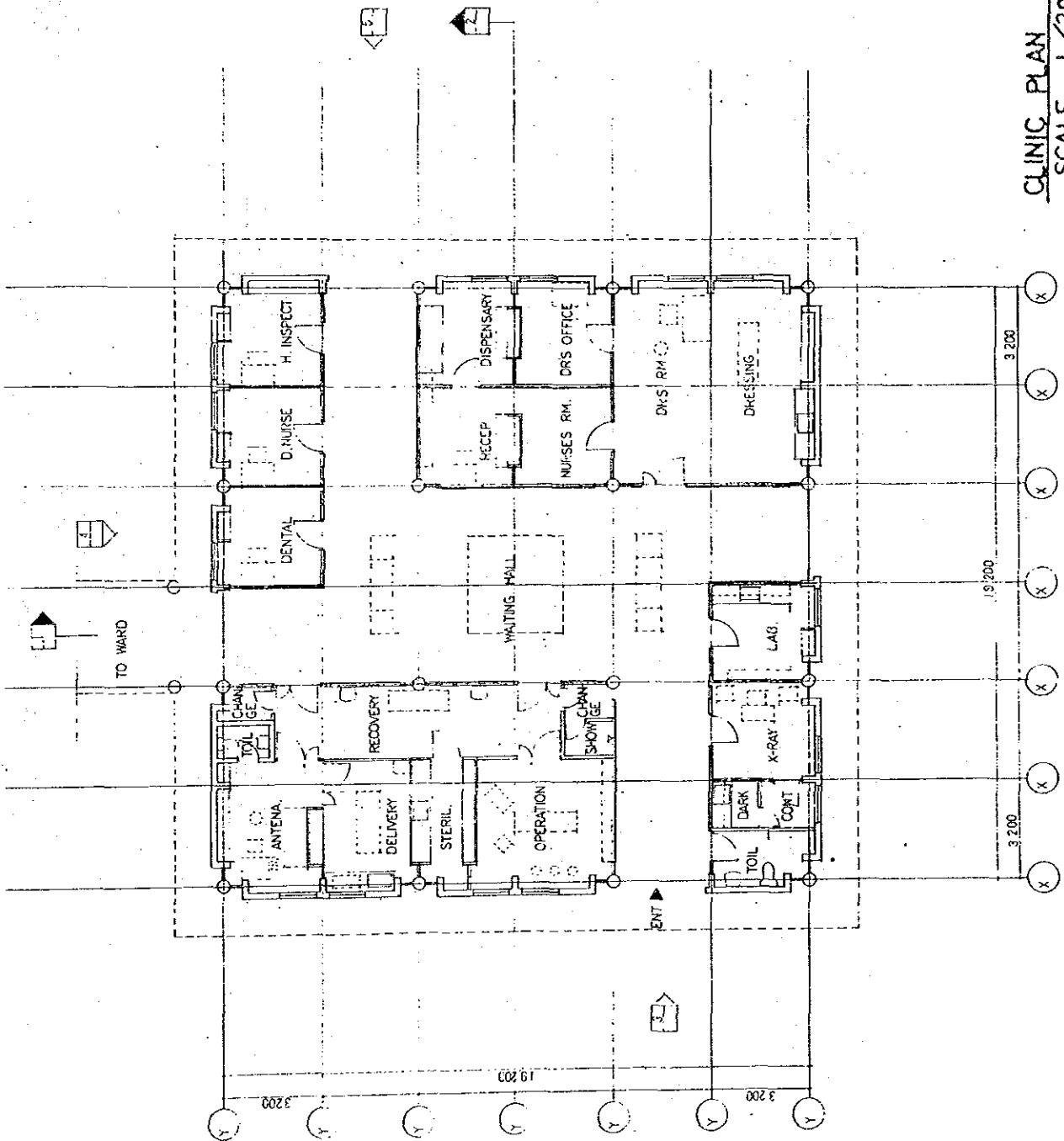
FLAME PHOTOMETER	1
PROTEIN REFRACTOMETER	1
SPECTROPHOTOMETER	1
CHLORIDE TITRATOR	1
TABLE TOP CENTRIFUGE	1
HEMATOCRIT CENTRIFUGE	1
BURNER	1
WATER BATH	1
MICROSCOPE	1
REFRIGERATOR	1
INSTRUMENT STERILIZER	1
MICRO PIPET	1
GLASS	1
STERILIZATION ROOM	
INSTRUMENT STERILIZER	1
STEAM STERILIZER	1
WORKING TABLE	1
ERECTA SHELF	1
PHARMACY	
BALANCE	1
REFREGERATOR	1
X-RAY	
X-RAY (FOR STAUVA ONLY)	1 set
DENTAL ROOM	
EXAMINING INSTRUMENT	1 set
WARD	
PORTABLE SUCTION UNIT	1
BED (WITH SIDE RACE)	20
CATCH BED (WITH SIDE RACE)	3
BED SIDE CABINET	23
IRRIGATOR STAND	3

BED PAN	6
CHAIR COMMODE (MALE)	3
CHAIR COMMODE (FEMALE)	3
WHEEL CHAIR	1
MONKEY BAR	3
STRETCHER	1
REFRIGERATOR	1

4.7 Basic Design Drawings

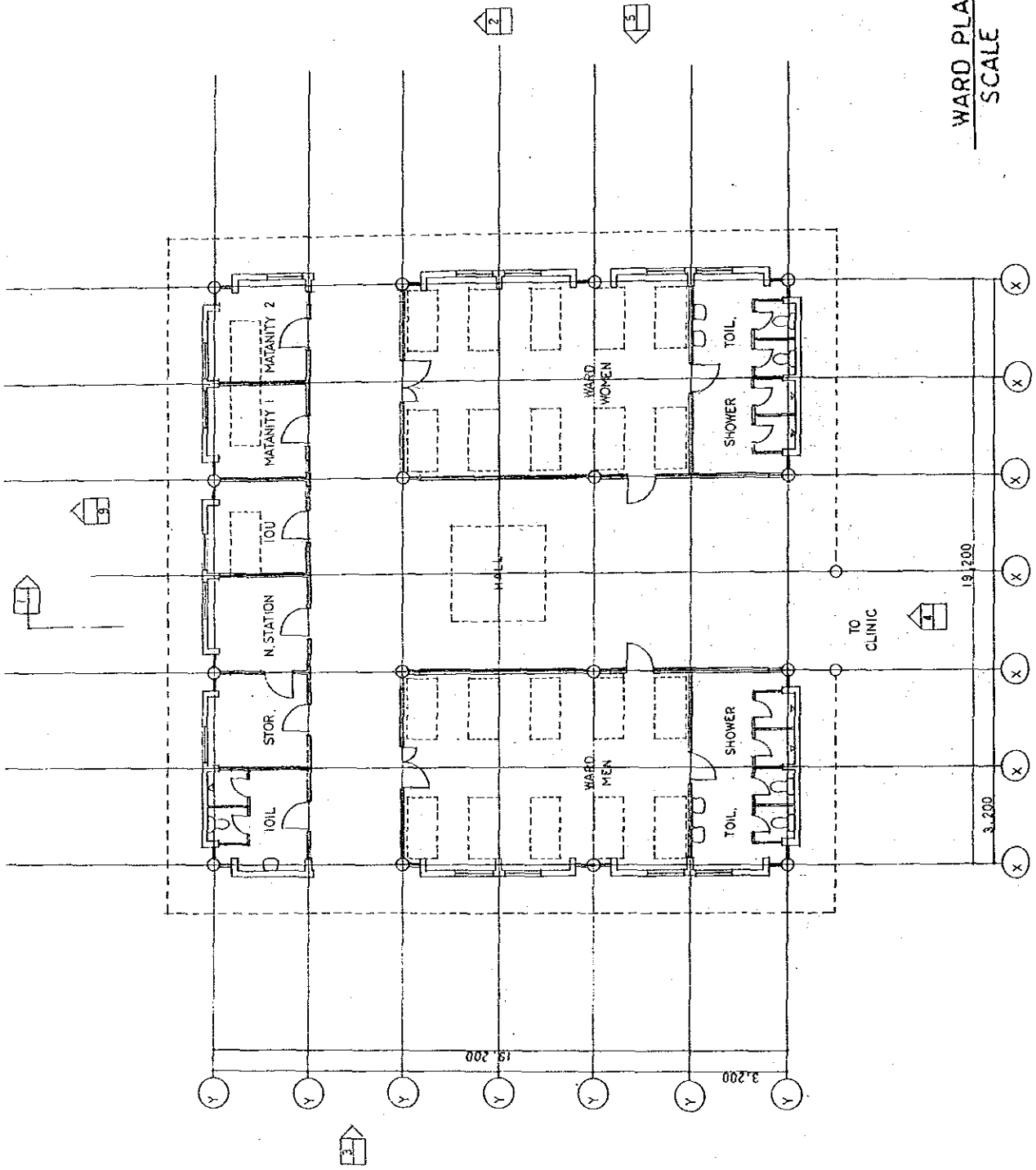


SITE PLAN LEULUMOEGE
SCALE 1 / 600

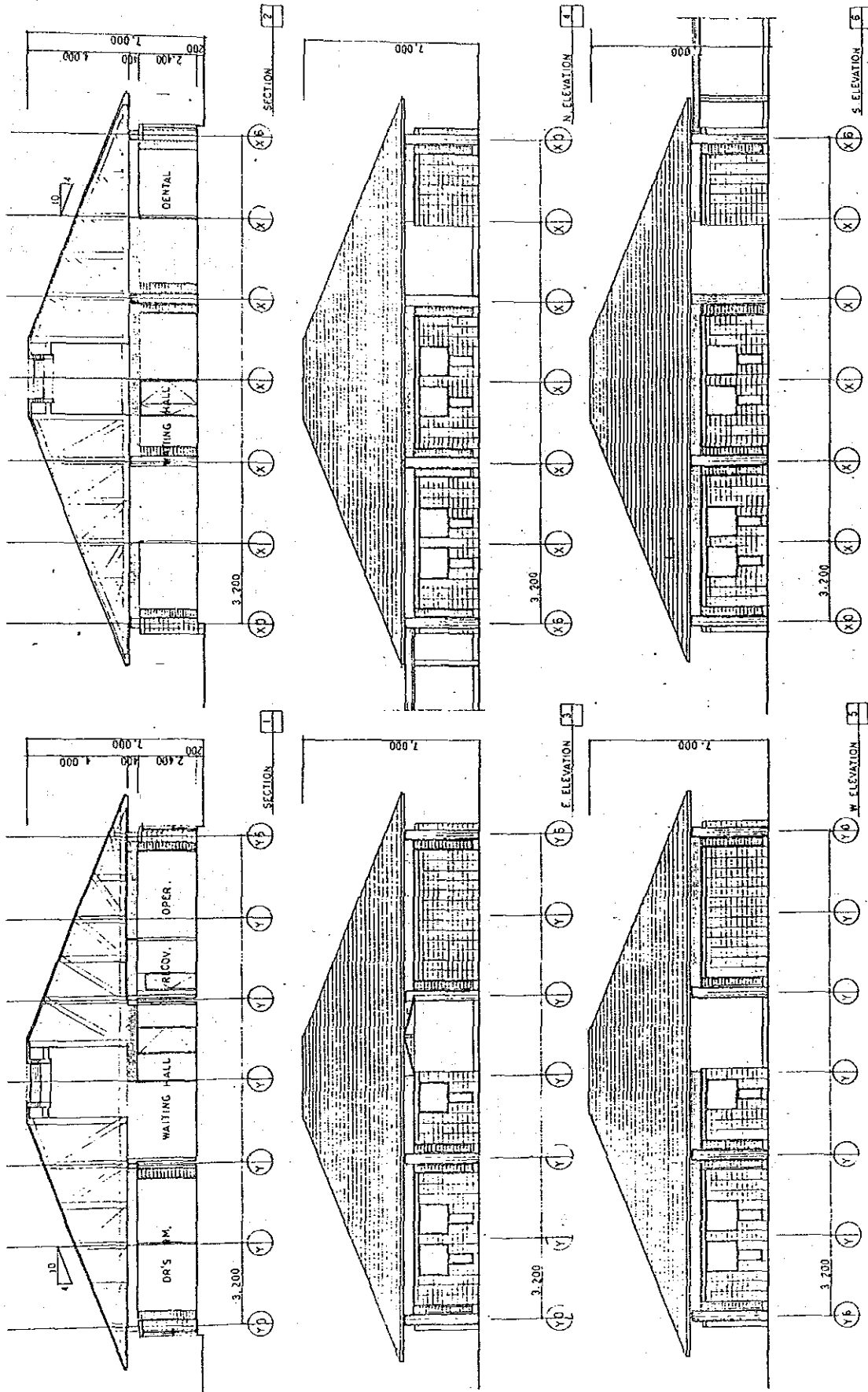


CLINIC PLAN
SCALE 1/200

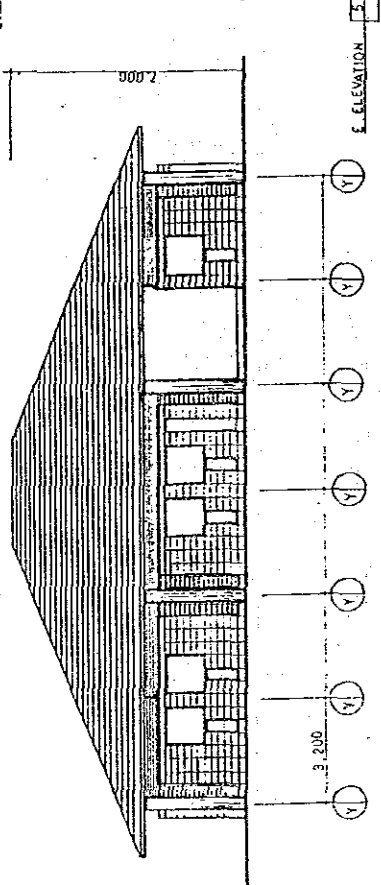
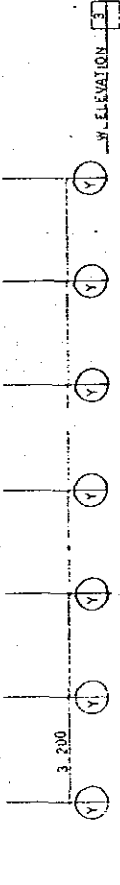
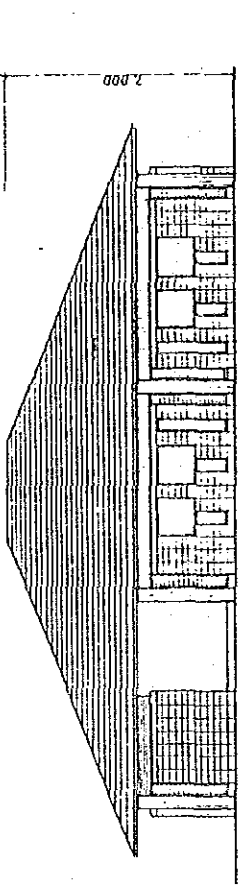
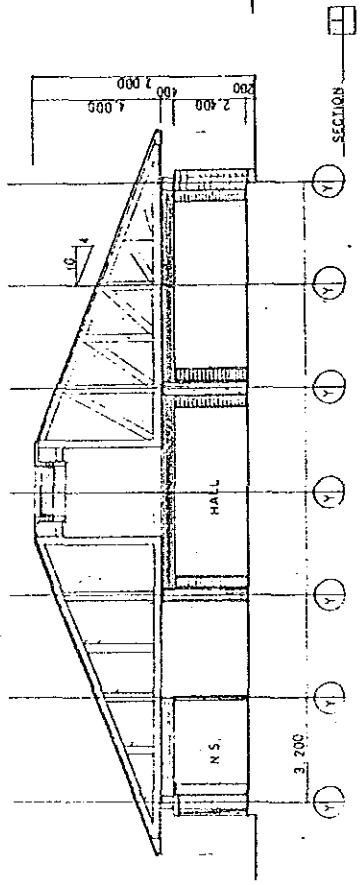
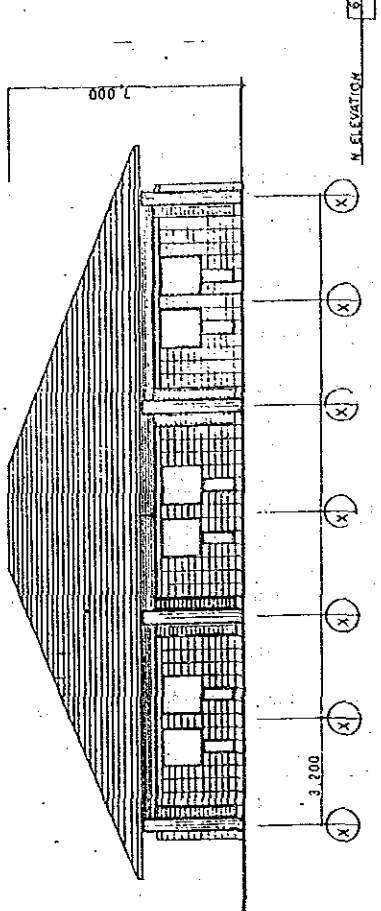
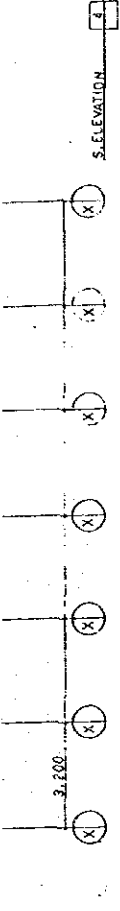
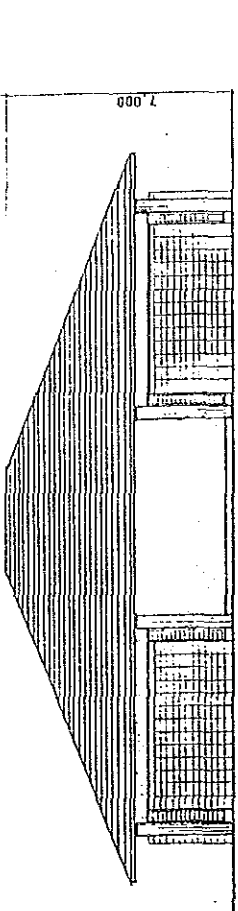
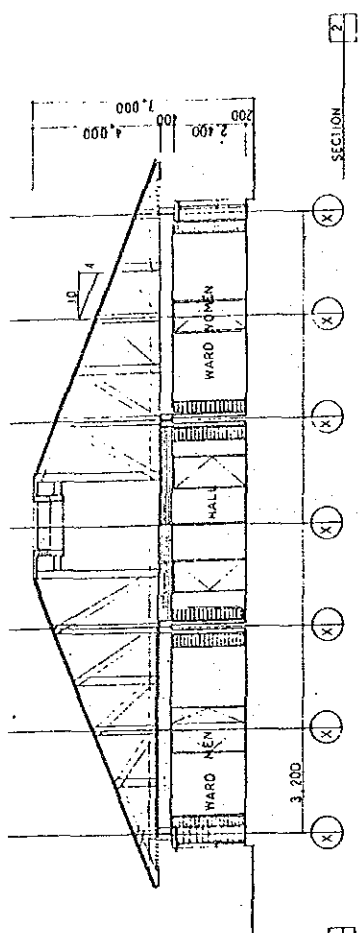




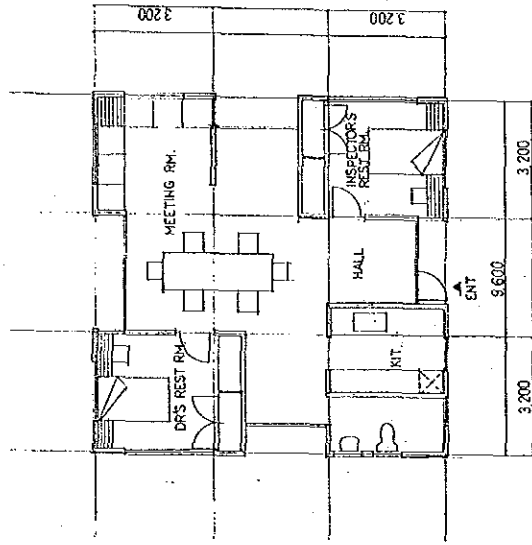
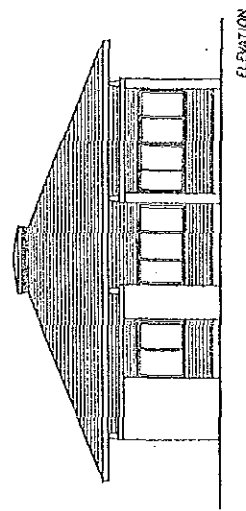
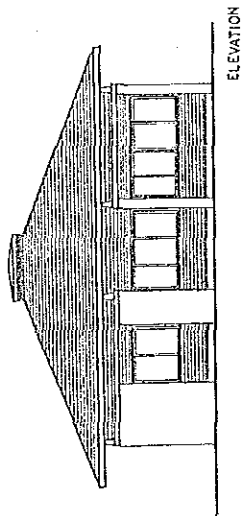
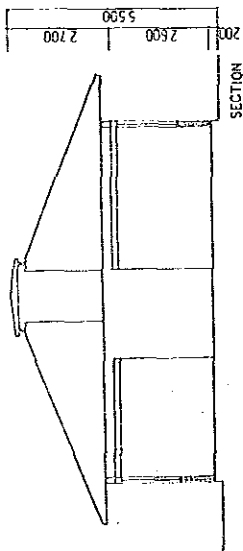
WARD PLAN LEUJUMOEGA
SCALE 1 / 200



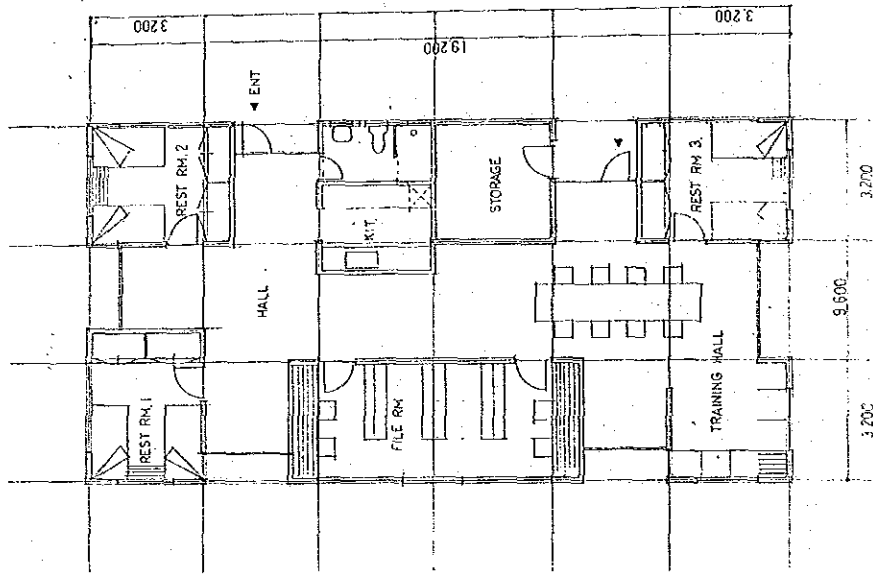
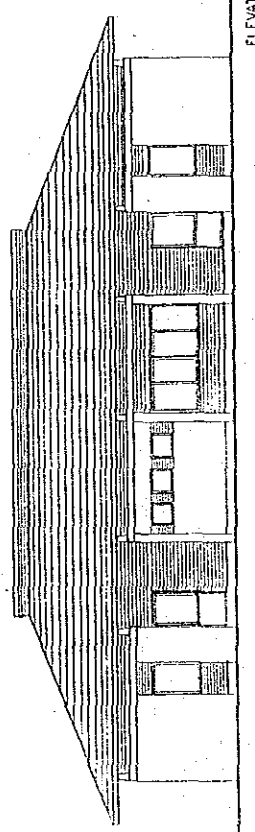
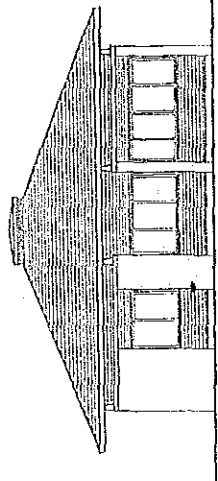
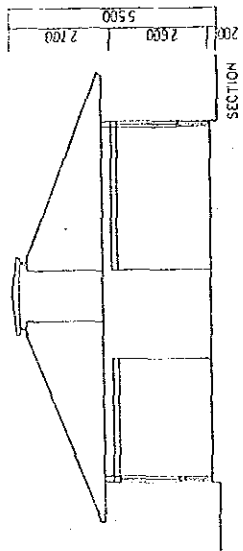
CLINIC LEULUMOEKA
SCALE 1/200



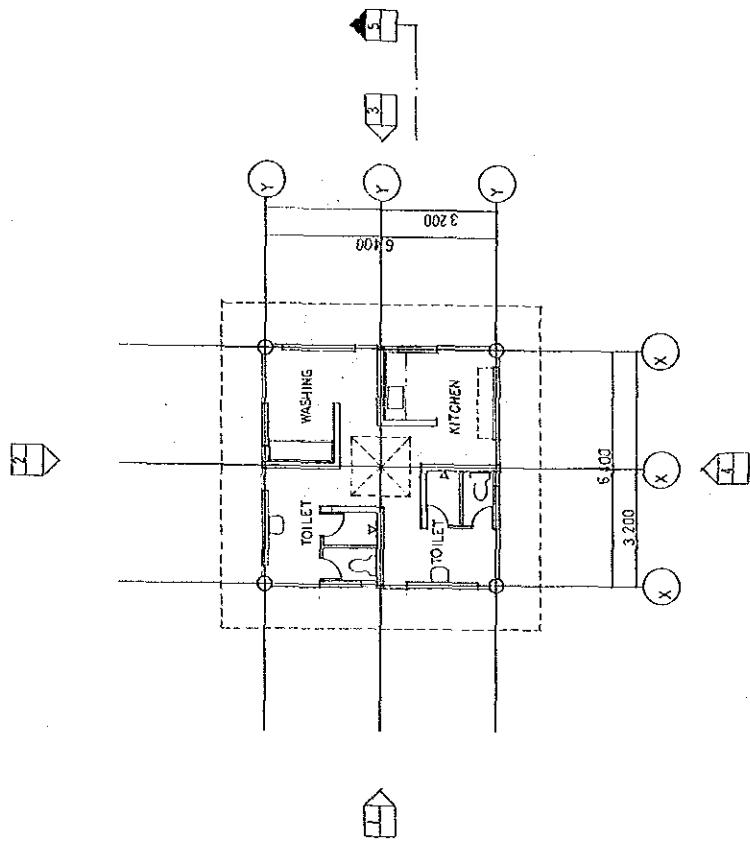
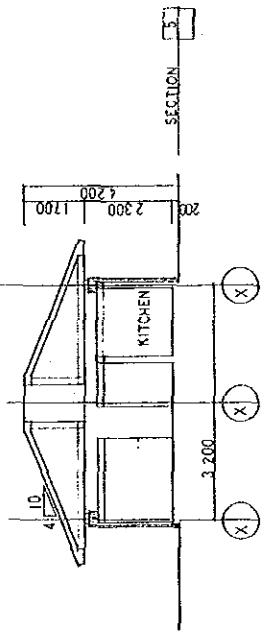
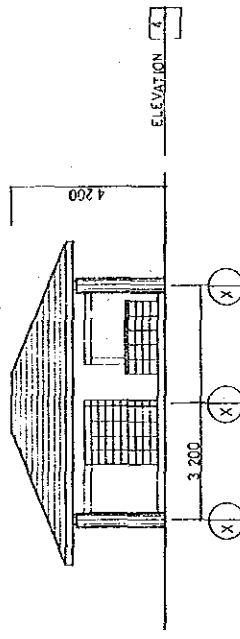
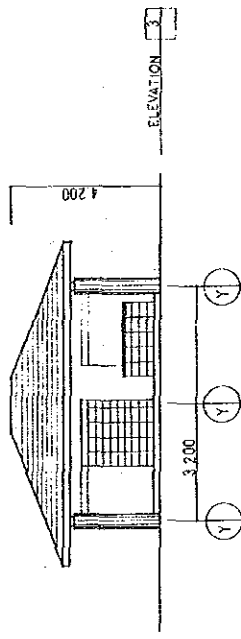
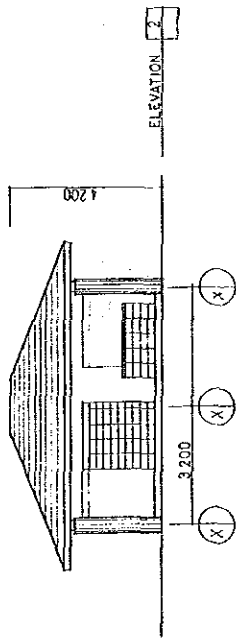
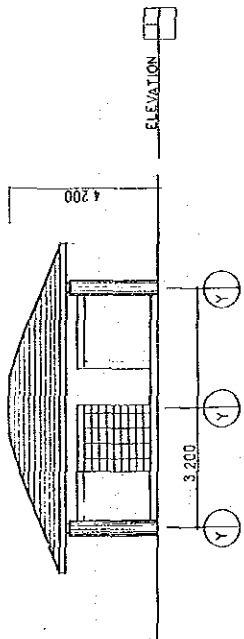
WARD LEULUMOEGA
SCALE 1/200



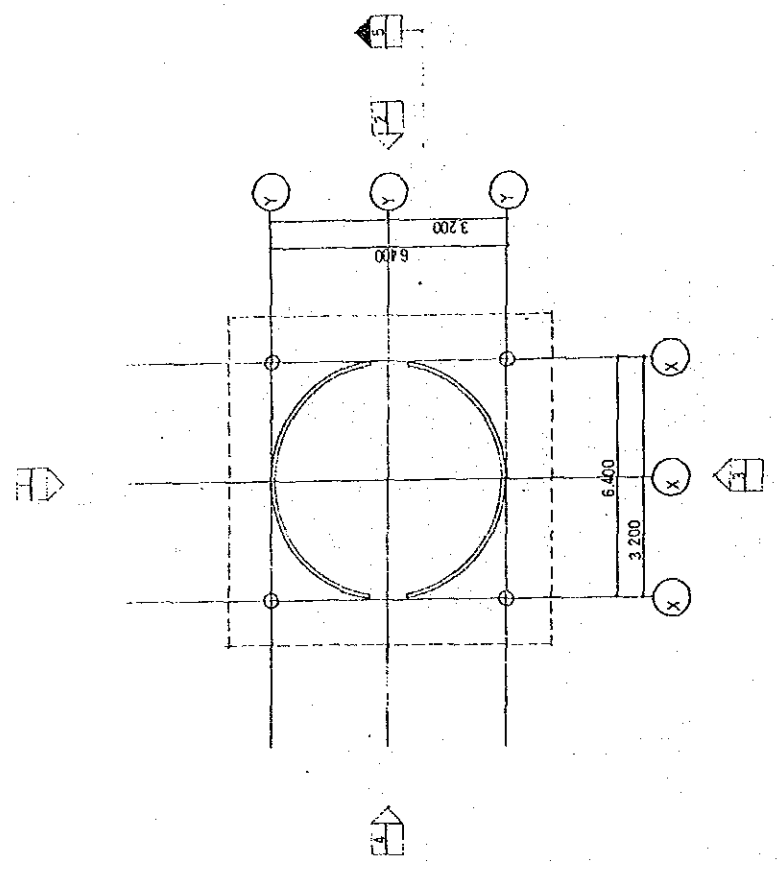
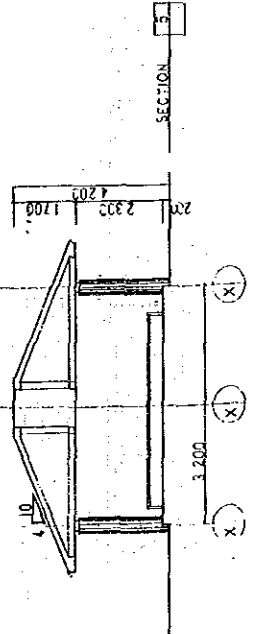
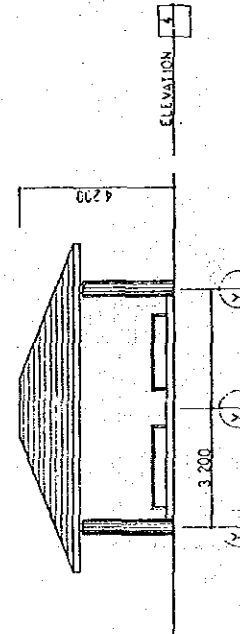
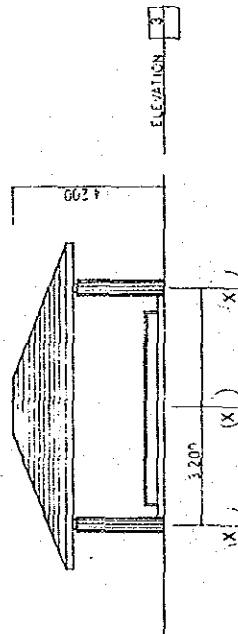
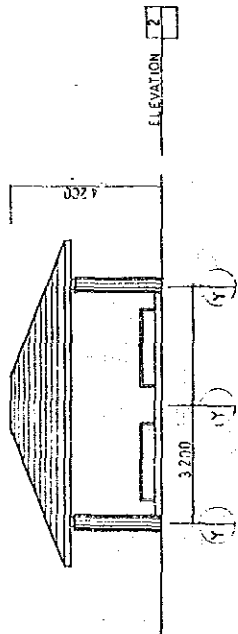
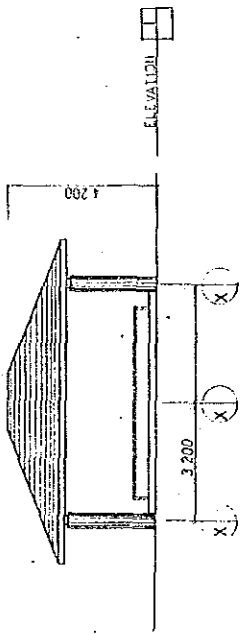
DOCTOR'S REST ROOM UNIT LEJULMOEGA
 SCALE 1/200



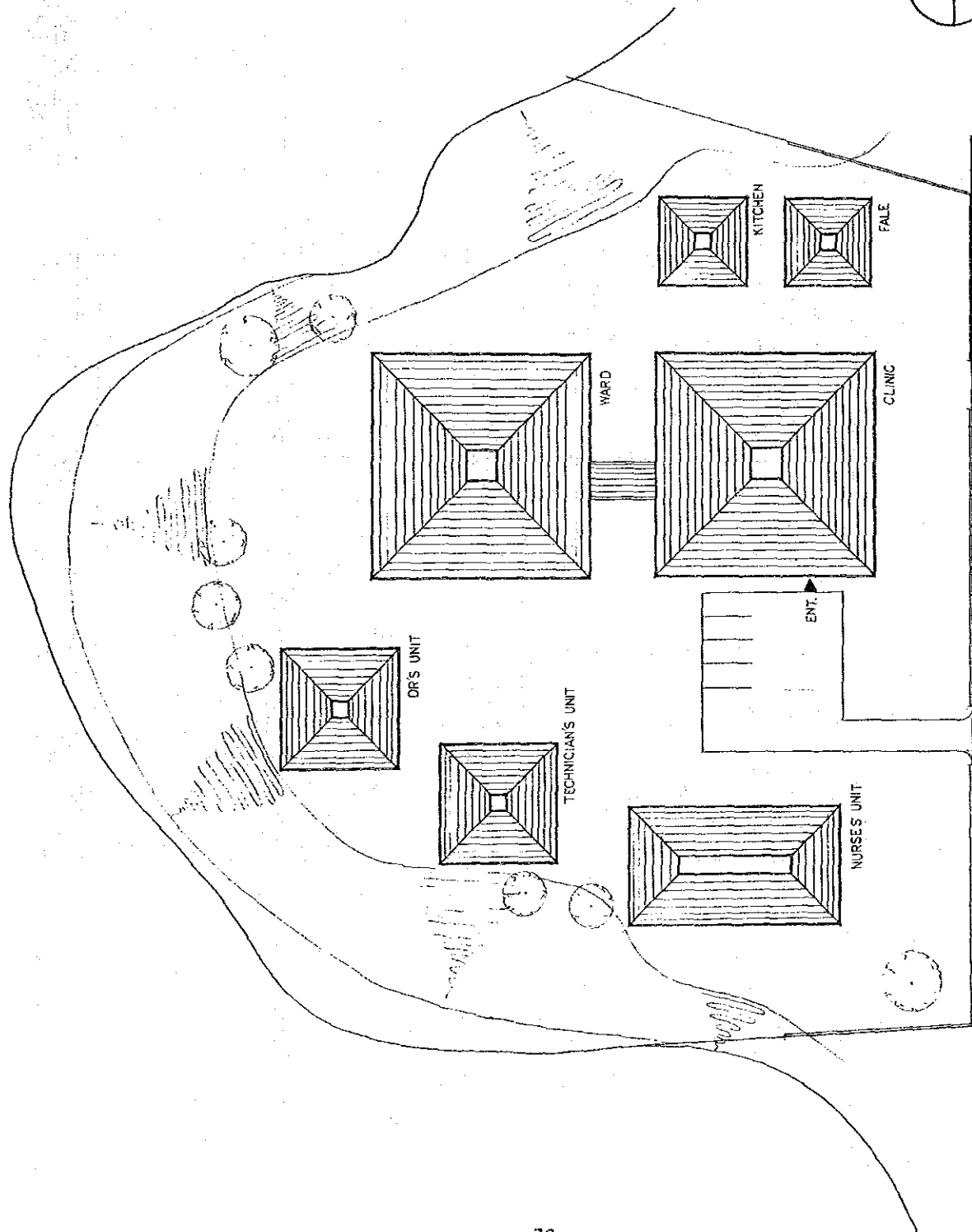
NURSES' TRAINING ROOM UNIT LEULUMOEGA
SCALE 1/200



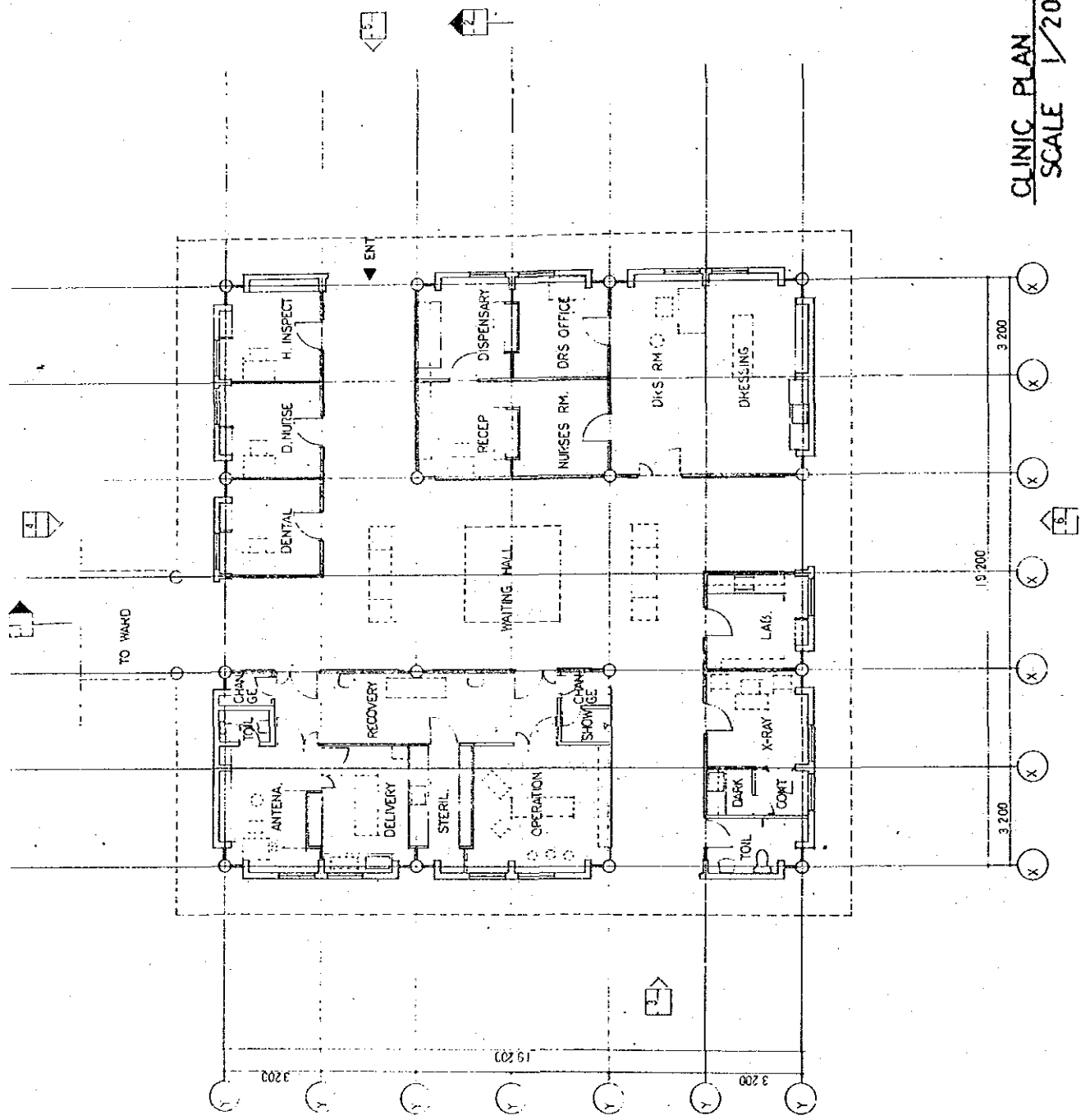
FALE (KITCHEN, WASHING, TOILET)
 SCALE 1/200



FALE
SCALE 1/200
LEULUMOEGA

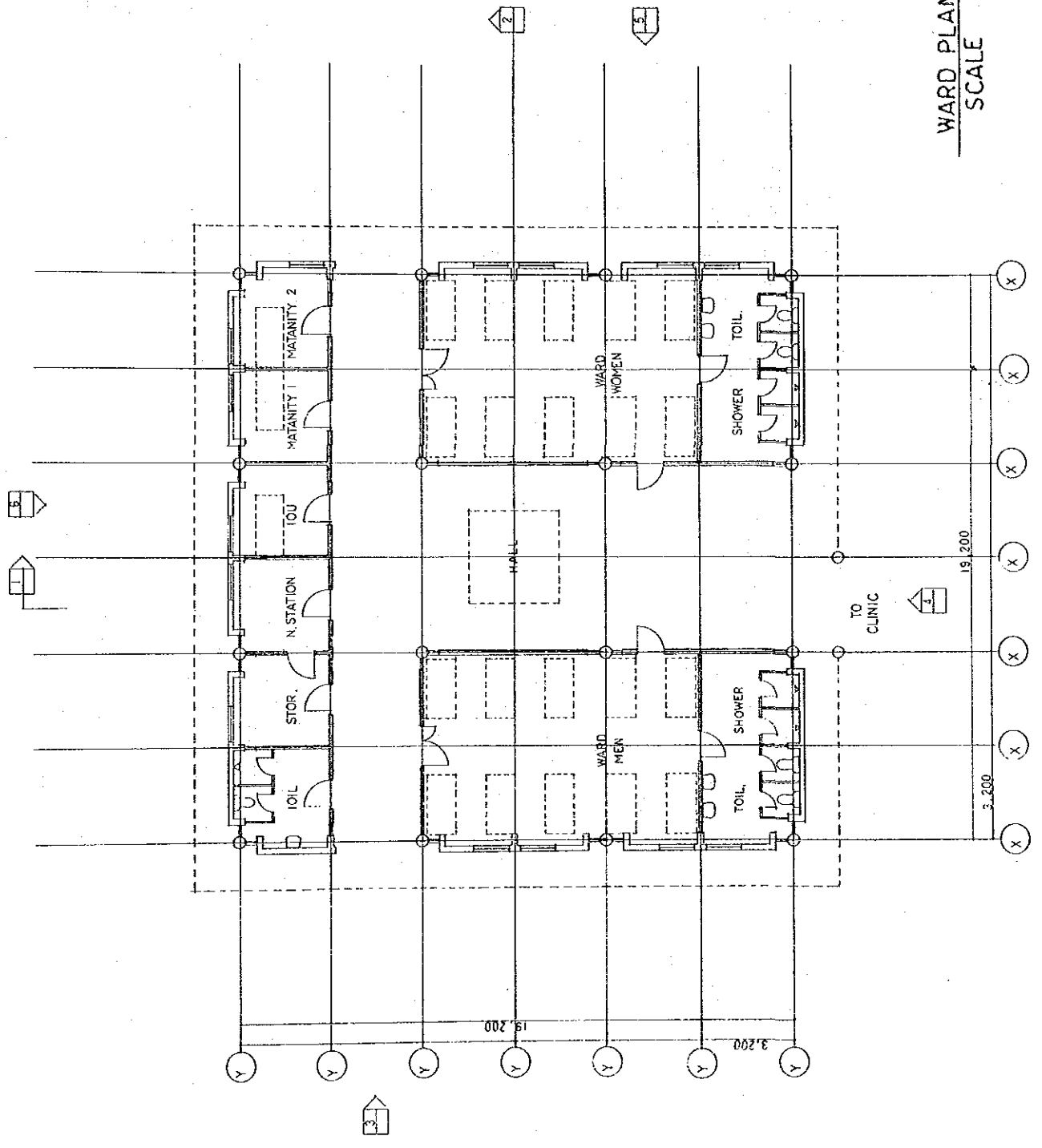


SITE PLAN SATALUA
SCALE 1 / 600

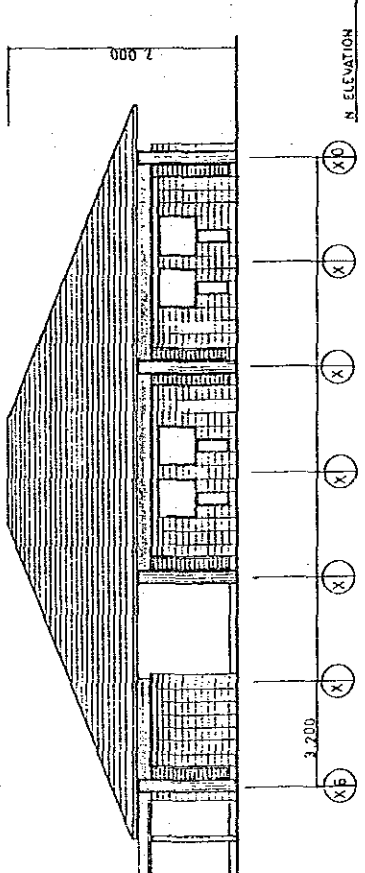
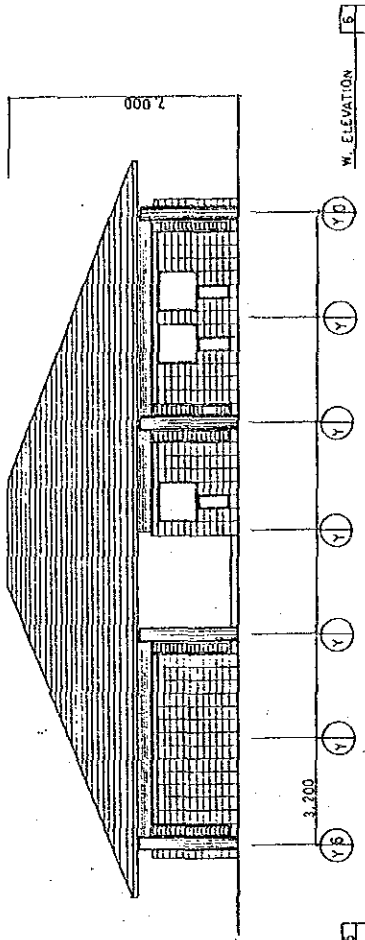
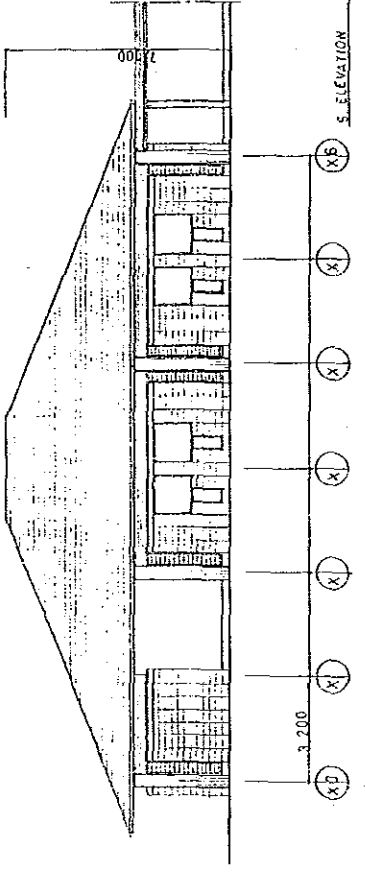
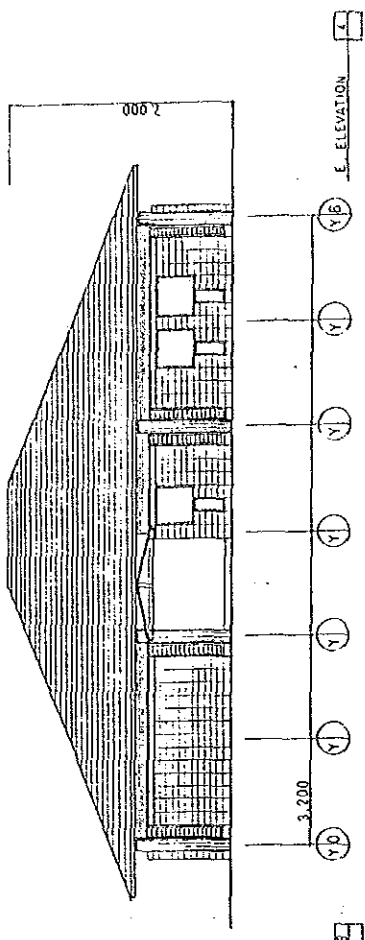
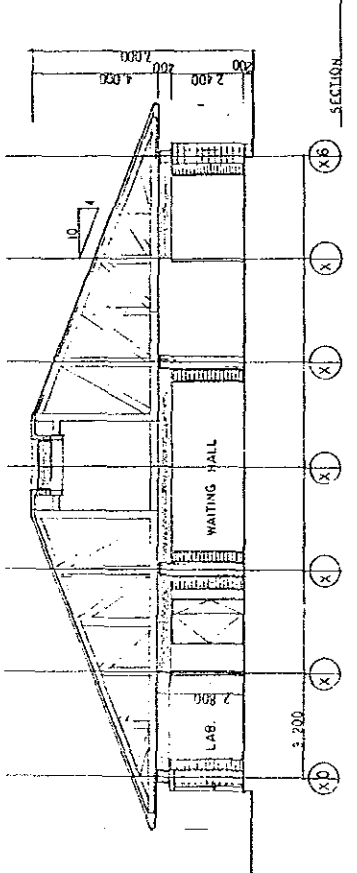
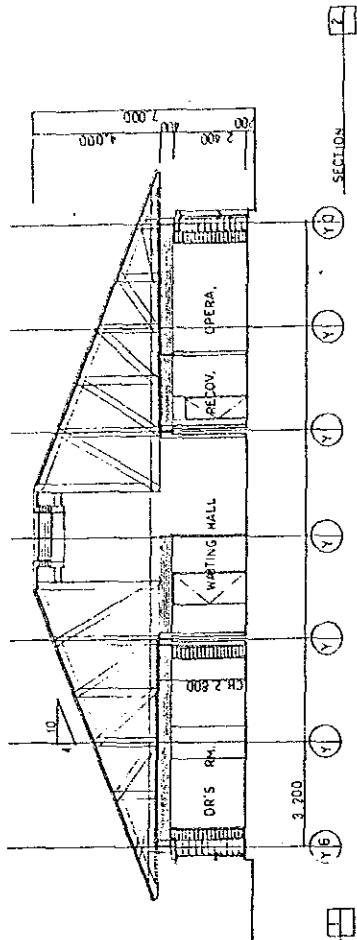


CLINIC PLAN
SCALE 1/200

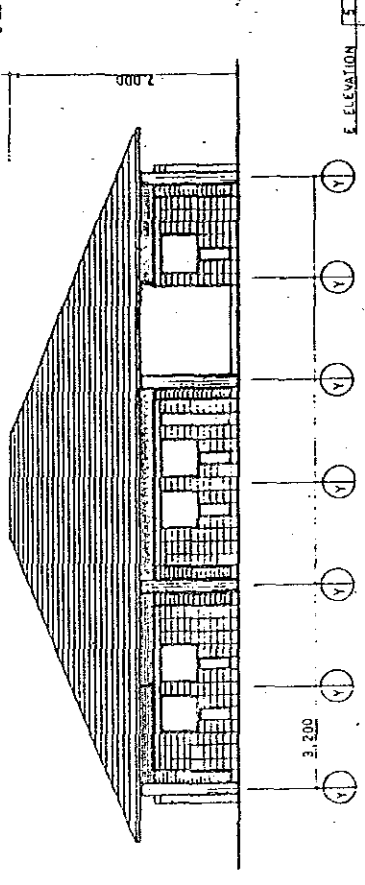
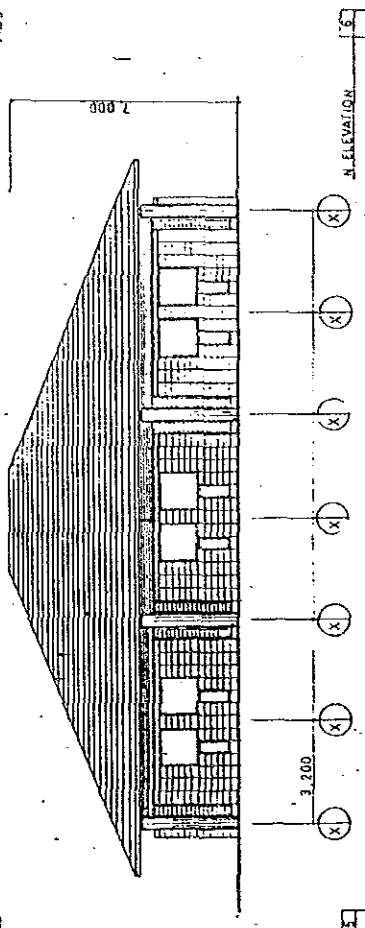
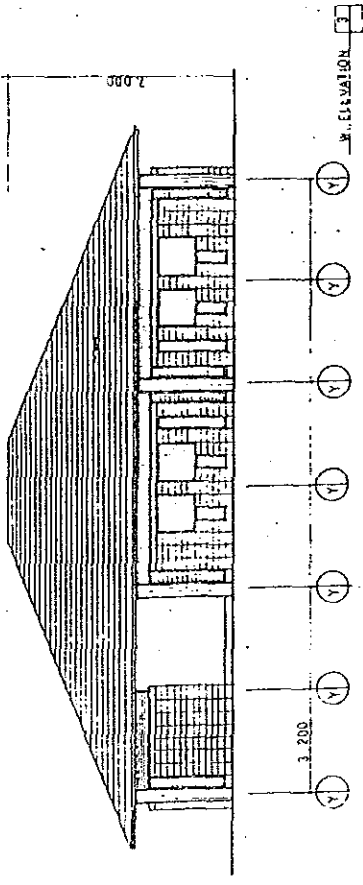
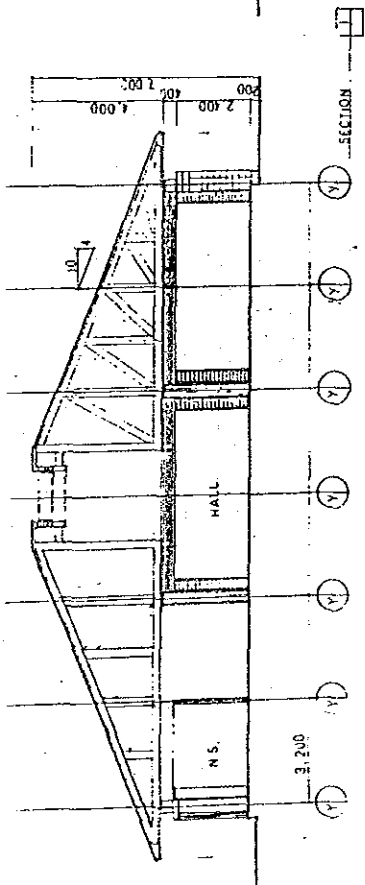
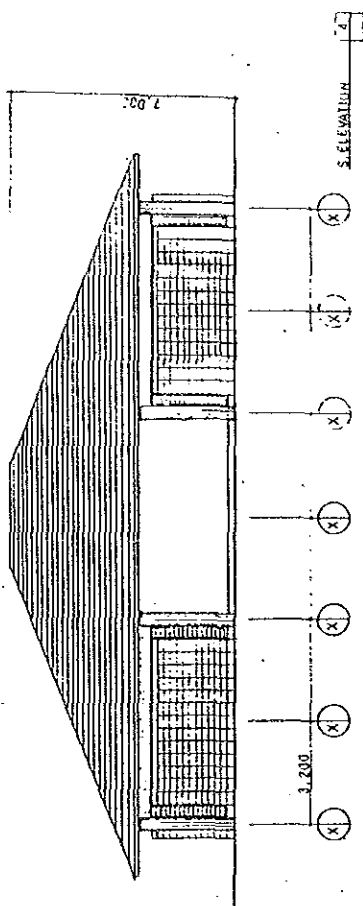
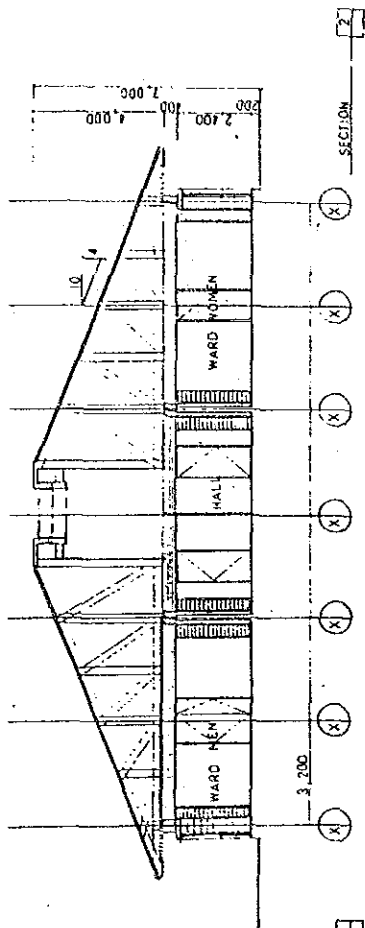




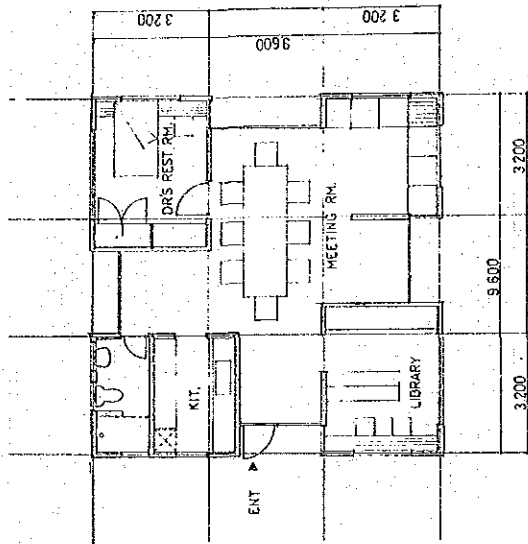
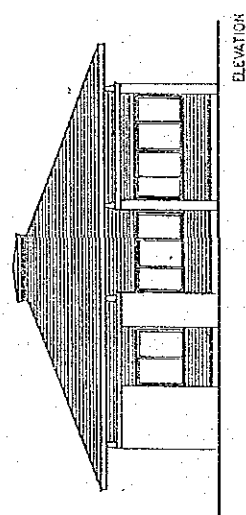
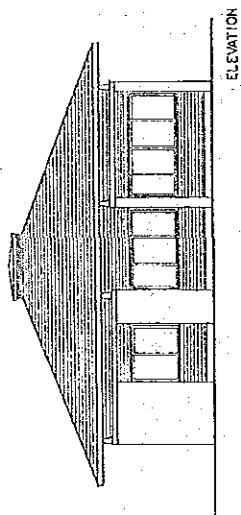
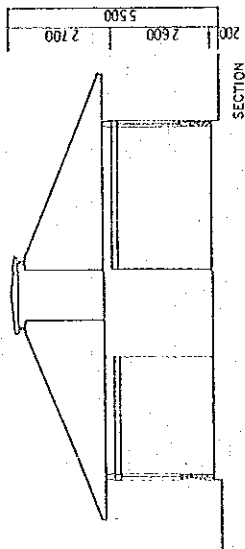
WARD PLAN SATAUA
SCALE 1/200



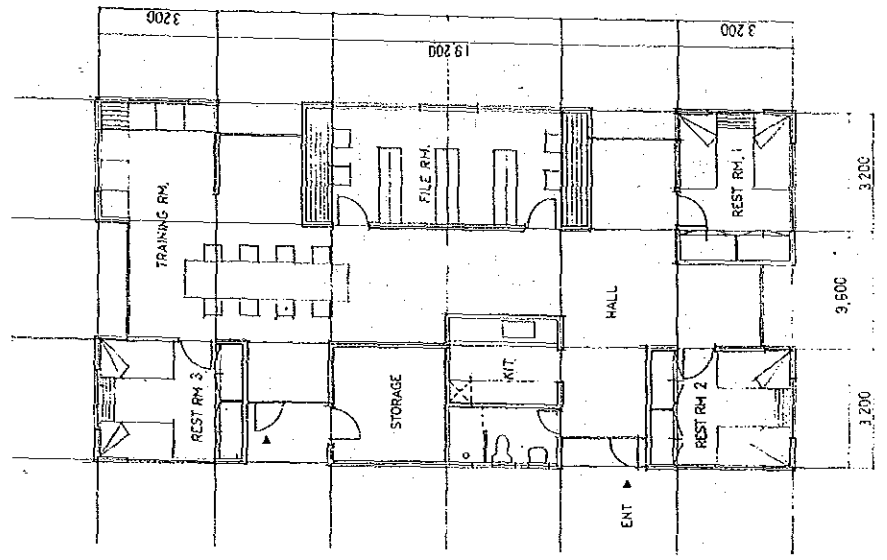
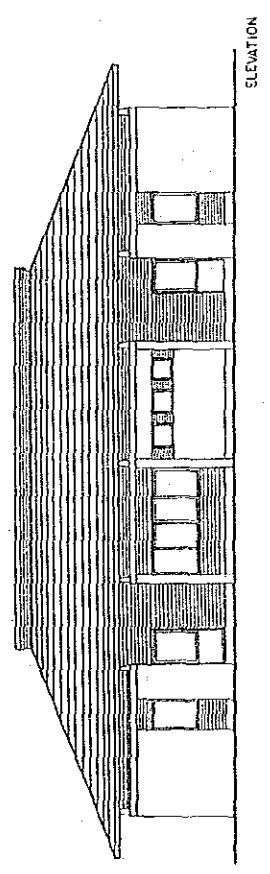
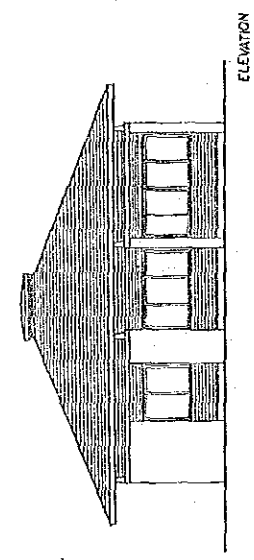
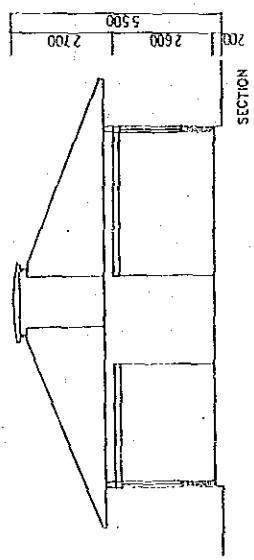
CLINIC SATAJUA
SCALE 1/200



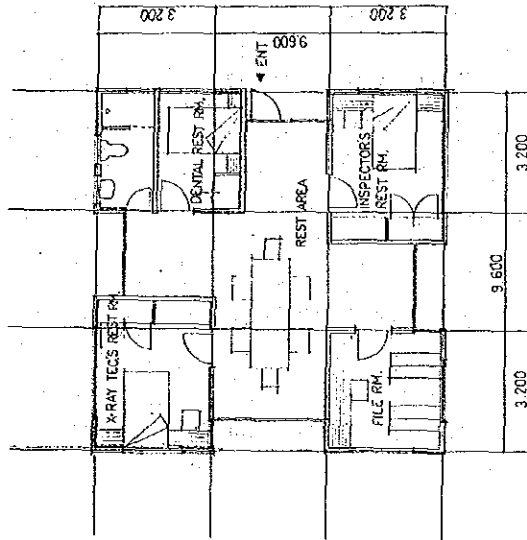
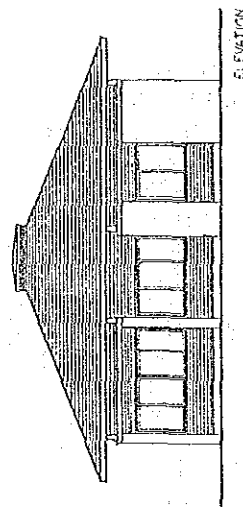
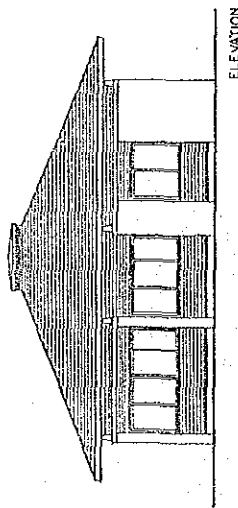
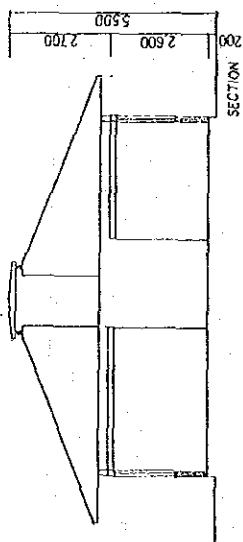
WARD SATALUA
SCALE 1/200



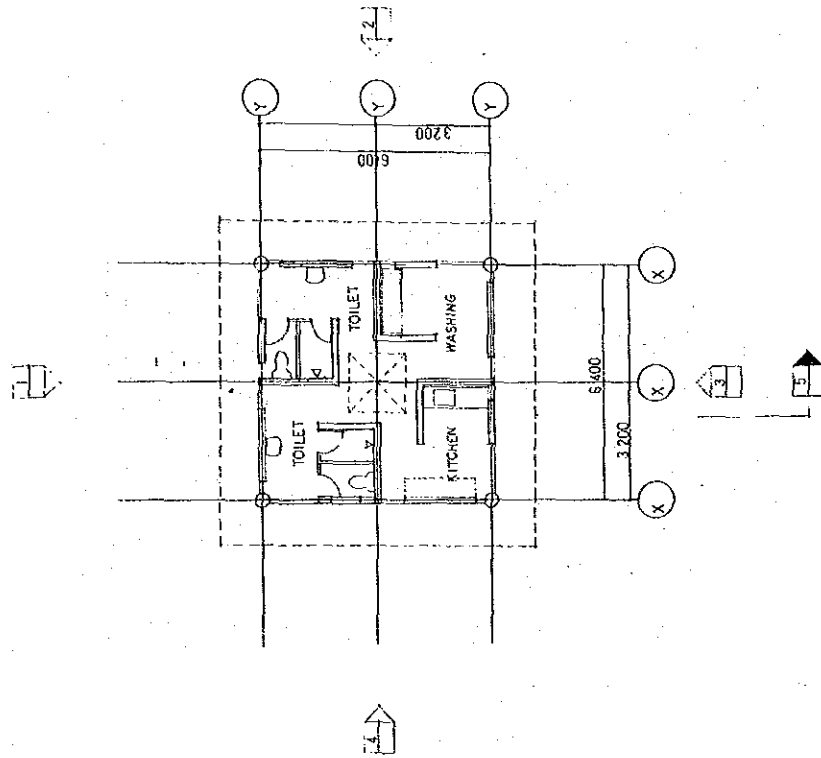
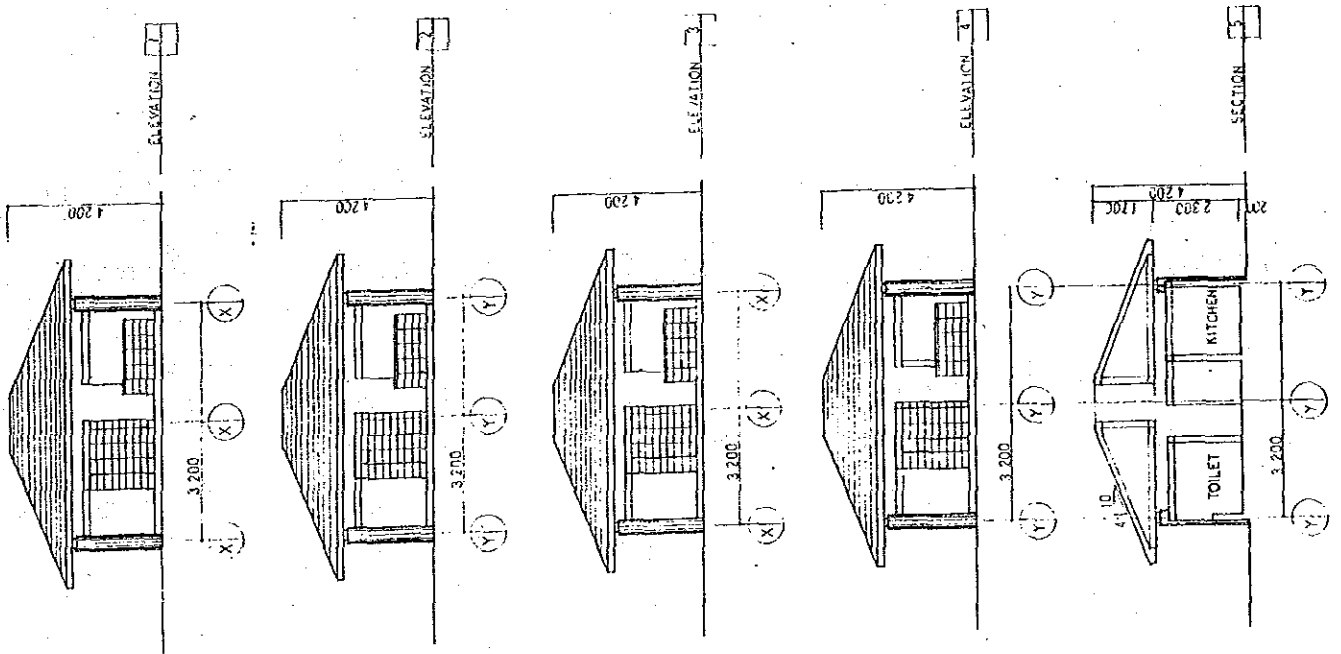
DOCTORS REST ROOM UNIT SATALUA
 SCALE 1/200



TECHNICIANS REST UNIT
 SCALE 1/200
 SATAVA



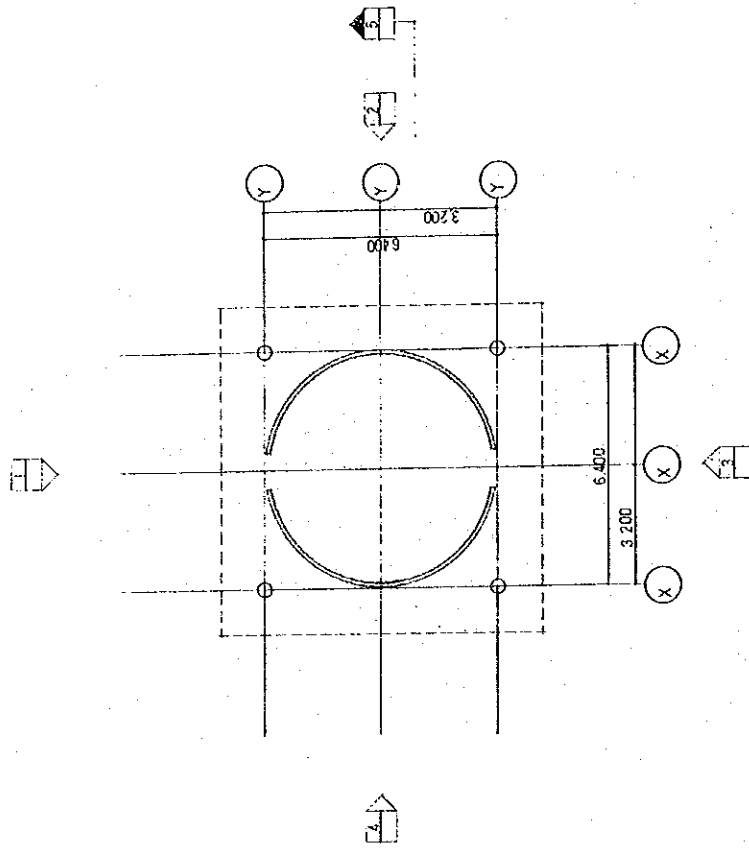
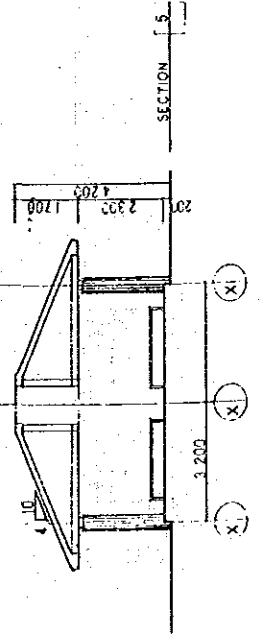
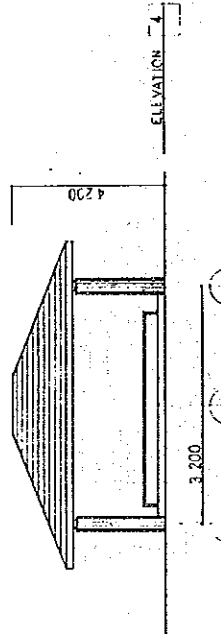
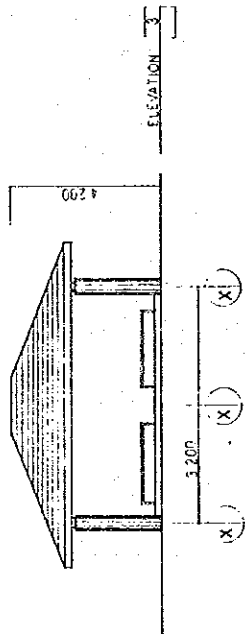
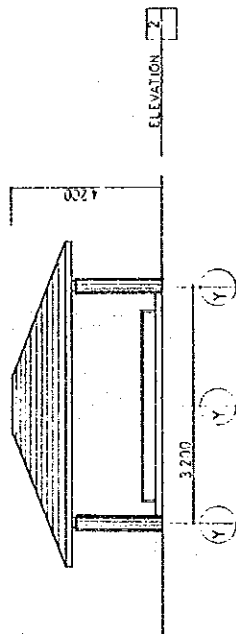
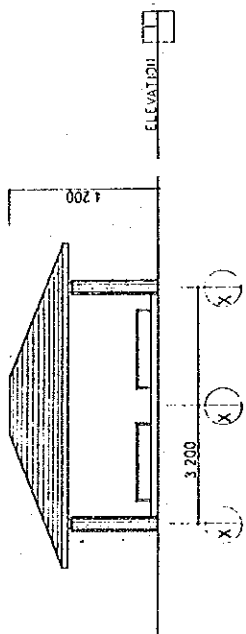
NURSES TRAINING ROOM UNIT SATAUA
 SCALE 1/200



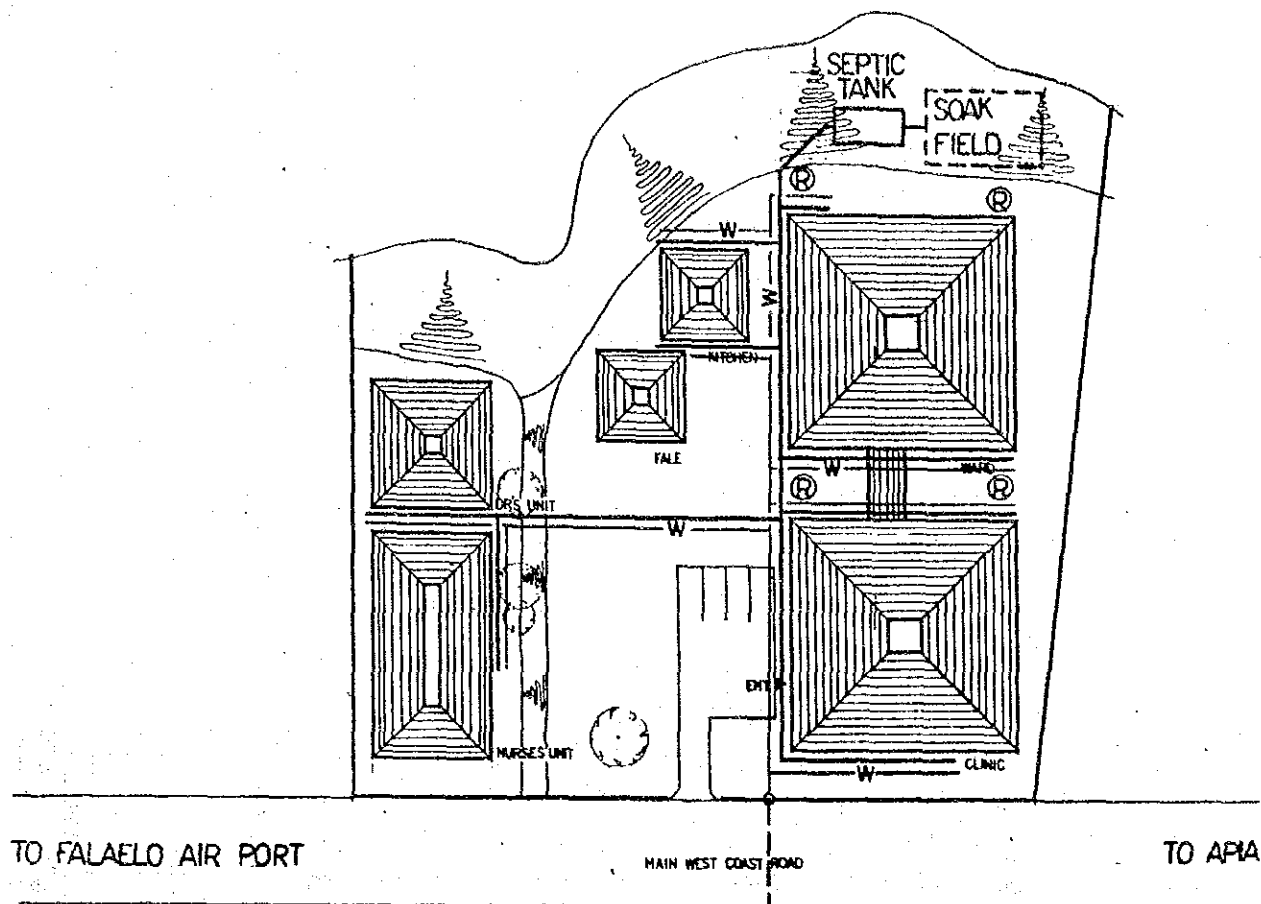
FALE (KITCHEN WASHING TOILET)

SATAUA

SCALE 1/200



FALE SCALE 1/200 SATAUUA



CITY WATER SERVICE PIPE 50mm
 (BY WESTERN SAMOAN WORK UPTO
 THE BOUNDARY OF THE SITE)

LEGEND

- Ⓡ RAIN WATER STORAGE TANK 3 m³
- W— WATER PIPES
- S— SEWAGE PIPES

SITE PLAN 1:600



FIG. 4-5-1(a) PLUMBING LAYOUT IN
 LEULUMOEGA HOSPITAL

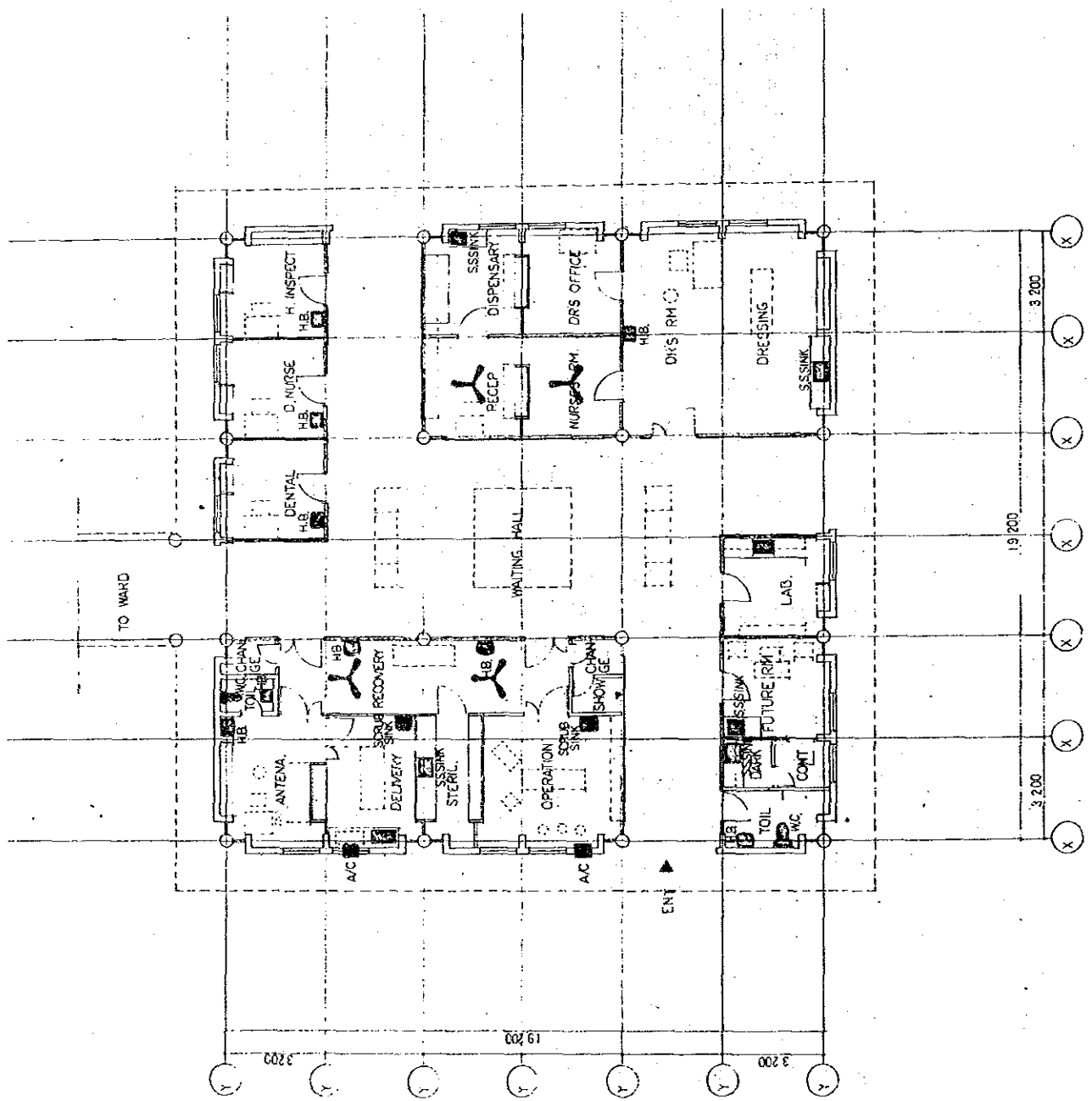


FIG. 4-5-2 (e) PLUMBING FIXTURES IN CLINIC (LEJLUMOEGA)

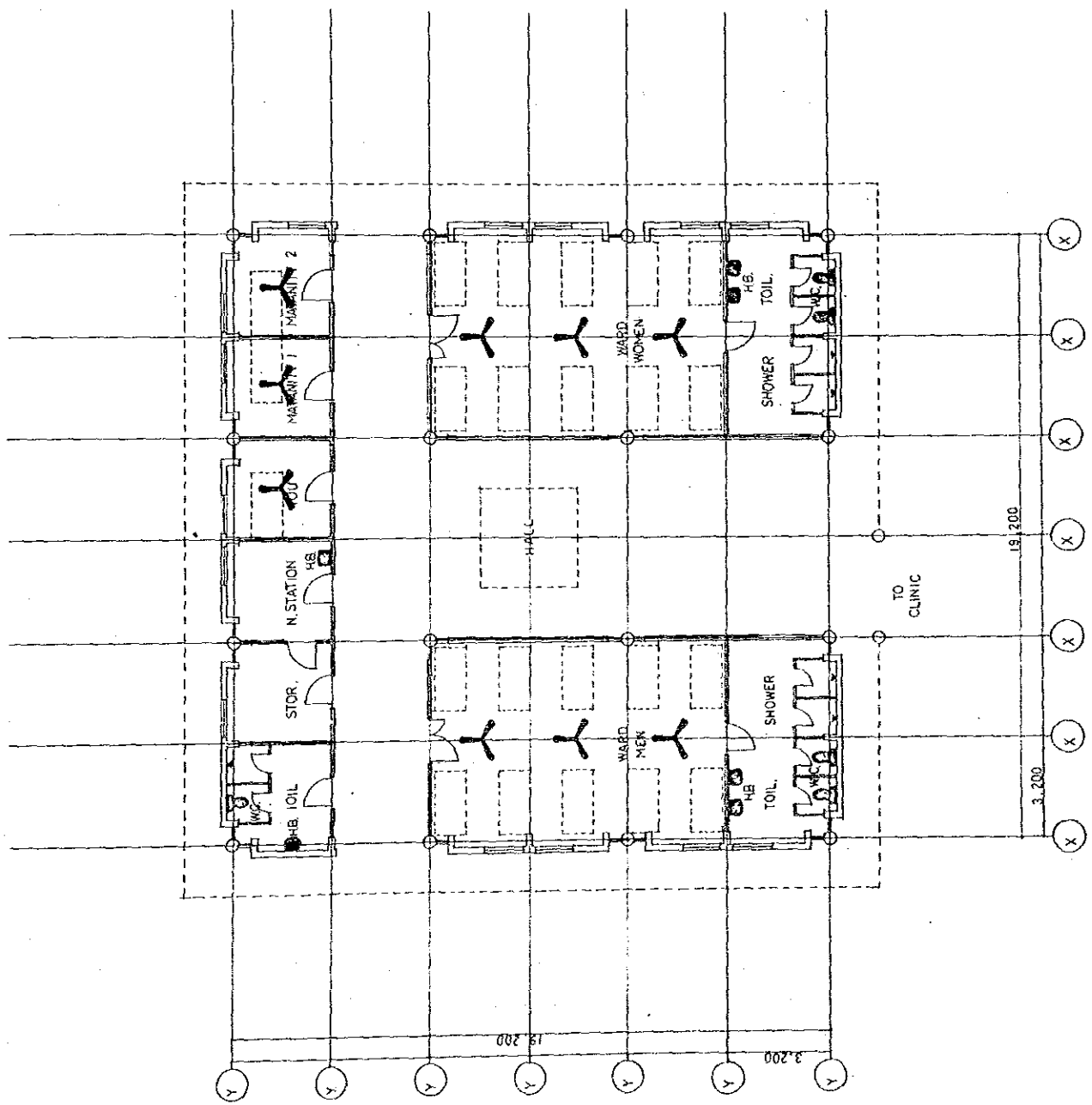


FIG. 4-5-2 (b) PLUMBING FIXTURES IN WARD (LEULUMOEGA)

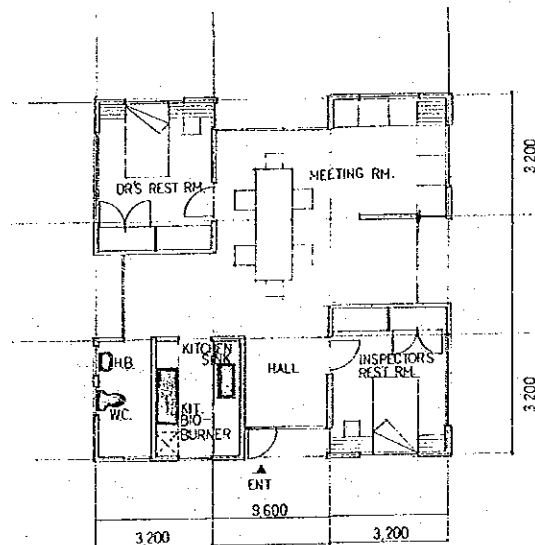


FIG. 4-5-2 (C) PLUMBING FIXTURES IN DOCTOR'S REST ROOM UNIT (LEULUMOEGA)

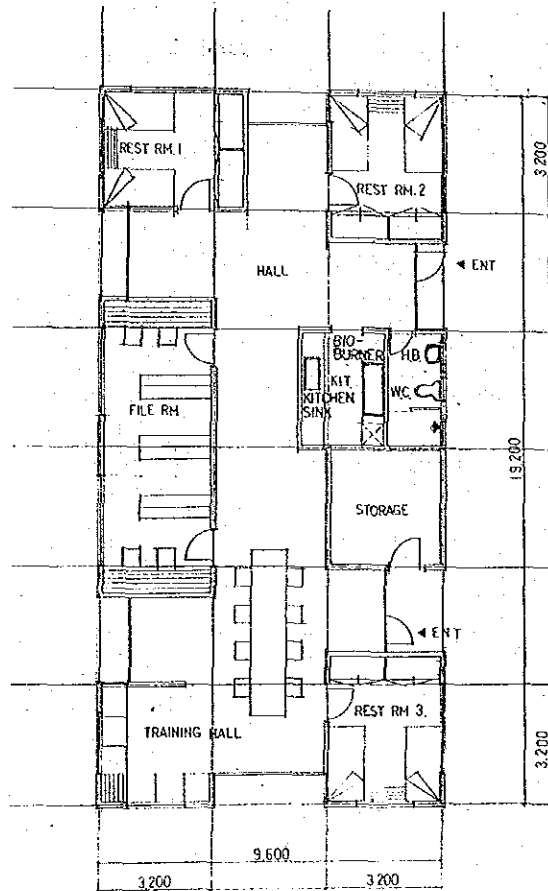


FIG. 4-5-2 (d) PLUMBING FIXTURES IN NURSES' TRAINING ROOM UNIT (LEULUMOEGA)

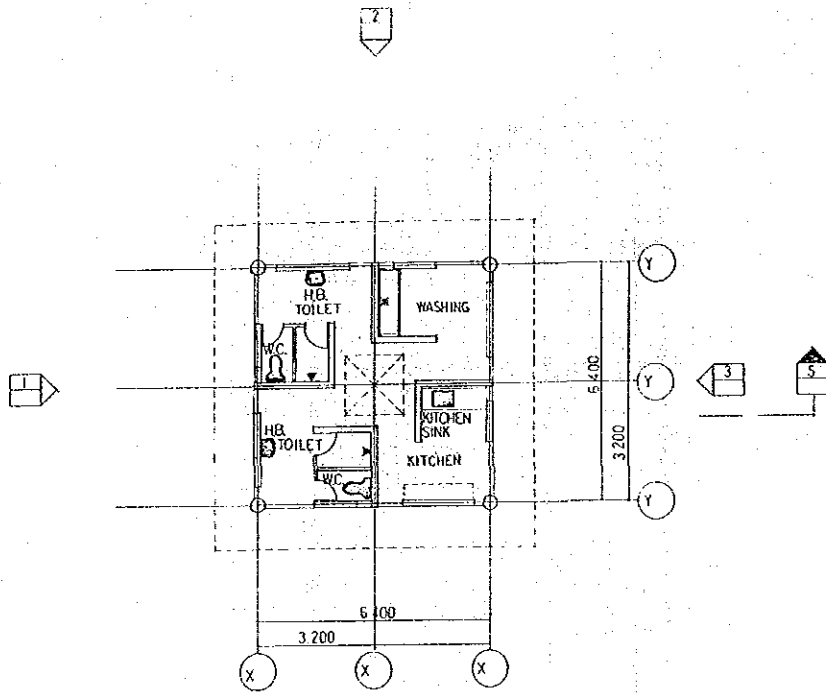


FIG.4-5-2(e) PLUMBING FIXTURES IN FALE
(KITCHEN, WASHING, TOILET)(LEULUMGEGA)

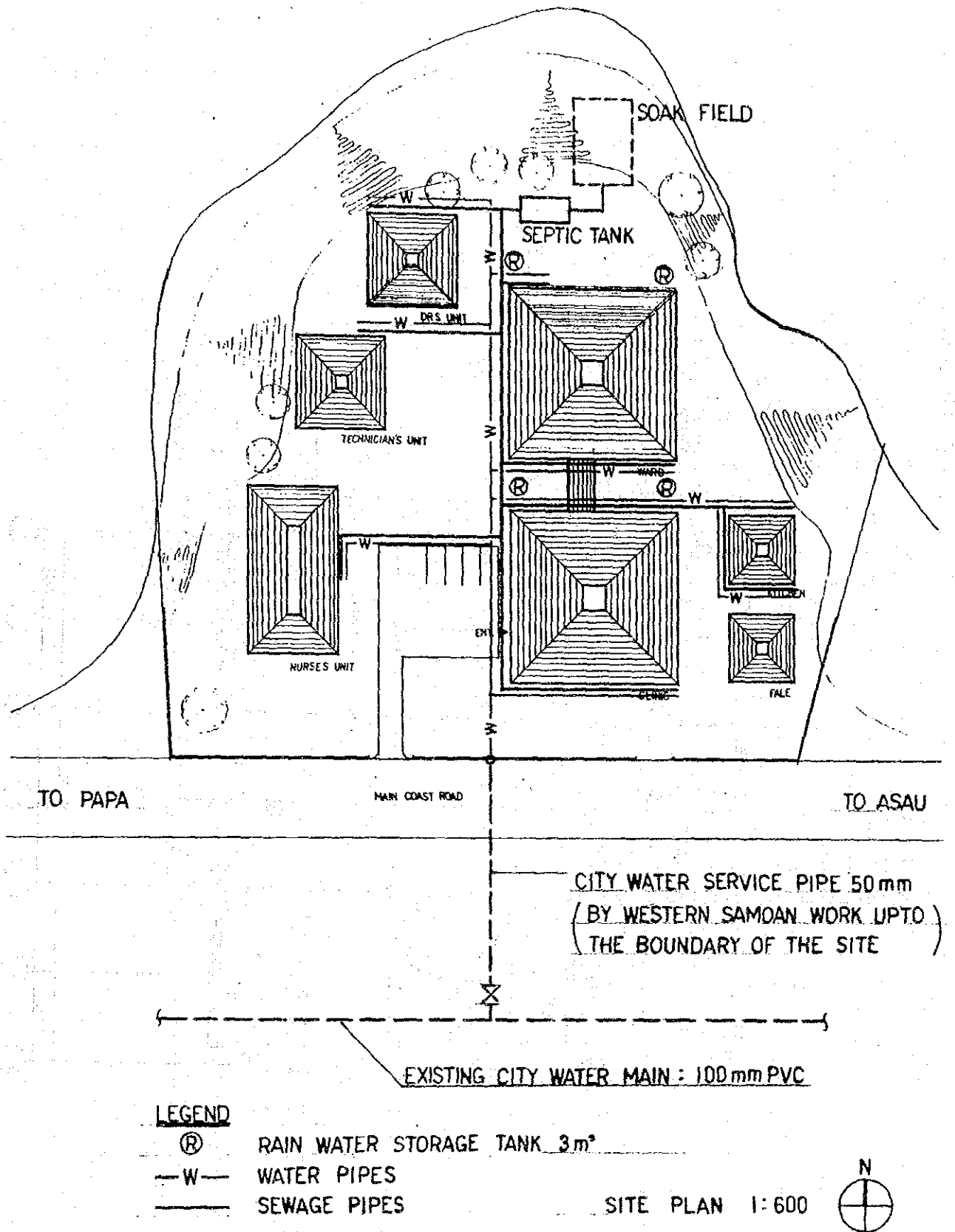


FIG. 4-5-1 (b) PLUMBING LAYOUT IN
SATAUA HOSPITAL

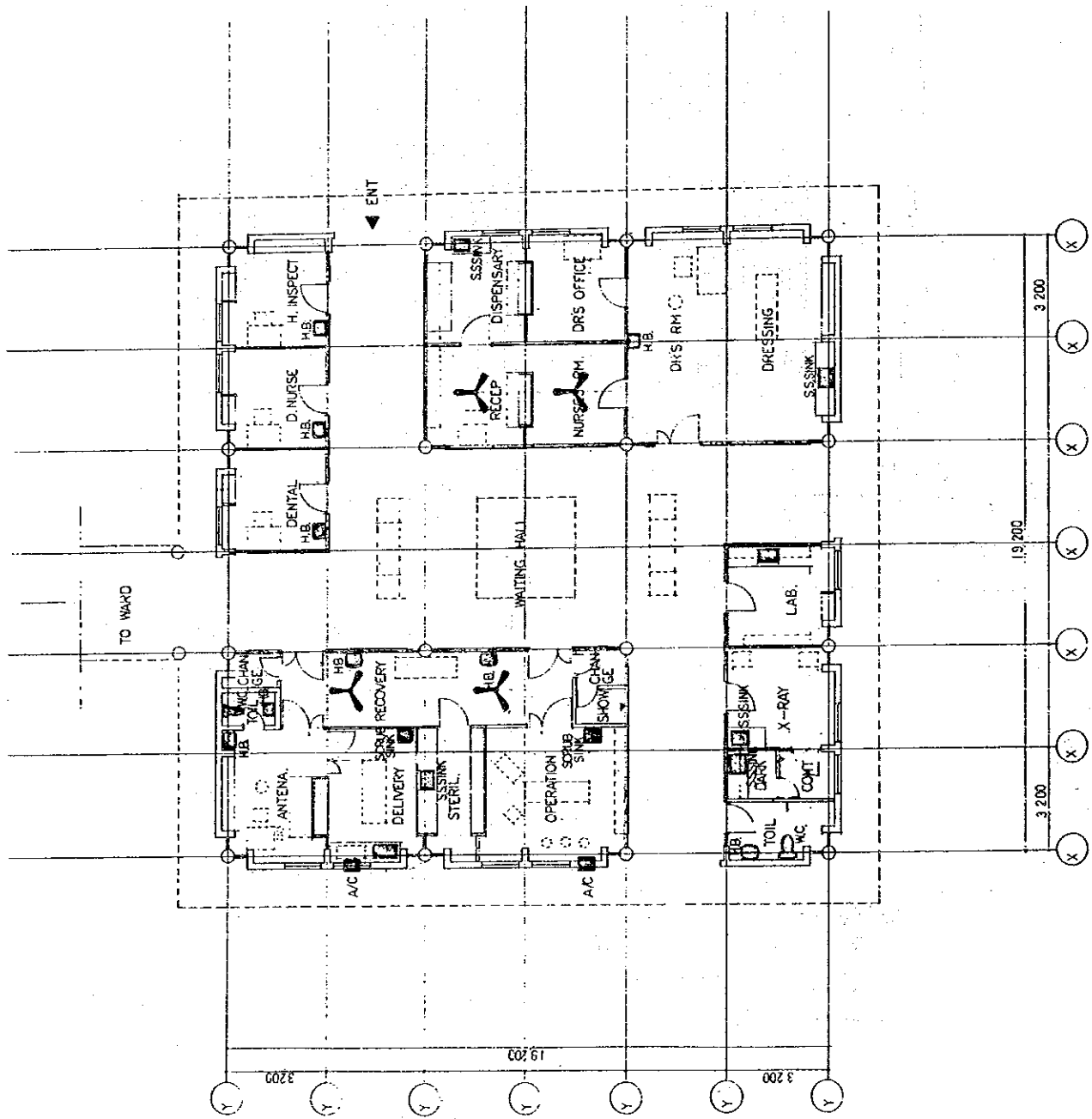


FIG. 4-5-3 (e) PLUMBING FIXTURES IN CLINIC (SATAJUA)

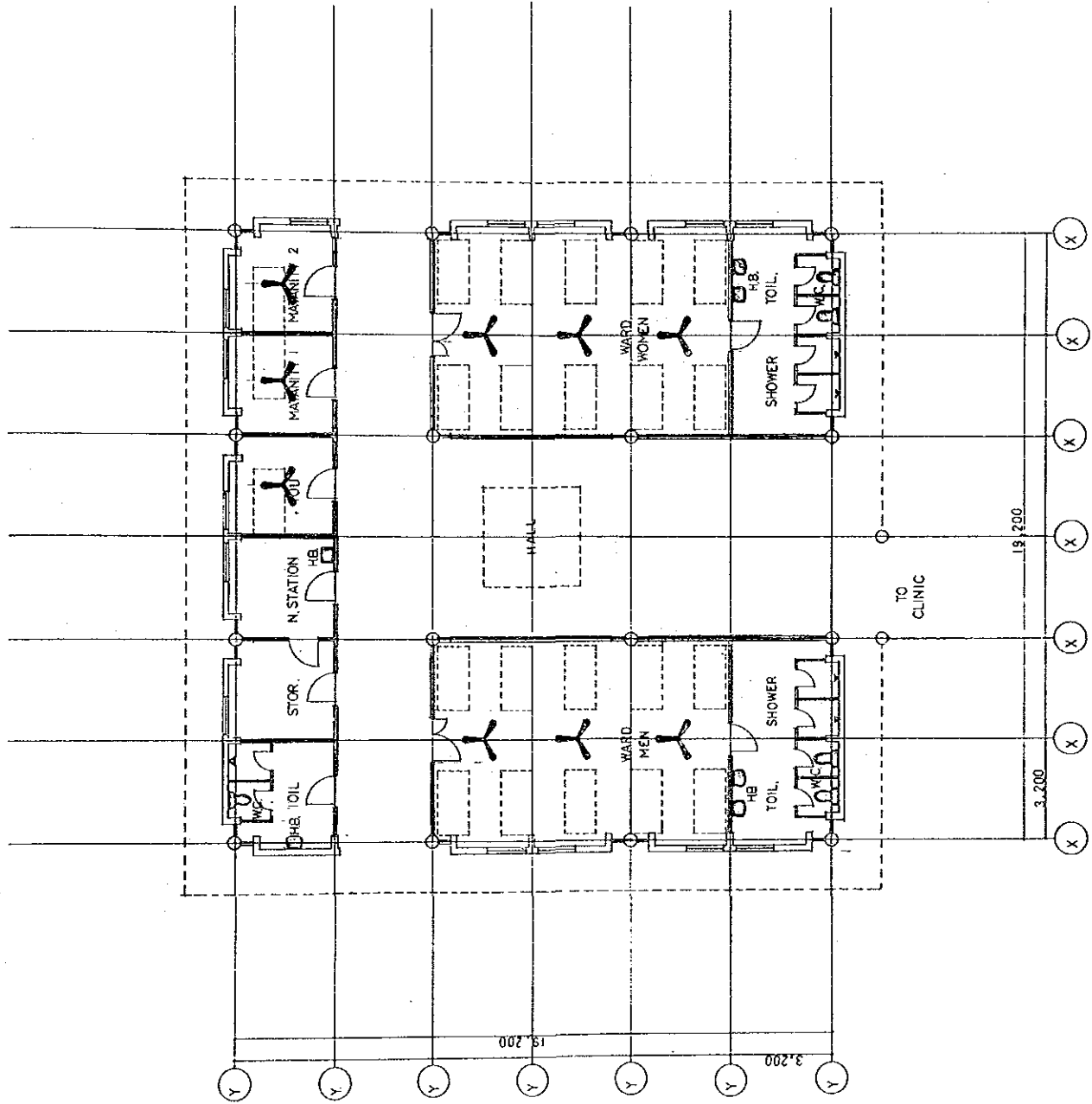


FIG. 4-5-3(b) PLUMBING FIXTURES IN WARD (SATAUA)

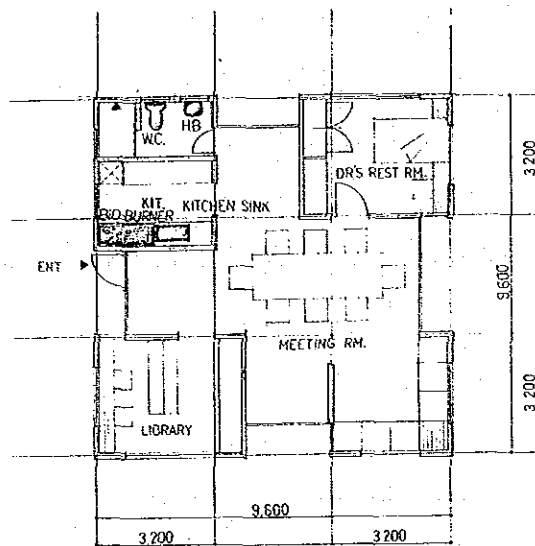


FIG. 4-5-3 (C) PLUMBING FIXTURES IN DOCTOR'S REST ROOM UNIT (SATAUA)

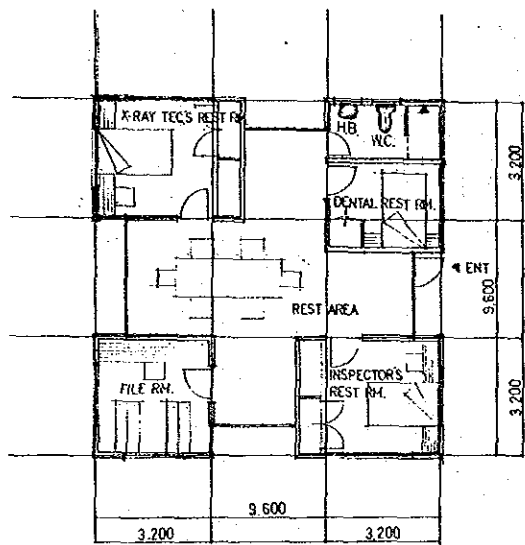


FIG. 4-5-3 (d) PLUMBING FIXTURES IN TECHNICIANS' REST UNIT (SATAUA)

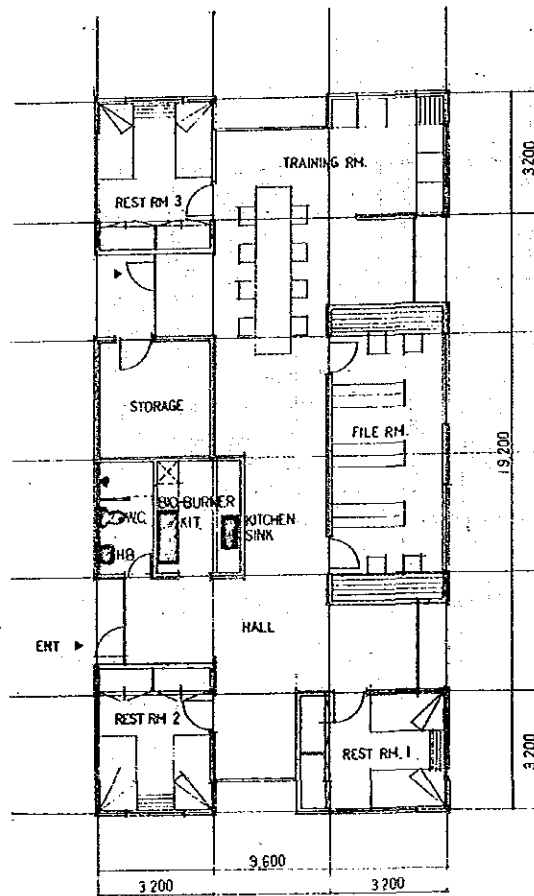


FIG. 4-5-3(e) PLUMBING FIXTURES IN NURSES' TRAINING ROOM UNIT (SATAUA)

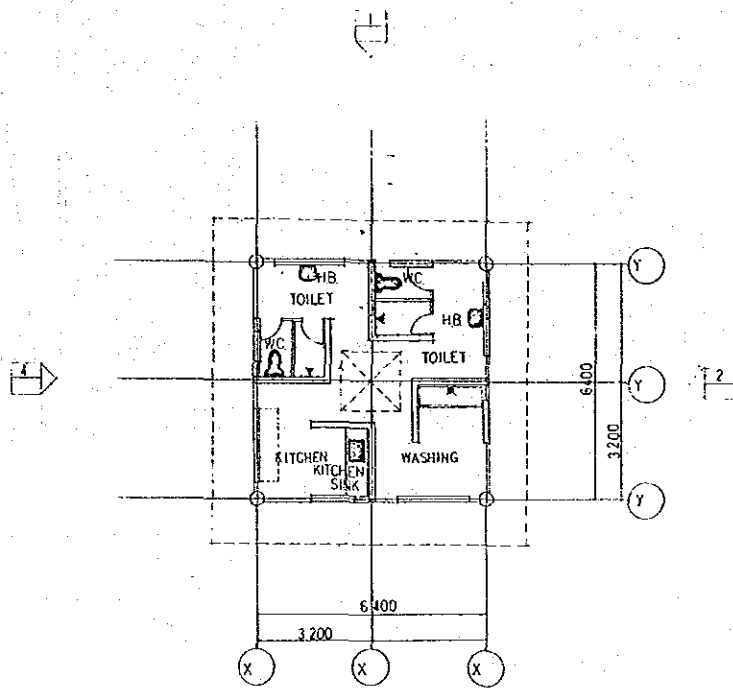
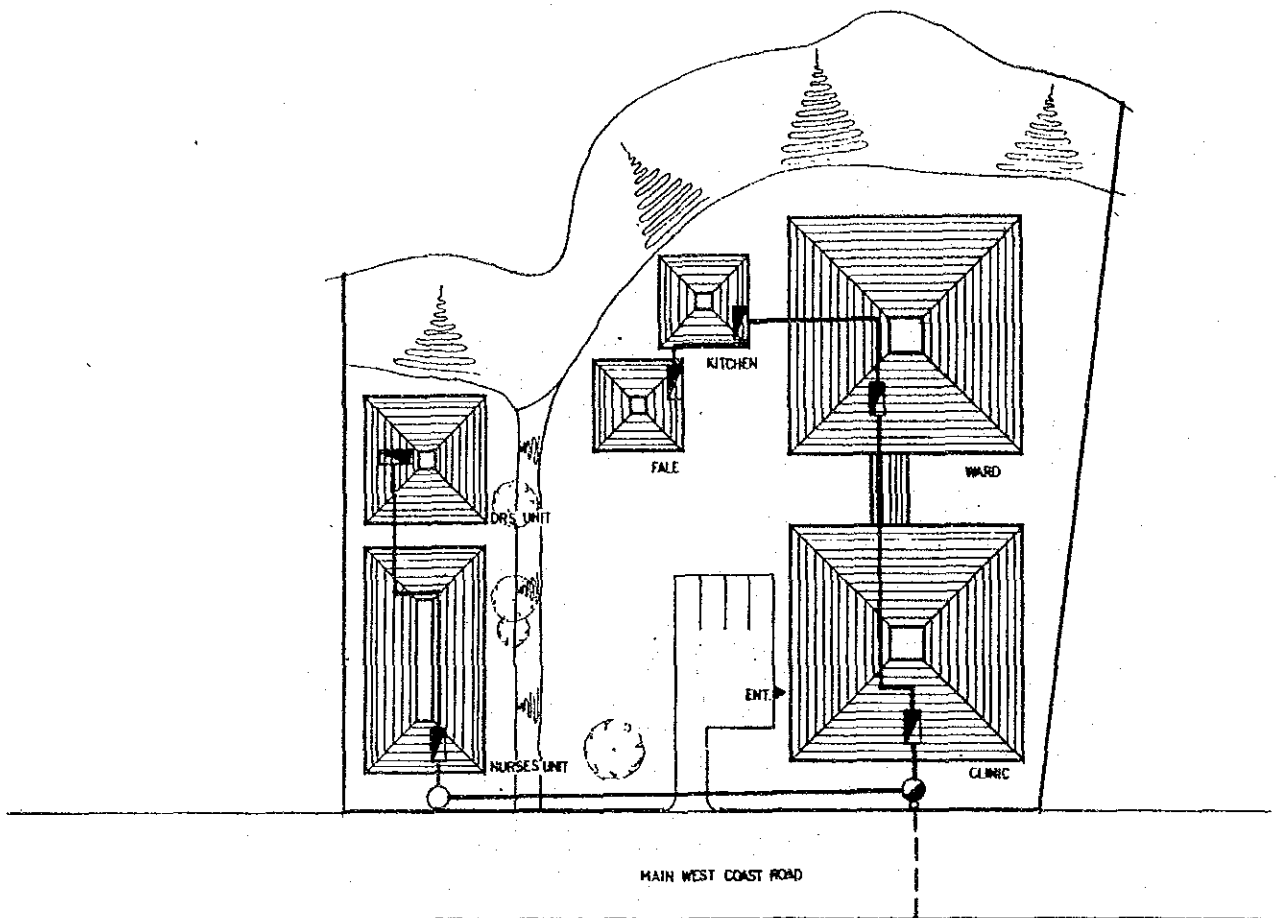


FIG. 4-5-3 (f) PLUMBING FIXTURES IN FALE
(KITCHEN, WASHING, TOILET) (SATAUA)



INCOMING LINES
 (BY WESTERN SAMOAN WORK
 (UPTO THE LEADING-IN POLE)

❖ FROM PROPOSED 3 - PHASE , 100 KVA TRANSFORMER
 WITH WHICH EXISTING 3 - PHASE , 50 KVA TRANSFORMER
 WILL BE EXCHANGED (BY WESTERN SAMOAN WORK)

LEGEND

-  PANEL BOARD
-  OVERHEAD WIRING


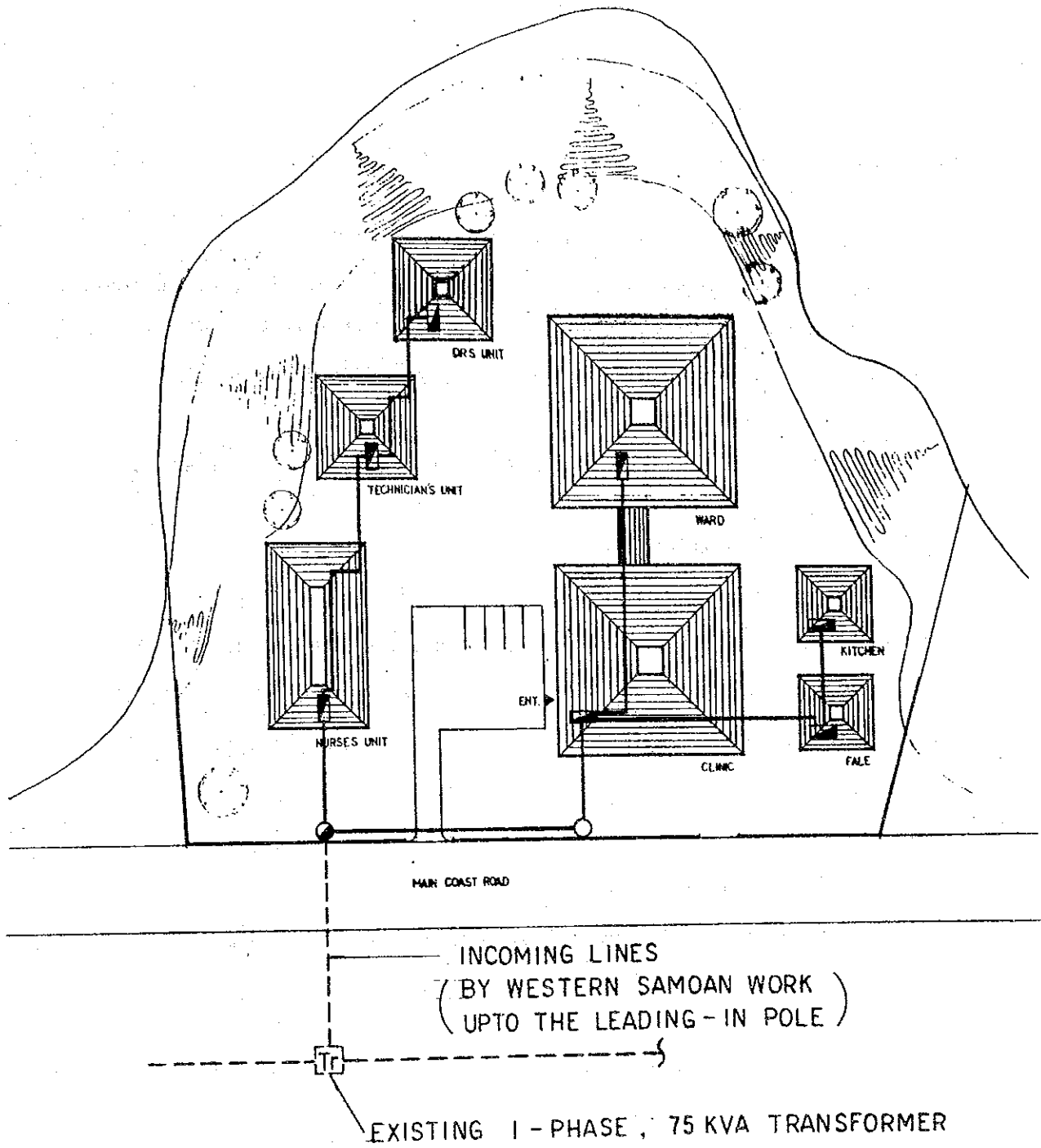
SITE PLAN 1 : 500 

FIG 4-5-5 (a) ELECTRICAL DISTRIBUTION LAYOUT
 IN LEULUMOEGA HOSPITAL



LEGEND

-  PANEL BOARD
-  OVERHEAD WIRING

SITE PLAN 1:600

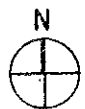


FIG 4-5-5 (b) ELECTRICAL DISTRIBUTION LAYOUT
IN SATAUA HOSPITAL

Chapter 5 Construction Plan

5.1 Scope of the work

5.1.1 Works to be covered by the Japanese Government

- (1) Works relating to the proposed hospital as building, electrical, water supply and drainage, air conditioning and ventilation.
- (2) Septic tank, soak pit and pipe laying within the site of the proposed hospital
- (3) Medical equipment (listed on Table 3.6) and its installation

5.1.2 Works by Western Samoa

- (1) Demolition of the existing clinic facilities
- (2) Extension of water supply pipe (to the site of the hospital)
- (3) Extension of the electric cables (to the site of the hospital)
- (4) Works outside of the hospital buildings (ground leveling, erection of the gates and walls)
- (5) Gardening
- (6) General furniture, etc.

Expenses to be covered by Western Samoa are roughly estimated as follows: (Unit: Tala)

Expenses for the removal of the existing facilities	17,500
Expenses for the works outside of the hospital buildings	19,500
Expenses for the general furniture, etc.	15,000
Expenses for the water supply and trainage and electric power connection	8,000
Total	<u>60,000</u>

5.2 Construction Material Procurement Plan

5.2.1 Construction Materials

(1) Main materials

- * Iron reinforcing bars Procure at the local market,
or import Japanese products
from New Zealand
- * Cement Import from New Zealand
- * Aggregate Use locally obtained aggregate
(Timber for making frames)
- * Timber Import from New Zealand
(Timber for making furnishings)
Procure at the local market
- * Concrete block Use locally manufactured
products

(2) Subsidiary materials

- * Aluminum sashes Import from New Zealand
- * Paints Procure at the local market or
import from New Zealand
- * Glass Import from New Zealand
- * Hardware Procure at the local market or
import from New Zealand
- * Paints Import from New Zealand
- * Heat insulation materials Import from New Zealand
- * Vinyl tile for covering floor Import from New Zealand
- * Asphalt single Import from Japan or New
Zealand
- * Lighting appliances Import from New Zealand
- * Hardware for equipment Import from New Zealand
- * Pipes Import from New Zealand
- * Valves Import from New Zealand
- * Machinery and tools Import from New Zealand

5.2.2 Medical equipment

* Ambulances, Travelling clinic (Land Cruiser)	Import from Japan
* Beds	Procure at the local market or import from New Zealand
* X-ray cameras	Import from Japan
* Workbench, drug shelves	Use locally manufactured products
* Other medical equipment	Import from Japan

5.2.3 Construction Machines

Those necessary for this project can be obtained at the local market.

5.2.4 Means of transport and the time required

(1) Means of transport	By sea
(2) Time required	
From New Zealand to Western Samoa	Approx. 2 weeks
From Japan to Western Samoa	Approx. 6 weeks
Customs clearance	Approx. 1 week

An additional day or two will be needed before the cargo reaches the destination of Sataua, after leaving the port of Apia by trucking, changing to the ferryboat, and again transferring to trucks.

5.3 Service Procurement Plan

Laborers and craftsmen are easy to hire in the local market, but their level of professional skill is low. For employing laborers and craftsmen, the help and cooperation from foremen in each district is necessary. Job holders are broadly classified into construction laborers, carpenters, plasterers, painters and tilers. All such work as related to ferro-concrete, sash, interior decoration, roofing and concrete blocks are taken care of by carpenters.

It is also possible to hire craftsmen for the electrical, as well as mechanical installation work on the local market. But because technicians who are qualified to guide and inspect the high level of works are hard to find, it is necessary to employ them in Japan or New Zealand.

5.4 Construction Implementation Plan

This construction project is intended to improve the medical situation in Western Samoa and contribute to the promotion of the people's welfare, thus strengthening the friendship and goodwill between Japan and Western Samoa. It is important for Japan, therefore, to complete the construction of a high-quality hospital within a limited period of time.

In the execution of the project, it is essential to establish strong leadership and management under the overall implementation schedule. It is also vital to study the local market conditions with regard to materials and labor, and understand the real intention of the Japanese Government's grant aid.

5.4.1 Type of contract

The contract shall be given to Japanese construction companies and shall be the full-turn key contract.

5.4.2 Construction work management system

Staff members of the Japanese construction companies are scheduled to stay in Western Samoa on a permanent basis for management of the work. The number of resident staff members are as follows:

- (1) Field representative 1
- (2) Chief engineer for each site 2
(The Field representative may be a chief engineer simultaneously as needed)
- (3) Dispatch of technical experts on a nonregular basis if necessary.

5.4.3 Implementation Schedule

The implementation schedule of the construction work is as follows:

TENTATIVE IMPLEMENTATION SCHEDULE AFTER E/N

Months	0	1	2	3	4	5	6	7	8	9	10	11	12
Government of Japan	Exchange of Note	E/B	Verification of Consultant Contract	Verification of Construction Contract									
Government of Western Samoa	E/N	Demolition of Existing Facilities	Consultant Contract	Construction Contract									
The Consultant		Consultant Contact	Consultant Contact	Tender					Supervision				
Contractor		Detailed Design	Tender	Construction Contract	Contract				Frame Work			Inspection	
Remarks					Foundation Work				Finishing Work				

5.5 Executing Agency

Public Health Division, Department of Health, Western Samoa

Chapter 6 Maintenance and Administration Plan

The proposed hospital will continue to be operated and controlled by the Public Health Division, Department of Health, Western Samoa after it is reconstructed. The Department's major responsibilities include the maintenance and control of the hospital jointly with other organizations, the hospital personnel plan, and financial plan.

6.1 Maintenance and Control

The responsibility for the maintenance and management is roughly split in two areas. One is medical treatment, preventive medicine, and training of nurses, for which the hospital is created. The other is the Maintenance of facilities and equipment. In Western Samoa, the former is planned and executed solely by the Department of Health while the latter requires the assistance and cooperation of the Women's Committee to a great extent. This system is expected to be further strengthened in the future.

6.2 Personnel Plan

Shown in Table 3.2.1 are medical staff of the existing hospitals in Leulumoega and Sataua. Those personnel are considered enough to operate the hospitals even after they are reconstructed. But for the Sataua hospital, an additional X-ray engineer will be required. In the future, patients are expected to increase as population grows (see Chapter 3), and in five years the working capacity of the present staff is expected to reach the limits. Perhaps, an additional doctor or assistant doctor, one more district nurse, and 2 or 3 staff nurse members will become necessary by 10 years after completion. Even at that time, there will be no need of expanding the clinic block and ward block. The reinforcement of personnel is intended to lighten the burden of the staff working under the around-the-clock system and to handle an increasing number of patients, thus developing medical activities in sub-centers and local communities.

6.3 Financial Plan

In drawing up the basic design for the proposed hospitals, the reduction of the maintenance and management cost was taken up as one of the major goals. Excepting the case in which some medical equipment is newly purchased to meet growing needs the design was prepared in line with the energy-saving principle while seeking durability and neat appearance with minimum maintenance cost. Thus, the maintenance and management cost is expected to be held down compared with the enlarged size of the hospitals.

The annual operation and maintenance expenses of the hospitals in Leulumoega and Sataua are roughly estimated as follows:

	<u>Leulumoega</u>	<u>Sataua</u>
(1) Building maintenance expenses	2,000	2,100
(2) Expenses for Expendables	1,000	1,250
(3) Equipment and material expenses	250	350
(4) Vehicle operation expenses	6,000	6,000
(5) Heat and light expenses	8,000	11,000
(6) General expenses	5,000	5,500
(7) Personnel expenses	26,000	24,500
Total	48,250	50,700

Chapter 7 Evaluation of The Project

The roles to be played by district hospitals in Western Samoa have been earlier explained. But repeating some of the important points, it can be pointed out that the expanded facilities are certain to improve the quality of medical service in districts and lessen the financial burden on patients and the National hospital. Taking the Japanese Government's economic grant into consideration, the following merits can be added:

- 1) The relatively high technical levels of Japan will help improve the quality of medical facilities of Western Samoa, and the local medical standards are expected to be raised higher than average, producing the following results:
 - * The quality and quantity of the medical service will be raised to a surprising degree.
 - * The staff's enthusiasm will awaken, and it will become easier than ever for regional hospitals to recruit excellent and competent staff.
 - * The training level for medical staff (nurse aids) will be upped.
 - * The raised medical level will cause a multiplier effect on similar facilities when they undergo the reconstruction program.

Chapter 8 Conclusion and Recommendations

After a careful study of what was described in the preceding chapters, it was found proper and adequate to execute the reconstruction project of the proposed hospital. It is therefore desired that the Japanese Government extend grant aid to the project at the earliest possible date.

At the same time, the following recommendations are presented to the Government of Western Samoa so that the project can be executed smoothly.

- (1) There is a need of securing personnel as well as budget for the operation of the proposed hospital as soon as its reconstruction work is successfully completed.
- (2) Special care must be given to the schedule of demolishing work of the existing facilities.
- (3) It is necessary to secure the temporary clinic while the construction work is under way.
- (4) Erection of fence and gardening must be planned to match the building.

APPENDIX

- I. MEMBERS OF SURVEY TEAM
- II. SCHEDULE OF SURVEY
- III. COOPERATORS IN SURVEY
- IV. MINUTES
- V. MEMBERS OF SURVEY TEAM
(EXPLANATION ON DRAFT REPORT)
- VI. SCHEDULE OF EXPLANATION ON DRAFT REPORT
- VII. MINUTES

APPENDIX-1

MEMBERS OF SURVEY TEAM

	Assignment	Name	Organization to which the members belong
1st Group	Leader	Ikuhiro Yamasawa, M.D.	Tokyo Medical College
	Member: Project Coordinater	Mr. Senichi Kimura	JICA
2nd Group	Member: Administration Chief Architectural Planning	Mr. Isao Fukuwatari	Fukuwatari & Archi- tectural Consultants
	Member: Architectural Design and Cost Estimate	Mr. Katsuya Morita	- do -
	Member: Mechanical equipment	Mr. Ken Maejima	- do -
	Member: Medical equipment and materials	Mr. Takenori Matsumura	- do -

APPENDIX-2

SCHEDULE OF SURVEY

Serial No.	Date		Itinerary	Overnight	Survey items*
1	Jan. 17	Mon	⊕ Lv Tokyo Ar Wellington (JL 771)		
2	Jan. 18	Tue	⊕ Lv Wellington Ar Auckland	Wellington	A visit to and a discussion at the Embassy
3	Jan. 19	Wed	Lv Tokyo Ar Auckland (JL 771)	Auckland	Discussion at the Embassy
4	Jan. 20	Thu	⊕ Lv Auckland Ar Apia (TE 196)	Apia	Courtesy call to Samoan Government officials, courtesy call and discussion at the JOCV office
5	Jan. 21	Fri	Apia		Discussion with Ministry of Health Officials
6	Jan. 22	Sat	Apia/Leulumoega		Leulumoega site survey, survey of similar facilities, and survey of the existing hospital
7	Jan. 23	(Sun)	Apia/Sataua		Survey of the existing hospital
8	Jan. 24	Mon	Apia		Discussion at the Health Department
9	Jan. 25	Tue	Apia		- ditto -
10	Jan. 26	Wed	Apia Lv Apia Ar Wellington		Signing of the Minutes
11	Jan. 27	Thu	⊕ Apia (TE 195)		Collecting architectural information
12	Jan. 20	Fri	⊖ Apia/Leulumoega Lv Wellington Ar Tokyo (JL 776)	Wellington	Report to the Embassy/ Leulumoega site survey

Serial No.	Date		Itinerary	Overnight	Survey items
13	Jan. 29	Sat	Apia/Leulumoega	Apia	Leulumoega site survey/ schematic design discussion on Leulumoega facilities
14	Jan. 30	(Sun)	Sataua/Apia	Sataua	Sataua site survey/ selection of equipment and materials
15	Jan. 31	Mon	Sataua/Apia	Apia	Sataua site survey/ selection of equipment and materials
16	Feb. 1	Tue	⊕ Lv Apia Ar Auckland (PH731)		Schematic design on Sataua facilities/ Discussion Health Department
17	Feb. 2	Wed	Auckland/Apia	Auckland Apia	Collecting architectural informations
18	Feb. 3	Thu	Auckland ⊕ (TE195)		- ditto -
19	Feb. 4	Fri		Auckland	- ditto -
20	Feb. 5	Sat	⊙ (JU776)		- ditto -
21	Feb. 6	(Sun)			

APPENDIX-3

COOPERATORS OF THE SURVEY

- HEALTH DEPARTMENT -

Mr. Laver LIO	HON. Minister
Dr. George Ainsley SHUSTER	Director General
Dr. Toia ALAMA	Medical Superintendent of National Hospital
Dr. Mika FEPULEAI	Chief, Public Health Div.
Mr. David MC. FEPULEAI	Director, Administration
Dr. Solia Tapeni FAAIUASO	Region Officer
Ms. Pelenatete STAINERS	Director, Nursing
Ms. Sally BETHAM	Matron, Rural Health
Dr. Tin Maung MOUNG	WHO Region Officer
Mr. Helt WESTERMAN	Architect, National Hospital Project (New Zealand)

- PRIME MINISTER DEPT -

Mr. Ulai TOMA	Secretary to the Government
Mr. Alan WENOT	Foreign Affairs Officer

- FINANCIAL DEPT -

Mr. A. L. HUTCHISON	Secretary
Mr. Klouc VAAI	Deputy Secretary

- PUBLIC WORKS DEPT -

Mr. M. M. STURMS	Town Planner
Mr. N. WARD	Chief Architect
Mr. Basil DODDS	Chief Water Engineer
Mr. Wijpko DRENTH	Deputy Director
Mr. M. POSINI	Chief Building Inspector
Mr. POLOAIGAIMO	EPC

- PARLIAMENT -

Mr. LEMANA

JAPANESE EMBASSY AT NEW ZEALAND

Mr. Akiyama	Ambassador
Mr. Ohe	First Secretary

JAPAN OVERSEAS COOPERATION VOLUNTEERS

Mr. Ichiro Toyoshima	Chief
Ms. M. Ishii	Medical Labo. Technician
Mr. K. Yoneda	Public Health
Mr. Y. Kuboyama	Architect
Mr. K. Nagakubo	Architect
Mr. H. Fukase	Architect
Mr. H. Sato	Civil Engineer
Mr. K. Ikeda	Civil Engineer
Mr. A. Doi	Civil Engineer

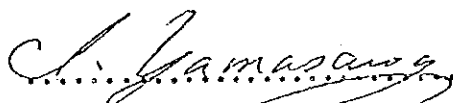
MINUTES OF DISCUSSIONS
ON
THE PROJECT FOR REBUILDING OF LEULUMOEGA AND
SATAUA DISTRICT HOSPITALS
IN
WESTERN SAMOA

In response to the request by the Government of Western Samoa, the Government of Japan has sent, through the Japan International Cooperation Agency (hereinafter referred to as "JICA", a team headed by Ikuhiro YAMASAWA M.D. (the 2nd Department of Internal Medicine Tokyo Medical College) to conduct a Basic Design Study of the rebuilding project of Leulumoega and Sataua district hospitals (hereinafter referred to as "the Project") from 19th January to 3rd February 1983.

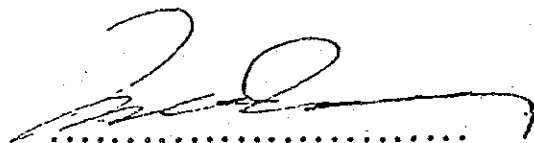
The team has conducted the field survey and held a series of discussions and exchanged views with the officials concerned of the Government of Western Samoa.

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

26th January, 1983



Dr. Ikuhiro YAMASAWA
Team Leader, Japanese Study Team
JICA



Mr Iulai TOMA
Secretary to the Government,
Prime Minister's Department
WESTERN SAMOA

ANNEX I

1. Buildings

1) Clinic block

- dispensary room with storage
- reception and records room
- laboratory room
- waiting lobby
- x-ray with dark room (Priority; 1st Sataua, 2nd Leulumoega)
- consultation room
- emergency room
- operation theatre attached washing room containing changing cubicles
- sterilization room
- delivery room and preparation room
- room for antenatal and dental clinic
- district nurses room
- Doctor's office
- Other incidental rooms

2) Ward Block

- Wards for male and female (including maternity room)
- nurse station
- storage
- other incidental rooms

3) Staff accommodation

- doctor's house (bed rooms, kitchen, living and dining room)
- nurses' house (bed rooms, kitchen, living and dining room)
- inspector's house (bed rooms, kitchen living and dining room)
 - only in Sataua
- X-ray technician's house (bed rooms, kitchen, living and dining room) - only in Sataua.

4) Relatives Fale

- Kitchen, living room, laundry room.

2. Equipments

1) Medical Equipments for:

- (1) examination
- (2) laboratory
- (3) dispensary
- (4) operation
- (5) obstetrics
- (6) sterilization
- (7) chest x-ray (Priority; 1st Sataua, 2nd Leulumoega)

(viii) emergency
(ix) wards

2) Copy Machines

3) Ambulances

ANNEX II

1. To secure necessary land for the construction.
2. To clear (including demolishing the existing facilities), fill, level the site of the hospitals 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 and other incidental facilities within the scope of Japan's Grant Aid Programme.
5. To ensure prompt unloading and customs clearance at port of disembarkation in Western Samoa.
6. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Western Samoa with respect to the supply of materials for the construction, equipments and services under the verified contracts.
7. To accord Japanese nationals whose services may be required in connection with the supply of materials for the construction, equipments and services under the verified contracts such facilities as may be necessary for their entry into Western Samoa and stay therein for the performance of their work.
8. To bear all the expenses other than those to be born by the grant, necessary for the execution of the Project.

ATTACHMENTS

1. The Objective of the Project

The Objective of the Project is to upgrade the District Hospitals to reduce the flow of the population from rural areas seeking medical treatment in the National Hospital.

2. The Services of the District Hospitals

The services of the District Hospitals provide essential primary health care to the community.

3. The Executing and Coordinating Agency of the Project

The executing and coordinating agency is Western Samoa Health Department.

4. The Sites

The Sites for the District Hospitals have been already acquired.

The maps of the sites are attached.

5. Undertaking of Japanese Study Team

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

6. Measures to be taken by the Government of Western Samoa.

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

APPENDIX-V.

MEMBERS OF SURVEY TEAM
(Explanation on Draft Report)

Assignment	Name	Organization to which the members belong
Leader	Ikuhiro Yamasawa, M.D.	Tokyo Medical College
Member Project Coordinator	Mr. Tomoyoshi Ohtuka	Ministry of Foreign Affairs
Member Project Coordinator	Mr. Naoki Kai	JICA
Member Administration Chief Architectural Planning	Mr. Isao Fukuwatari	Fukuwatari & Archi- tectural Consultants
Member Architectural Design and Cost Estimate	Mr. Katsuya Morita	- do -

APPENDIX-VI.

SCHEDULE OF EXPLANATION ON DRAFT REPORT

SERIAL NO.	DATE	ITINERARY	OVERNIGHT	SURVEY ITEMS
1	MAR. 29 TUE	⊕ LV. TOKYO AR. HONOLULU (JL 74)		
2		⊕ LV. TOKYO AR. WELLINGTON	HONOLULU	
3	MAR. 30 WED	⊕ LV. HONOLULU AR. APIA (HK 701)	APIA	DISCUSSION WITH COUNTER PART
4	MAR. 31 THU			DISCUSSION WITH MIN. OF HEALTH OFFICIALS
5	APR. 1 FRI			EASTER VACATION
6	APR. 2 SAT			LEULUMOEGA SITE SURVEY ATTENDANCE FOR WOMEN'S COMMITTEE
7	APR. 3 (SUN)	⊕ LV. WELLINGTON AR. APIA (PH 732)		VISIT LEULUMOEGA SITE
8	APR. 4 MON			VISIT LEULUMOEGA SITE MAKE UP LEULUMOEGA SATAUA LOCAL PORTION DOCUMENTS
9	APR. 5 TUE			DISCUSSION WITH MIN. OF HEALTH OFFICIALS
10	APR. 6 WED		APIA	- DITTO - SIGNING OF THE MINUTES
11	APR. 7 THU	⊕ LV. APIA AR. AUCKLAND (TE 195)	AUCKLAND	
12	APR. 9 SAT	LV. AUCKLAND		
13	APR. 10 (SUN)	AR. TOKYO (JL 776)		

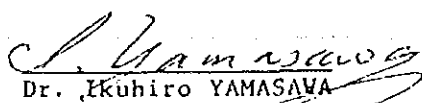
MINUTES OF DISCUSSION
ON
THE DRAFT REPORT OF THE BASIC DESIGN
STUDY ON
DISTRICT HOSPITALS RECONSTRUCTION
PROJECT IN
WESTERN SAMOA

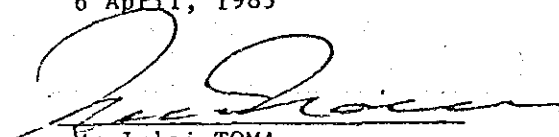
The government of Japan has sent, through Japan International Cooperation Agency (JICA), a Basic Design Study Team headed by Dr Ikuhiro YAMASAWA, the 2nd Department of Internal Medicine, Tokyo Medical College, to Western Samoa from 29 March to 10 April, 1983 for the purpose of presenting and explaining the draft of the final report of the Basic Design Study (the report) on District Hospitals Reconstruction Project (the project).

The team held meetings with the officials concerned of the Government of Western Samoa to explain and to discuss on the report. As a result of the discussions, both parties have agreed as follows:

1. The report was discussed by the two sides and appropriate alterations in basic design and construction plan raised during the discussions will be incorporated in the Final Report. These alterations will be subject to confirmation by the Western Samoa authorities. In this respect the survey team will provide details of these alterations in sufficient time to enable the Final Report to be submitted as scheduled.
2. The Final Report (10 copies in English) on the project will be submitted to the Government of Western Samoa at the beginning of May, 1983.

6 April, 1983


Dr. Ikuhiro YAMASAWA
Team Leader
Japanese Study Team
JICA


Mr Iulai TOMA
Secretary to the Government,
Prime Minister's Department
WESTERN SAMOA

JICA