(4) Implementation Period of the Project

The project will be implemented in 1999 because 1) most equipment to be procured will be renewed from the existing equipment (small repairs will be required), 2) only three medical facilities neighboring within two kilometers will be targeted, and 3) since these hospitals are currently being operated, they are ready to arrange all the equipment to be procured.

(5) Necessity of Technological Cooperation

Procured equipment can be easily handled by medical workers since most of them are renewed from the existing equipment or supplemented. As for equipment requiring higher level operating methods such as electric knives, anesthesia machines and X-ray machines, an instruction seminar will be held for Karakalpakstan medical engineers at the time of procurement and after the project starts. Therefore, it does not need technological cooperation for the project. For the instruction seminar, Uzbek engineers who have a thorough knowledge of using the equipment procured in 1994, 1995 and 1997 will be asked to teach how to use and maintain the equipment.

2-3 Basic Design

2-3-1 Design Concept

(1) Policy to Natural Conditions

Since it is a continental and semi-arid climate in that area, the dustproof, anti-humidity and high-temperature resistant equipment should be selected.

It will be heavily cold (less than -20℃) in winter. To avoid it,

a short construction period is desirable.

(2) Policy to Social Conditions

Although the project hospitals have been gradually improving, their management system is still influenced by the standards of the Soviet Union Age. For implementation of the project, the Uzbek ongoing reform project of medical service is major premise.

(3) Policy of Utilization of Procuring Agent(s) and Procured Equipment in Karakalpakstan

Equipment whose consumption articles can be procured on site should be selected.
Maintenance agreements with manufactures' local agencies for high-tech equipment which need regular maintenance (ex. X-ray equipment, ultrasound diagnostic unit, biochemical analyzer, etc.)

(4) Maintenance Capability

It is difficult to repair medical equipment like X-ray unit at hospitals in Uzbekistan. Therefore, equipment whose maintenance system is established by manufacturers' agencies should be selected. The agencies must be in Uzbekistan or accessible to Moscow.

(5) Policy of Range and Grades of Procured Equipment

1. To arrange equipment for examination and treatment which will be used for pregnant women and infants.
2. To arrange equipment which can be operated by staff at the current technical level without special medical engineers for practice.

(6) Construction Period

Construction period is estimated within 9.7 months.

2-3-2 Basic Design

(1) Overall Plan

1) Design concept

This project aims at improving the health and medical services for mothers and children in Karakalpakstan, and the basic design for it will be made according to the following policies:

[Design policies for demands]

1. The planned equipment should be used mainly for basic medical services for mother and child health.
2. The planned equipment should be used not for the purpose of studies but for diagnosis and treatment of diseases.
3. The object of improvement should be renewal and supplementation of equipment which are found in the state almost unable to use because of deterioration, etc., among the equipment currently available in the hospital.

[Design policies for financial analysis]

1. The equipment should be selected from those of comparatively small operating cost after implementation, and financially maintainable by the respective project facilities.
2. The scale of the project should be kept in a scope that can be covered

with the current equipment-operating budget. In case the scope of the operating expenses for the planned equipment is by far exceeded (considering the rate of economic growth, rate of price increases, rate of growth of budget, etc, as guidelines), as a result of a financial analysis, the planned equipment should be reduced to a level supportable on the side of Karakalpakstan.

3. The scale of the project should be kept in a scope manageable with the current operating and administrative capacity of the project facilities, and a scope that enables to secure autonomous development from both the financial and technical viewpoints. (Any equipment which requires a large amount of consumables, etc, after implementation of the project should be excluded from the project.)

[Design policies for technology]

1. The planned equipment should be of types which do not require formation of any special medical engineers and can be handled with the current personnel and technical level.

2. To select equipment which can adjust to the severe weather condition of target areas, based on standards applied to the "1994 Pediatric Medical Equipment Arrangement Plan," the "1995 Mothers and Children's Health Medical Equipment Arrangement Plan in Eastern Areas" and the "1997 Improvement of Medical Equipment for Maternal and Child Hospitals in Middle Provinces."

[Design policies for infrastructures, natural conditions]

1. The planned equipment should have performances resistible to the natural conditions of the continental semidry climate of Karakalpakstan.

2. For ventilators, operation lamps (stand type), biochemical analyzers, etc., which continuously require electric power,

disposition of uninterruptible power supply units, etc, will be planned to ensure their operation even in case of voltage drop or power failure.

3. To avoid equipment troubles due to voltage fluctuations, disposition will be planned of automatic voltage regulator coping with ±15% of voltage fluctuations for electronic medical equipment, etc. (Either slide type or thyristor type will be adopted for this AVR to control instantaneous rush current at the time of recovery from a power failure.)

4. To avoid influences of hard water on the equipment, a water softener will be incorporated in the bottle cleaner, high-pressure steam sterilizer, etc., depending on the hardness of the supply water.

[Design policies for equipment arrangement plan]

1. For the planned equipment, arrangement of minimum required consumables will be planned, necessary for operation (period from placing of order to delivery: 3 ~ 6 months) after implementation of the project.

2. As for X-ray unit, high-pressure sterilizer, biochemical analyzer and part of equipment used in operation rooms, such as operation lamps, procurement from third countries (Europe, U.S.A.) will be planned. However, the followings should be ensured that the medical engineers in the local areas have a thorough knowledge of the operation, and that maintenance and control setups by local agency are already established, as well as superiority in the matter of prices.

[Design policies for environmental problems]

1. Regarding the procurement of X-ray unit, the following preparations

will be proposed to the Karakalpakstan side on its account, so that the X-ray room concerned may satisfy the Standards for Protection against Leakage of Radiation of the International Committee on Radiation Protection (ICRP):

① Closing windows and vent holes, etc., with concrete blocks, which are lower than the highest point of the X-ray unit.

② Disposition of doors treated with lead sheet.

To protect engineers from unnecessary exposure to radiation, X-ray shielding screen in the radiation room of all facilities will be disposed within the framework of the project.

2. To avoid problems of environmental pollution in the future, a model using a refrigerant stipulated for non-Freon gas (mixed Freon gas of 3 different types) will be planned for the medicine refrigerator.

[Design policies for maintenance and operation control]

1. Promote procurement of equipment which can be taken charge sufficiently with the existing maintenance control capacity of Karakalpakstan, such as local agencies of manufacturers, the Ministry of Health (including Uzmedtechnica, Medservice), etc.

2. The equipment to be procured includes items which requires maintenance by either the manufacturer or its local agency. Although guarantee by the manufacturer is provided for one year after the implementation of the project, it is necessary to conclude a separate maintenance contract with the supplier for services thereafter. For such expenses, a budget arrangement made on the side of Karakalpakstan will be recommended.

3. Increase of maintenance and control expenses is inevitable because a lot of equipment are introduced in addition to the equipment units mentioned in the preceding paragraph. It is therefore recommended a budget arrangement to the side of Karakalpakstan to cope with such

a situation.

4. Training courses on operating and daily maintenance will be provided for the personnel in charge of the handling of equipment in the respective project facilities at the time of delivery of the concerned equipment. Especially for major equipment such as X-ray unit, ultrasound diagnostic scanner, training courses will be provided by the manufacturer or by its local agency.

5. English will be the main language for the indications on the operating face of the equipment and for the operating manual. For equipment which specially requires accurate instructions about the handling (infant incubator, various types of analyzer, high-pressure steam sterilizer, X-ray diagnostic unit, ultrasound diagnostic unit, ICU related equipment, etc.), supply of operating instructions (put in a case and attachable to the equipment) in Russian language will be obligated.

6. If the maintenance of the procured equipment is entrusted to Medservice, measures for improving the maintenance technique of Medservice should be taken on the side of Karakalpakstan.

2) Study of the planned site of equipment installation

The table below shows the equipment, out of those to be procured in the present project, which requires installation work, the current situation of the room used for installation, and the matters to be followed:

Republican Maternity Hospital

Planned equipment	Current situation of the room planned for installation and measures to be taken
① High Pressure Steam Sterilizer	I) There is a sufficient space, and water supply and drainage systems are also available. The installation work can be executed without requiring any special work for it.
② Extractor Machine	II) There is a sufficient space, and water supply and drainage systems are also available. However, foundation work is required depending on the type of the equipment to be procured.
③ Washing Machine	III) There is a sufficient space, and water supply and drainage systems are also available. However, foundation work is required depending on the type of the equipment to be procured.
④ Operation Lamp	IV) The ceiling is sufficiently high and there is no particular problem about it. However, to secure the hanging strength, it is necessary to mount steel anchor reinforcements.
⑤ Diagnostic X-ray Unit	V) The current X-ray room is small and the protective measures against radiation are insufficient. Therefore, a vacant room in another building will be remodeled into an X-ray room. However, since the room planned for the new X-ray room is located in a general ward, its entrance is narrow and the wall thickness is also insufficient. It is considered necessary, therefore, to execute such works as repair of entrance, installation of partitions in the control room and the darkroom, reinforcement of the wall on 4 sides, etc.

Republican Clinical Children's Hospital

Planned equipment	Current situation of the room planned for installation and measures to be taken
① High Pressure Steam Sterilizer	I) There is a sufficient space, and water supply and drainage systems are also available. The installation work can be executed without requiring any special work for it.
② Extractor Machine	II) There is a sufficient space, and water supply and drainage systems are also available. However, foundation work is required depending on the type of the equipment to be procured.
③ Washing Machine	III) There is a sufficient space, and water supply and drainage systems are also available. However, foundation work is required depending on the type of the equipment to be procured.
④ Operation Lamp	IV) The ceiling is sufficiently high and there is no particular problem about it. However, to secure the hanging strength, it is necessary to mount steel anchor reinforcements.
⑤ Diagnostic X-ray Unit	V) There is a large opening in the direction in which the radiation port faces, and this poses a problem from the viewpoint of protection against radiation. It is necessary to execute closing work by concrete blocks of unnecessary openings. Moreover, since the floor is made of thin cement mortar, it is necessary to prepare concrete foundation at the base of the equipment unit.

Nukus City Children's Hospital

Planned equipment	Current situation of the room planned for installation and measures to be taken
① High Pressure Steam Sterilizer	I) There is a sufficient space, and water supply and drainage systems are also available. The installation work can be executed without requiring any special work for it.
② Extractor Machine	II) There is a sufficient space, and water supply and drainage systems are also available. However, foundation work is required depending on the type of the equipment to be procured.
③ Washing Machine	III) There is a sufficient space, and water supply and drainage systems are also available. However, foundation work is required depending on the type of the equipment to be procured.
④ Diagnostic X-ray Unit	IV) There is a difference of level of 40 to 50 cm between the entrance and the central part of the room and it is not comfortable enough. However, it has no particular problem about installation of the equipment unit and is sufficiently large for installation. The window facing the road outside requires sealing with concrete blocks for protection against radiation. Furthermore, the foundations made of thin mortar should be reinforced with concrete.

3) Criteria for selecting equipment

Considering the basic idea of the project, impact on the Goal of the Plan set by the Uzbekistan government, degree of urgency and financial situations, etc., the following criteria are selected for the examination about necessity and relevance of requested equipment, and about the quantity of procurement.

Table 2-2 shows the result of examination.

[Criteria for giving High Priority]

1. Basic Criteria

(1) Equipment that is to be replaced for existing old/decrepit equipment.

(2) Equipment that is to be a supplement for the equipment lacking distinctly in its quantity.

(3) Equipment that is required for basic hospital treatment/diagnosis.

(4) Equipment that is easy to operate and maintain.

(5) Equipment that may give much benefit/effect to hospital.

(6) Equipment that is highly cost-effective.

(7) Equipment that is proven for its medical usefulness (necessity).

2. Additional Criteria

(After field survey and considering Recipients condition)

(8) Equipment that can be operated by hospital's current technical capabilities.

(9) Equipment that can be operated/maintained by hospital staff.

(10) Equipment that matches with hospital's social position/function (referral system, local needs).

(11) Equipment that can be expected to be useful with other donor's

assistance.

[Criteria for giving Low Priority]

1. Basic Criteria

(1) Equipment that requires high operation and maintenance cost.

(2) Equipment that has limited benefit/effect to hospital.

(3) Equipment that is lowly cost-effective.

(4) Equipment that is not for treatment/diagnosis use, but for academic research purposes.

(5) Equipment that can be substituted with a simple one.

(6) Equipment that may cause environmental pollution by its medical waste, etc.

(7) Equipment that is not proven for its medical usefulness (necessity).

(8) Equipment that is for personal usage by hospital staff (not medical use).

(9) Equipment that has more than minimum required quantity (inefficient, repetitive equipment).

2. Additional Criteria

(After field survey and considering Recipients condition)

(10) Equipment that is difficult to locally procure its spare parts and consumables.

(11) Equipment that cannot be operated by hospital's current technical capability.

(12) Equipment that seems to be difficult to be operated/maintained by present hospital's staff.

(13) Equipment that does not match with hospital's social position/function (referral system, local needs).

(14) Equipment that requires large scope of infrastructure work (water, electricity supply, drain, etc.) for its installation.

(15) Equipment that can be substituted by efficient usage of existing

equipment.

After examination through criteria shown above, a comprehensive assessment is given to each equipment.

○ : Equipment of which the examination of the request proved that was relevant.

× : Equipment of which the examination of the request concluded that was not included in the project.

'※' in 'Note' means that the equipment is relevant for procurement, but still needed quantitative adjustment.

Table 2-2 Result of Examination for Requested Equipment

Republican Maternity Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Exisiting Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
A-1-1	Clinical Lab.	Microscope	5	A	4	8	No good	Renewal	○	1,2,3,4,8,9,10		4	*
A-1-2	Clinical Lab.	Spectrophotometer	1	A	2	8	No good	Renewal	○	1,3,8,9,10		1	
A-1-3	Clinical Lab.	Blood Gas Analyzer	1	B	0	-	-	New item	×		1,3	0	
A-1-4	Clinical Lab.	Coagulometer	1	A	0	-	-	New item	×		1,3,5	0	
A-1-5	Clinical Lab.	Biochemical Analyzer	1	A	0	-	-	New item	○	3,5,6,8,9,10		1	
A-1-6	Clinical Lab.	Laboratory Incubator	1	A	1	8	No good	Renewal	○	1,3,8,9,10		1	
A-1-7	Clinical Lab.	Clinical Refractometer	1	A	1	10	No good	Renewal	○	1,3,8,9,10		1	
A-1-8	Clinical Lab.	Water Distilling Unit	2	A	1	8	No good	Renewal	○	1,5,8,9,10		1	*
A-1-9	Clinical Lab.	Hematocrit Set	2	A	2	9	No good	Renewal	○	1,3,8,9,10		2	
A-1-10	Clinical Lab.	Laboratory Autoclave	2	A	1	13	Disposed	Renewal	○	1,5,8,9,10		1	*
A-1-11	Clinical Lab.	PH-meter	1	B	0	-	-	New item	×		2,3	0	
A-1-12	Clinical Lab.	Electronic Balance	1	A	1	20	No good	Renewal	○	1,3,8,9,10		1	
A-1-13	Ciinical Lab.	Medical Refrigerator	1	A	1	8	No good	Renewal	○	1,3,8,9,10		1	
A-1-14	Clinical Lab.	Hemoglobinmeter	1	B	0	-	-	New item	×		2,3	0	
A-1-15	Clinical Lab.	Table Top Centrifuge	1	A	1	15	No good	Renewal	○	1,3,8,9,10		1	
A-1-16	Clinical Lab.	Billirubinmeter	1	A	1	13	Disposed	Renewal	○	1,3,4,8,9,10		1	
A-1-17	Clinical Lab.	UV Hand Washing Apparatus	2	B	0	-	-	New item	×		3,5	0	
A-1-18	Clinical Lab.	Water Bath	2	A	1	13	Disposed	Renewal	○	1,3,4,8,9,10		1	*
A-1-19	Clinical Lab.	Deep Freezer -40 degrees C	1	A	0	-	-	New item	×		2,3	0	
A-1-20	Clinical Lab.	Film Illuminator	1	B	0	-	-	New item	×		2,9	0	
A-2-1	Functional Diag.	Ultrasound Scanner with B/W Doppler	1	A	1	13	No good	Renewal	○	1,4,5,6,8,9,10		1	
A-2-2	Functional Diag.	ECG, 6-ch.	1	A	1	14	No good	Renewal	○	1,3,6,8,9,10		1	
A-2-3	Functional Diag.	ECG, 3-ch., portable	1	A	1	13	No good	Renewal	○	1,3,6,8,9,10		1	
A-2-4	Functional Diag.	Diagnostic Gynecologic Chair	2	B	0	-	-	New item	×		9	0	
A-2-5	Functional Diag.	Diagnostic Gynecologic Instruments	2	A	2	15	No good	Renewal	○	1,3,8,9,10		2	
A-2-6	Functional Diag.	Stand Lamp	2	A	2	13	No good	Renewal	○	1,3,8,9,10		2	
A-2-7	Functional Diag.	Weighing Scale for adult (100 kg)	2	A	1	15	No good	Renewal	○	1,3,8,9,10		1	*
A-2-8	Functional Diag.	Portable Ultrasound Scanner	1	A	1	10	No good	Renewal	○	1,3,4,5,6,8,9,10		1	
A-2-9	Functional Diag.	Sphygmomanometer	4	A	4	8	No good	Renewal	○	1,2,3,4,8,9,10		4	
A-2-10	Functional Diag.	Diagnostic Set	4	A	4	8	No good	Renewal	○	1,3,8,9,10		4	
A-2-11	Functional Diag.	Sterilizer for Instruments	4	A	4	10	No good	Renewal	○	1,2,3,8,9,10		4	
A-2-12	Functional Diag.	Ultrasonic Cleaner	2	B	0	-	-	New item	×		3	0	
A-3-1	X-ray	Diagnostic X-ray Unit with TV-system	1	A	1	20	Out of orde	Renewal	○	1,5,6,8,9,10		1	
A-3-2	X-ray	Dark Room Apparatus Set	1	A	1	20	No good	Renewal	○	1,3,8,9,10		1	

Republican Maternity Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Exisiting Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
A-3-3	X-ray	Film Development Laboratory Set	1	A	1	20	No good	Renewal	○	1,3,8,9,10		1	
A-4-1	Ope. Room	Operating Table	2	A	2	20	No good	Renewal	○	1,3,5,8,9,10		2	
A-4-2	Ope. Room	Operation Lamp (ceiling type)	2	A	4	23	No good	Renewal	○	1,3,5,8,9,10		2	
A-4-3	Ope. Room	Anesthetic Apparatus	2	A	2	15	No good	Renewal	○	1,3,5,8,9,10		2	
A-4-4	Ope. Room	Ventilator	2	A	1	15	No good	Renewal	×		9	0	
A-4-5	Ope. Room	Defibrillator	2	A	1	8	In operatio	Supplement	×		9	0	
A-4-6	Ope. Room	Electrosurgical Unit	2	A	1	10	No good	Renewal	○	1,3,5,8,9,10		1	*
A-4-7	Ope. Room	Suction Unit, 2-bottle	2	A	2	13	No good	Renewal	○	1,3,5,8,9,10		2	
A-4-8	Ope. Room	Patient Monitor	2	A	2	8	No good	Renewal	○	1,3,8,9,10		2	
A-4-9	Ope. Room	Endotracheal set	2	B	2	6	In operatio	Supplement	×		2	0	
A-4-10	Ope. Room	Operating Laparoscope/light	1	A	1	15	Disposed	Renewal	○	1,5,8,9,10		1	
A-4-11	Ope. Room	Stand Lamp with Battery	4	A	1	11	No good	Renewal	○	1,3,8,9,10		1	*
A-4-12	Ope. Room	Surgical Instruments for caesarean section	4	A	2	8	No good	Renewal	○	1,5,8,9,10		2	*
A-4-13	Ope. Room	Surgical instruments for abdominal cavity organs	4	A	2	8	No good	Renewal	○	1,5,8,9,10		2	*
A-4-14	Ope. Room	Surgical (gynecological) Instruments set	3	A	2	8	No good	Renewal	○	1,5,8,9,10		2	
A-4-15	Ope. Room	Infusion Pump	4	A	1	11	Disposed	Renewal	○	1,3,8,9,10		1	*
A-4-16	Ope. Room	Syringe Pump	4	A	2	11	Disposed	Renewal	○	1,3,8,9,10		2	*
A-4-17	Ope. Room	Mobile X-Ray Unit	1	A	1	18	Out of orde	Renewal	○	1,5,8,9,10		1	
A-4-18	Ope. Room	UV Hand Washing Apparatus	2	B	0	-	-	New item	×		3,5	0	
A-4-19	Ope. Room	Stand (MAYO)	2	A	4	10	No good	Renewal	○	1,3,8,9,10		2	
A-4-20	Ope. Room	Billirubinmeter	1	A	0	-	-	New item	×		9	0	
A-4-21	Ope. Room	Portable Defibrillator / cart	1	A	1	15	No good	Renewal	○	1,3,8,9,10		1	
A-5-1	Obstetric	Delivery table	10	A	12	10	No good	Renewal	○	1,3,8,9,10		5	*
A-5-2	Obstetric	Stand Lamp	10	A	4	8	No good	Renewal	○	1,3,8,9,10		1	*
A-5-3	Obstetric	Baby Scale	10	A	3	18	No good	Renewal	○	1,3,4,8,9,10		3	*
A-5-4	Obstetric	Infusion Pump	5	B	1	11	Disposed	Renewal	○	1,3,8,9,10		1	*
A-5-5	Obstetric	Syringe Pump	5	A	0	-	-	New item	×		9	0	
A-5-6	Obstetric	Fetal Monitor	4	A	1	8	No good	Renewal	○	1,3,8,9,10		1	*
A-5-7	Obstetric	Laryngoscope for Pediatric	5	A	1	9	No good	Renewal	○	1,3,4,8,9,10		1	*
A-5-8	Obstetric	Doppler Heart Rate Detector	4	A	0	-	-	New item	○	3,4,8,9,10		1	*
A-5-9	Obstetric	Suction Unit, 2-bottle	10	A	3	13	No good	Renewal	○	1,3,5,8,9,10		2	*
A-5-10	Obstetric	Infant Warmer	10	B	2	13	No good	Renewal	○	1,3,4,8,9,10		2	*
A-5-11	Obstetric	Pulse Oximeter	4	A	0	-	-	New item	○	3,4,8,9,10		1	*
A-5-12	Obstetric	Infant Incubator	4	B	2	13	No good	Renewal	○	1,3,4,8,9,10		2	*
A-5-13	Obstetric	UV Hand Washing Apparatus	10	C	0	-	-	New item	×		3,5	0	

Republican Maternity Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Exisiting Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
A-5-14	Obstetric	Infant Weighing Scale	3	A	2	18	No good	Renewal	×		9	0	*
A-6-1	Neopathology	Infant Incubator	6	A	4	13	No good	Renewal	○	1,3,4,8,9,10		1	*
A-6-2	Neopathology	Ventilator for Infant	2	A	1	8	No good	Renewal	×		9	0	
A-6-3	Neopathology	Laryngoscope for Pediatric	2	A	1	9	No good	Renewal	○	1,3,4,8,9,10		1	*
A-6-4	Neopathology	Neonatal Monitor	2	A	1	15	Disposed	Renewal	○	1,3,4,5,8,9,10		1	*
A-6-5	Neopathology	Phototherapy Unit	4	A	2	11	No good	Renewal	○	1,3,4,8,9,10		2	*
A-6-6	Neopathology	Syringe Pump	6	A	1	11	Disposed	Renewal	○	1,3,8,9,10		1	*
A-6-7	Neopathology	Pulse Oximeter	4	A	0	-	-	New item	×		9	0	
A-6-8	Neopathology	Infant Warmer	4	A	4	13	No good	Renewal	○	1,3,4,8,9,10		1	*
A-6-9	Neopathology	Suction Unit, Portable	4	A	1	9	No good	Renewal	○	1,3,4,8,9,10		1	*
A-6-10	Neopathology	Billirubinmeter	1	A	0	-	-	New item	×		9	0	
A-6-11	Neopathology	Portable Infant Incubator	1	A	0	-	-	New item	○	3,5,8,9,10		1	
A-7-1	ICU	Recovery Bed	12	C	8	10	In operatio	Renewal	×		3,5	0	
A-7-2	ICU	Patient Monitor	6	A	3	8	No good	Renewal	○	1,3,8,9,10		3	*
A-7-3	ICU	Ventilator	2	A	1	15	No good	Renewal	○	1,3,8,9,10		1	*
A-7-4	ICU	Ventilator for Infant	2	A	1	8	No good	Renewal	○	1,3,8,9,10		1	*
A-7-5	ICU	Laryngoscope Set (for adult & child)	6	A	2	8	No good	Renewal	○	1,3,4,8,9,10		2	*
A-7-6	ICU	Syringe Pump	8	A	2	11	Disposed	Renewal	○	1,3,8,9,10		2	*
A-7-7	ICU	Infusion Pump	8	A	1	11	Disposed	Renewal	○	1,3,8,9,10		1	*
A-7-8	ICU	Pulse Oximeter	6	A	0	-	-	New item	○	3,4,8,9,10		1	*
A-7-9	ICU	Suction Unit, Portable	6	A	2	9	No good	Renewal	○	1,3,4,8,9,10		2	*
A-7-10	ICU	UV Hand Washing Apparatus	2	B	0	-	-	New item	×		3,5	0	
A-7-11	ICU	Resuscitation Bag	3	A	3	8	No good	Renewal	○	1,4,8,9,10		3	
A-7-12	ICU	Nebulizer	3	A	0	-	-	New item	○	3,4,8,9,10		1	*
A-7-13	ICU	Oxigen Box for infant	1	C	0	-	-	New item	×		5	0	
A-8-1	Reception	Portable Ultrasound Scanner	1	B	1	10	No good	Renewal	×		9	0	
A-8-2	Reception	Diagnostic Gynecologic Chair	1	C	0	-	-	New item	×		9	0	
A-8-3	Reception	Diagnostic Gynecologic Instruments	2	A	2	15	No good	Renewal	○	1,3,8,9,10		2	
A-8-4	Reception	Sphygmomanometer	4	A	4	8	No good	Renewal	○	1,2,3,4,8,9,10		4	
A-8-5	Reception	Thermometer	50	A	9	5	In operatio	Supplement	○	1,3,8,9,10		6	*
A-8-6	Reception	Stethoscope	10	A	6	8	No good	Renewal	○	1,3,8,9,10		6	*
A-8-7	Reception	Weighing Scale for adult (100 kg)	2	A	1	15	No good	Renewal	×		9	0	
A-8-8	Reception	Diagnostic Instrument Set	2	A	2	8	No good	Renewal	○	1,3,8,9,10		2	
A-8-9	Reception	Stand Lamp	2	A	2	8	No good	Renewal	○	1,3,8,9,10		2	
A-8-10	Reception	Sterilizer for Instruments	4	A	4	10	No good	Renewal	○	1,2,3,8,9,10		4	

Republican Maternity Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Exisiting Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
A-8-11	Reception	Ultrasonic Cleaner	1	C	0	-	-	New item	×		3	0	
A-9-1	Rehabilitation	Nebulizer	3	A	0	-	-	New item	×		9	0	
A-9-2	Rehabilitation	Low Frequency Therapy Unit	2	A	1	8	No good	Renewal	○	1,4,8,9,10		1	*
A-9-3	Rehabilitation	Infrared Ray Lamp	1	A	1	19	No good	Renewal	○	1,4,8,9,10		1	
A-9-4	Rehabilitation	Ultraviolet Ray Lamp	1	A	1	11	No good	Renewal	○	1,4,8,9,10		1	
A-10-1	CSSD	High pressure steam sterilizer	3	A	1	8	No good	Renewal	○	1,3,8,9,10		2	*
A-10-2	CSSD	Ultrasonic Cleaner	2	C	0	-	-	New item	×		3	0	
A-10-3	CSSD	Sterilizer for Instruments/ Pedal type	2	A	2	9	No good	Renewal	○	1,3,8,9,10		2	
A-10-4	CSSD	Water Distilling Unit (large)	1	A	1	8	No good	Renewal	○	1,3,8,9,10		1	
A-10-5	CSSD	Water Distilling Unit	1	B	1	8	No good	Renewal	×		9	0	
A-11-1	Pharmacy	Water Distilling Unit	2	C	1	8	No good	Renewal	×		9	0	
A-11-2	Pharmacy	Medical Refrigerator	2	A	1	8	No good	Renewal	○	1,3,8,9,10		1	*
A-12-1	Laundry	Washing Machine (30 kg)	3	A	4	15	No good	Renewal	○	1,4,8,9,10		2	*
A-12-2	Laundry	Extractor Machine (30 kg)	2	A	2	13	No good	Renewal	○	1,4,8,9,10		2	
A-12-3	Laundry	Drying Machine	2	C	0	-	-	New item	×		5	0	
A-13-1	Administration	Ambulance for Women in labor	1	C	1	2	In operation	Supplement	×		9	0	
A-13-2	Administration	Computer and Laser Printer	1	C	0	-	-	New item	×		8	0	
A-13-3	Administration	Copy Machine	1	C	0	-	-	New item	×		8	0	
		Total	411									152	

Republican Clinical Children's Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Existing Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
B-1-1	Clinical Lab.	Microscope	5	A	3	18	No good	Renewal	○	1,2,3,4,8,9,10		3	*
B-1-2	Clinical Lab.	Blood Gas Analyzer	1	B	0	-	-	New item	×		1,3	0	
B-1-3	Clinical Lab.	Coagulometer	1	A	0	-	-	New item	×		1,3,5	0	
B-1-4	Clinical Lab.	Biochemical Analyzer	1	A	0	-	-	New item	○	3,5,6,8,9,10		1	
B-1-5	Clinical Lab.	Laboratory Incubator	1	A	1	8	No good	Renewal	○	1,3,8,9,10		1	
B-1-6	Clinical Lab.	Clinical Refractometer	1	B	1	13	No good	Renewal	○	1,3,8,9,10		1	
B-1-7	Clinical Lab.	Hematocrit Set	1	A	1	7	No good	Renewal	○	1,3,8,9,10		1	
B-1-8	Clinical Lab.	Water Distilling Unit	2	A	1	8	No good	Renewal	○	1,5,8,9,10		1	*
B-1-9	Clinical Lab.	Laboratory Autoclave	2	A	2	13	Disposed	Renewal	○	1,5,8,9,10		2	
B-1-10	Clinical Lab.	PH-meter	1	B	0	-	-	New item	×		2,3	0	
B-1-11	Clinical Lab.	Electronic Balance	1	A	1	10	No good	Renewal	○	1,3,8,9,10		1	
B-1-12	Clinical Lab.	Medical Refrigerator	1	A	1	9	No good	Renewal	○	1,3,8,9,10		1	
B-1-13	Clinical Lab.	UV Hand Washing Apparatus	2	B	0	-	-	New item	×		3,5	0	
B-1-14	Clinical Lab.	Clinical Refractometer	1	B	1	13	No good	Renewal	×		9	0	
B-1-15	Clinical Lab.	Water Bath	2	A	1	10	No good	Renewal	○	1,3,4,8,9,10		1	*
B-1-16	Clinical Lab.	Hemoglobinmeter	1	B	0	-	-	New item	×		2,3	0	
B-1-17	Clinical Lab.	Table Top Centrifuge	1	A	1	10	No good	Renewal	○	1,3,8,9,10		1	
B-1-18	Clinical Lab.	Billirubinmeter	1	A	1	11	Disposed	Renewal	○	1,3,4,8,9,10		1	
B-1-19	Clinical Lab.	Deep Freezer -80 degrees C	1	A	0	-	-	New item	×		2,3	0	
B-1-20	Clinical Lab.	Film Illuminator	1	B	0	-	-	New item	×		2,9	0	
B-2-1	Functional Diag.	Ultrasound Scanner with B/W Doppler	1	A	1	8	No good	Renewal	○	1,4,5,6,8,9,10		1	
B-2-2	Functional Diag.	EEG	1	A	1	8	Disposed	Renewal	○	1,5,8,9,10		1	
B-2-3	Functional Diag.	ECG, 6-ch.	1	A	2	14	No good	Renewal	○	1,3,6,8,9,10		1	
B-2-4	Functional Diag.	ECG, 3-ch., portable	2	A	1	10	No good	Renewal	○	1,3,6,8,9,10		1	*
B-2-5	Functional Diag.	Bronchofiberscope set (child)	1	A	1	8	Disposed	Renewal	○	1,5,8,9,10		1	
B-2-6	Functional Diag.	Colonofiberscope (child)/light	1	B	0	-	-	New item	×		2	0	
B-2-7	Functional Diag.	Gastrointestionfiberscope set (child)	1	A	1	8	No good	Renewal	○	1,5,8,9,10		1	
B-2-8	Functional Diag.	Fiberscope Trolley	2	A	2	8	No good	Renewal	○	1,3,8,9,10		2	
B-2-9	Functional Diag.	Suction Unit for Fiberscope	2	A	0	-	-	New item	×		9	0	
B-2-10	Functional Diag.	Endoscopic Cabinet	1	A	0	-	-	New item	○	3,8,9,10		1	
B-2-11	Functional Diag.	Endoscopic Table	1	A	0	-	-	New item	○	3,8,9,10		1	
B-2-12	Functional Diag.	Portable Ultrasound Scanner	1	A	1	8	No good	Renewal	○	1,3,4,5,6,8,9,10		1	
B-2-13	Functional Diag.	Stand Lamp	3	A	2	13	No good	Renewal	○	1,3,8,9,10		2	*
B-2-14	Functional Diag.	Diagnostic Set	1	A	1	9	No good	Renewal	○	1,3,8,9,10		1	
B-2-15	Functional Diag.	Sterilizer for Instruments	3	A	3	13	No good	Renewal	○	1,2,3,8,9,10		3	
B-2-16	Functional Diag.	Hot Air Sterilizer	2	A	2	8	No good	Renewal	○	1,3,8,9,10		2	

Republican Clinical Children's Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Existing Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
B-2-17	Functional Diag.	Weighing Scale (30 kg)	3	A	3	13	No good	Renewal	○	1,3,8,9,10		3	
B-3-1	X-ray	Diagnostic X-ray Unit with TV-system	1	A	1	16	No good	Renewal	○	1,5,6,8,9,10		1	
B-3-2	X-ray	Dark Room Apparatus Set	1	A	1	18	No good	Renewal	○	1,3,8,9,10		1	
B-3-3	X-ray	Film Development Laboratory Set	1	A	1	18	No good	Renewal	○	1,3,8,9,10		1	
B-4-1	Ope.Room	Operating Table	4	A	2	11	No good	Renewal	○	1,3,5,8,9,10		2	*
B-4-2	Ope.Room	Operation Lamp (ceiling type)	4	A	2	20	No good	Renewal	○	1,3,5,8,9,10		2	*
B-4-3	Ope.Room	Anesthetic Apparatus	4	A	3	19	No good	Renewal	○	1,3,5,8,9,10		2	*
B-4-4	Ope.Room	Ventilator	4	A	0	-	-	New item	×		9	0	
B-4-5	Ope.Room	Electrosurgical Unit	4	A	2	11	No good	Renewal	○	1,3,5,8,9,10		2	*
B-4-6	Ope.Room	Patient Monitor	4	A	2	11	Out of order	Renewal	○	1,3,8,9,10		2	*
B-4-7	Ope.Room	Laryngoscope for Pediatric	4	A	2	7	No good	Renewal	○	1,3,4,8,9,10		2	*
B-4-8	Ope.Room	Suction Unit, 2-bottle	4	A	3	8	No good	Renewal	○	1,3,5,8,9,10		2	*
B-4-9	Ope.Room	Endotracheal set	8	A	2	7	In operation	Renewal	×		9	0	
B-4-10	Ope.Room	Surgical Instruments for abdominal (child)	4	A	2	8	No good	Renewal	○	1,5,8,9,10		2	*
B-4-11	Ope.Room	Instruments for thoratic operations/travma-ortopea	4	A	2	7	No good	Renewal	○	1,5,8,9,10		2	
B-4-12	Ope.Room	Instruments for urology operations	4	A	2	7	No good	Renewal	○	1,5,8,9,10		2	*
B-4-13	Ope.Room	Stand Lamp with Battery	4	A	1	11	No good	Renewal	○	1,3,8,9,10		1	*
B-4-14	Ope.Room	Sterilizer for instruments	6	A	2	11	No good	Renewal	○	1,2,3,8,9,10		2	*
B-4-15	Ope.Room	Dressing Drum	12	B	12	8	In operation	Renewal	×		2	0	
B-4-16	Ope.Room	Infusion Pump	4	A	2	9	Disposed	Renewal	○	1,3,8,9,10		2	*
B-4-17	Ope.Room	Syringe Pump	4	A	1	13	Disposed	Renewal	○	1,3,8,9,10		1	*
B-4-18	Ope.Room	UV Hand Washing Apparatus	4	B	0	-	-	New item	×		3,5	0	
B-4-19	Ope.Room	Stand (MAYO)	4	A	4	12	No good	Renewal	○	1,3,8,9,10		2	*
B-4-20	Ope.Room	Portable Defibrillator / cart	1	A	1	11	No good	Renewal	○	1,3,8,9,10		1	
B-4-21	Ope.Room	Blood Refrigerator	1	A	1	15	Disposed	Renewal	○	1,4,5,8,9,10		1	
B-4-22	Ope.Room	Sliding Stretcher	2	B	2	9	In operation	Renewal	×		9	0	
B-4-23	Ope.Room	Medical Refrigerator	1	A	0	-	-	New item	×		9	0	
B-4-24	Ope.Room	Mobile X-Ray Unit	1	A	1	9	No good	Renewal	○	1,5,8,9,10		1	
B-5-1	ICU	Recovery Bed	6	B	6	7	In operation	Renewal	×		3,5	0	
B-5-2	ICU	Patient Monitor	6	A	3	11	Out of order	Renewal	○	1,3,8,9,10		3	*
B-5-3	ICU	Ventilator	4	B	2	13	No good	Renewal	○	1,3,8,9,10		1	*
B-5-4	ICU	Laryngoscope for Pediatric	6	B	2	7	No good	Renewal	○	1,3,4,8,9,10		2	*
B-5-5	ICU	Infusion Pump	6	A	2	9	Disposed	Renewal	○	1,3,8,9,10		2	*
B-5-6	ICU	Syringe Pump	6	A	2	13	Disposed	Renewal	○	1,3,8,9,10		2	*
B-5-7	ICU	Pulse Oximeter	6	A	0	-	-	New item	○	3,4,8,9,10		2	*
B-5-8	ICU	Suction Unit, Portable	6	A	2	10	No good	Renewal	○	1,3,4,8,9,10		1	*

No.	Department	Description	Quantity Requested	Priority	Status of Existing Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
B-5-9	ICU	Endotracheal set	3	B	1	7	In operation	Renewal	×		9	0	
B-5-10	ICU	UV Hand Washing Apparatus	2	B	0	-	-	New item	×		3,5	0	
B-5-11	ICU	Resuscitation Bag	3	A	3	10	No good	Renewal	○	1,4,8,9,10		3	
B-5-12	ICU	Billirubinmeter	1	A	0	-	-	New item	×		9	0	
B-5-13	ICU	Nebulizer	3	A	1	11	No good	Renewal	○	1,3,4,8,9,10		1	*
B-5-14	ICU	Diagnostic Instrument Set	2	A	2	8	No good	Renewal	○	1,3,8,9,10		2	
B-5-15	ICU	Portable Defibrillator / cart	1	A	0	-	-	New item	×		9	0	
B-6-1	Neopathology	Infant Incubator	5	A	2	13	No good	Renewal	○	1,3,4,8,9,10		2	*
B-6-2	Neopathology	Neonatal Monitor	4	A	0	-	-	New item	×		2,3	0	
B-6-3	Neopathology	Ventilator for Infant	2	A	2	10	No good	Renewal	○	1,3,8,9,10		2	
B-6-4	Neopathology	Nebulizer	6	A	0	-	-	New item	○	3,4,8,9,10		1	*
B-6-5	Neopathology	Phototherapy Unit	4	A	2	13	No good	Renewal	○	1,3,4,8,9,10		2	*
B-6-6	Neopathology	Infant Warmer	4	A	2	13	No good	Renewal	○	1,3,4,8,9,10		2	*
B-6-7	Neopathology	Laryngoscope for Pediatric	2	B	0	-	-	New item	×		9	0	
B-6-8	Neopathology	Portable Ultrasound Scanner	1	B	0	-	-	New item	×		9	0	
B-6-9	Neopathology	Portable Infant Incubator	1	A	0	-	-	New item	○	3,5,8,9,10		1	
B-6-10	Neopathology	Baby Scale	2	A	2	8	No good	Renewal	○	1,3,4,8,9,10		2	
B-6-11	Neopathology	Syringe Pump	6	A	0	-	-	New item	×		9	0	
B-6-12	Neopathology	Suction Unit, Portable	4	A	1	10	No good	Renewal	○	1,3,4,8,9,10		1	*
B-6-13	Neopathology	Pulse Oximeter	2	A	0	-	-	New item	×		9	0	
B-6-14	Neopathology	Nursing Bottle Warmer	2	A	2	15	No good	Renewal	○	1,3,8,9,10		2	
B-6-15	Neopathology	Breast Pump	2	A	2	8	No good	Renewal	○	1,3,8,9,10		2	
B-6-16	Neopathology	Billirubinmeter	1	A	0	-	-	New item	×		9	0	
B-7-1	Rehabilitation	Nebulizer	3	A	0	-	-	New item	○	3,4,8,9,10		1	*
B-7-2	Rehabilitation	Low Frequency Therapy Unit	2	A	1	14	No good	Renewal	○	1,4,8,9,10		1	*
B-7-3	Rehabilitation	Infrared Ray Lamp	1	A	1	14	No good	Renewal	○	1,4,8,9,10		1	
B-7-4	Rehabilitation	Ultraviolet Ray Lamp	1	A	1	10	No good	Renewal	○	1,4,8,9,10		1	
B-8-1	Pharmacy	Autoclave for sterilization of glassware	1	A	1	13	No good	Renewal	○	1,3,8,9,10		1	
B-8-2	Pharmacy	Water Distilling Unit	2	A	1	8	No good	Renewal	○	1,5,8,9,10		1	*
B-8-3	Pharmacy	Medical Refrigirator	4	A	1	13	No good	Renewal	○	1,3,8,9,10		1	*
B-9-1	Laundry	Washing Machine (30 kg)	3	A	2	13	No good	Renewal	○	1,4,8,9,10		2	*
B-9-2	Laundry	Extractor Machine (30 kg)	2	A	2	10	No good	Renewal	○	1,4,8,9,10		2	
B-9-3	Laundry	Drying Machine	2	C	0	-	-	New item	×		5	0	
B-10-1	CSSD	High pressure steam sterilizer	2	A	2	8	No good	Renewal	○	1,3,8,9,10		2	
B-10-2	CSSD	Ultrasonic Cleaner	1	B	0	-	-	New item	×		3	0	
B-10-3	CSSD	Sterilizer for instruments/ Pedal type	5	A	1	15	No good	Renewal	○	1,3,8,9,10		1	*

Republican Clinical Children's Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Existing Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
B-10-4	CSSD	Water Distilling Unit (large)	3	A	1	15	Disposed	Renewal	○	1,3,8,9,10		1	*
B-11-1	Administration	Ambulance with portable incubator	1	C	0	-	-	New item	×		2	0	
B-11-2	Administration	Computer and Laser Printer	1	C	0	-	-	New item	×		8	0	
B-11-3	Administration	Copy Machine	1	C	0	-	-	New item	×		8	0	
		Total	298									122	

Nukus City Children's Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Existing Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
C-1-1	Clinical Lab.	Microscope	4	A	2	9	No good	Renewal	○	1,2,3,4,8,9,10		2	*
C-1-2	Clinical Lab.	Blood Gas Analyzer	1	B	0	-	-	New item	×		1,3	0	
C-1-3	Clinical Lab.	Coagulometer	1	A	0	-	-	New item	×		1,3,5	0	
C-1-4	Clinical Lab.	Spectrophotometer	2	A	2	14	No good	Renewal	○	1,3,8,9,10		2	
C-1-5	Clinical Lab.	Laboratory Incubator	1	A	1	8	Out of order	Renewal	○	1,3,8,9,10		1	
C-1-6	Clinical Lab.	Clinical Refractometer	1	B	1	8	No good	Renewal	○	1,3,8,9,10		1	
C-1-7	Clinical Lab.	Hematocrit Set	1	A	1	9	No good	Renewal	○	1,3,8,9,10		1	
C-1-8	Clinical Lab.	Water Distilling Unit	2	A	1	9	Disposed	Renewal	○	1,5,8,9,10		1	*
C-1-9	Clinical Lab.	Laboratory Autoclave	2	A	1	9	No good	Renewal	○	1,5,8,9,10		1	*
C-1-10	Clinical Lab.	PH-meter	2	B	0	-	-	New item	×		2,3	0	
C-1-11	Clinical Lab.	Electronic Balance	1	A	1	9	No good	Renewal	○	1,3,8,9,10		1	
C-1-12	Clinical Lab.	Medical Refrigerator	1	A	1	9	No good	Renewal	○	1,3,8,9,10		1	
C-1-13	Clinical Lab.	UV Hand Washing Apparatus	1	B	0	-	-	New item	×		3,5	0	
C-1-14	Clinical Lab.	Table Top Centrifuge	1	A	1	18	No good	Renewal	○	1,3,8,9,10		1	
C-1-15	Clinical Lab.	Billirubinmeter	1	A	1	9	No good	Renewal	○	1,3,4,8,9,10		1	
C-2-1	Functional Diag.	Ultrasound Scanner with B/W Doppler	1	A	1	12	Disposed	Renewal	○	1,4,5,6,8,9,10		1	
C-2-2	Functional Diag.	EEG	1	A	1	8	Disposed	Renewal	○	1,5,8,9,10		1	
C-2-3	Functional Diag.	ECG, 6-ch.	2	A	1	9	No good	Renewal	○	1,3,6,8,9,10		1	*
C-2-4	Functional Diag.	ECG, 3-ch., portable	2	A	1	10	No good	Renewal	○	1,3,6,8,9,10		1	*
C-2-5	Functional Diag.	Bronchofiberscope set (child)	1	A	1	9	No good	Renewal	○	1,5,8,9,10		1	
C-2-6	Functional Diag.	Gastrointestionfiberscope set (child)	1	A	1	9	No good	Renewal	○	1,5,8,9,10		1	
C-2-7	Functional Diag.	Endoscope Illuminator	1	A	1	9	In operation	Renewal	×		9	0	
C-2-8	Functional Diag.	Fiberscope Trolley	1	A	0	-	-	New item	○	3,8,9,10		1	
C-2-9	Functional Diag.	Suction Unit for Fiberscope	1	A	0	-	-	New item	×		9	0	
C-2-10	Functional Diag.	Endoscopic Cabinet	1	A	0	-	-	New item	○	3,8,9,10		1	
C-2-11	Functional Diag.	Endoscopic Table	1	A	0	-	-	New item	○	3,8,9,10		1	
C-2-12	Functional Diag.	Stand Lamp	1	A	1	9	No good	Renewal	○	1,3,8,9,10		1	
C-2-13	Functional Diag.	Diagnostic Set	1	A	1	7	No good	Renewal	○	1,3,8,9,10		1	
C-2-14	Functional Diag.	Sterilizer for instruments	4	A	2	9	No good	Renewal	○	1,2,3,8,9,10		2	*
C-2-15	Functional Diag.	Weighing Scale (30 kg)	4	A	2	9	No good	Renewal	○	1,3,8,9,10		2	*
C-3-1	X-ray	Diagnostic X-ray Unit with TV-system	1	A	1	9	No good	Renewal	○	1,5,6,8,9,10		1	
C-3-2	X-ray	Dark Room Apparatus Set	1	A	1	9	No good	Renewal	○	1,3,8,9,10		1	
C-3-3	X-ray	Film Development Laboratory Set	1	A	1	9	No good	Renewal	○	1,3,8,9,10		1	
C-4-1	ICU	Recovery Bed (child)	6	C	6	9	In operation	Renewal	×		3,5	0	
C-4-2	ICU	Patient Monitor	3	A	3	10	Out of order	Renewal	○	1,3,8,9,10		1	*
C-4-3	ICU	Ventilator for Infant	3	A	1	9	No good	Renewal	○	1,3,8,9,10		1	*
C-4-4	ICU	Anesthetic Apparatus	1	A	0	-	-	New item	×		9	0	

Nukus City Children's Hospital

No.	Department	Description	Quantity Requested	Priority	Status of Existing Equipment			Reason of Request	Evaluation	Criteria for Giving High Priority	Criteria for Giving Low Priority	Quantity Planned	Note
					Quantity of Possession	Age	Condition						
C-4-5	ICU	Laryngoscope for Pediatric	3	A	3	9	No good	Renewal	○	1,3,4,8,9,10		3	
C-4-6	ICU	Endotracheal set	3	A	0	-	-	New item	×		2	0	
C-4-7	ICU	Infusion Pump	6	A	2	9	No good	Renewal	○	1,3,8,9,10		2	*
C-4-8	ICU	Syringe Pump	6	A	2	9	No good	Renewal	○	1,3,8,9,10		2	*
C-4-9	ICU	Suction Unit, Portable	3	A	1	8	No good	Renewal	○	1,3,4,8,9,10		1	*
C-4-10	ICU	Pulse Oximeter	2	A	0	-	-	New item	○	3,4,8,9,10		1	*
C-4-11	ICU	Portable Ultrasound Scanner	1	A	1	8	No good	Renewal	○	1,3,4,5,6,8,9,10		1	
C-4-12	ICU	Mobile X-Ray Unit	1	A	1	12	Disposed	Renewal	○	1,5,8,9,10		1	
C-4-13	ICU	UV Hand Washing Apparatus	1	B	0	-	-	New item	×		3,5	0	
C-4-14	ICU	Stand (MAYO)	3	A	3	8	In operation	Renewal	×		9	0	
C-4-15	ICU	Nebulizer	2	A	0	-	-	New item	○	3,4,8,9,10		1	*
C-4-16	ICU	Portable Defibrillator / cart	1	A	1	9	In operation	Renewal	×		9	0	
C-5-1	Rehabilitation	Nebulizer	3	A	0	-	-	New item	×		9	0	
C-5-2	Rehabilitation	Low Frequency Therapy Unit	2	A	1	9	No good	Renewal	○	1,4,8,9,10		1	*
C-5-3	Rehabilitation	Infrared Ray Lamp	1	A	1	9	No good	Renewal	○	1,4,8,9,10		1	
C-5-4	Rehabilitation	Ultraviolet Ray Lamp	1	A	1	9	No good	Renewal	○	1,4,8,9,10		1	
C-6-1	Pharmacy	Water Distilling Unit	2	A	0	-	-	New item	×		9	0	
C-6-2	Pharmacy	Medical Refrigerator	2	A	1	14	Disposed	Renewal	○	1,3,8,9,10		1	*
C-7-1	CSSD	High pressure steam sterilizer	2	A	2	9	No good	Renewal	○	1,3,8,9,10		2	
C-7-2	CSSD	Sterilizer for instruments/ Pedal type	2	A	2	9	No good	Renewal	○	1,3,8,9,10		2	
C-7-3	CSSD	Water Distilling Unit (Large)	2	A	1	9	No good	Renewal	○	1,3,8,9,10		1	*
C-7-4	CSSD	Hot Air Sterilizer	2	A	1	9	No good	Renewal	○	1,3,8,9,10		1	*
C-8-1	Laundry	Washing Machine (30 kg)	2	A	1	9	No good	Renewal	○	1,4,8,9,10		1	*
C-8-2	Laundry	Extractor Machine (30 kg)	1	A	1	9	No good	Renewal	○	1,4,8,9,10		1	
C-8-3	Laundry	Drying Machine	1	B	1	9	No good	Renewal	×		5	0	
C-9-1	Administration	Ambulance	1	B	0	-	-	New item	×		2	0	
C-9-2	Administration	Computer and Laser Printer	1	C	0	-	-	New item	×		8	0	
C-9-3	Administration	Copy Machine	1	B	0	-	-	New item	×		8	0	
		Total	119									57	

(2) Equipment Plan

1) List of Equipment Planned to Procure

Based on the above examination and evaluation, the planned equipment for this Project is listed in Table 2-3.

Table 2-3 List of Equipment Planned to Procure

Item No.	Department	Description	Quantity			Total
			Republican Maternity Hospital	Republican Clinical Children's Hospital	Nukus City Children's Hospital	
【Clinical Lab.】						
CCL-1	Clinical Lab.	Billirubinmeter	1	1	1	3
CCL-2	Clinical Lab.	Biochemical Analyzer	1	1	-	2
CCL-3	Clinical Lab.	Clinical Refractometer	1	1	1	3
CCL-4	Clinical Lab.	Electronic Balance	1	1	1	3
CCL-5	Clinical Lab.	Hematocrit Set	2	1	1	4
CCL-6	Clinical Lab.	Laboratory Autoclave	1	2	1	4
CCL-7	Clinical Lab.	Laboratory Incubator	1	1	1	3
CCL-8	Clinical Lab.	Medical Refrigerator	1	1	1	3
CCL-9	Clinical Lab.	Microscope	4	3	2	9
CCL-10	Clinical Lab.	Spectrophotometer	1	-	2	3
CCL-11	Clinical Lab.	Table Top Centrifuge	1	1	1	3
CCL-12	Clinical Lab.	Water Bath	1	1	-	2
CCL-13	Clinical Lab.	Water Distilling Unit	1	1	1	3
【CSSD】						
CSD-1	CSSD	High pressure steam sterilizer	2	2	2	6
CSD-2	CSSD	Hot Air Sterilizer	-	-	1	1
CSD-3	CSSD	Sterilizer for Instruments/ Pedal type	2	1	2	5
CSD-4	CSSD	Water Distilling Unit (Large)	1	1	1	3
【Functional Diag.】						
FCD-1	Functional Diag.	Bronchofiberscope set (child)	-	1	1	2
FCD-2	Functional Diag.	Diagnostic Gynecologic Instruments	2	-	-	2
FCD-3	Functional Diag.	Diagnostic Set	4	1	1	6
FCD-4	Functional Diag.	ECG, 3-ch., portable	1	1	1	3
FCD-5	Functional Diag.	ECG, 6-ch.	1	1	1	3
FCD-6	Functional Diag.	EEG	-	1	1	2
FCD-7	Functional Diag.	Endoscopic Cabinet	-	1	1	2
FCD-8	Functional Diag.	Endoscopic Table	-	1	1	2
FCD-9	Functional Diag.	Fiberscope Trolley	-	2	1	3
FCD-10	Functional Diag.	Gastrointestionfiberscope set (child)	-	1	1	2
FCD-11	Functional Diag.	Hot Air Sterilizer	-	2	-	2
FCD-12	Functional Diag.	Portable Ultrasound Scanner	1	1	-	2
FCD-13	Functional Diag.	Sphygmomanometer	4	-	-	4
FCD-14	Functional Diag.	Stand Lamp	2	2	1	5
FCD-15	Functional Diag.	Sterilizer for Instruments	4	3	2	9
FCD-16	Functional Diag.	Ultrasound Scanner with B/W Doppler (A)	1	-	-	1
FCD-17	Functional Diag.	Ultrasound Scanner with B/W Doppler (B)	-	1	1	2
FCD-18	Functional Diag.	Weighing Scale (30 kg)	-	3	2	5
FCD-19	Functional Diag.	Weighing Scale for adult (100 kg)	1	-	-	1
【ICU】						
ICU-1	ICU	Diagnostic Instrument Set	-	2	-	2
ICU-2	ICU	Infusion Pump	1	2	2	5
ICU-3	ICU	Laryngoscope for Pediatric	-	2	3	5
ICU-4	ICU	Laryngoscope Set (for adult & child)	2	-	-	2
ICU-5	ICU	Mobile X-Ray Unit	-	-	1	1
ICU-6	ICU	Nebulizer	1	1	1	3
ICU-7	ICU	Patient Monitor	3	3	1	7
ICU-8	ICU	Portable Ultrasound Scanner	-	-	1	1
ICU-9	ICU	Pulse Oximeter	1	2	1	4
ICU-10	ICU	Resuscitation Bag	3	3	-	6
ICU-11	ICU	Suction Unit, Portable	2	1	1	4
ICU-12	ICU	Syringe Pump	2	2	2	6

Item No.	Department	Description	Quantity			Total
			Republican Maternity Hospital	Republican Clinical Children's Hospital	Nukus City Children's Hospital	
ICU-13	ICU	Ventilator	1	1	-	2
ICU-14	ICU	Ventilator for Infant	1	-	1	2
【Laundry】						
LND-1	Laundry	Extractor Machine (30 kg)	2	2	1	5
LND-2	Laundry	Washing Machine (30 kg)	2	2	1	5
【Neopathology】						
NPL-1	Neopathology	Baby Scale	-	2	-	2
NPL-2	Neopathology	Breast Pump	-	2	-	2
NPL-3	Neopathology	Infant Incubator	1	2	-	3
NPL-4	Neopathology	Infant Warmer	1	2	-	3
NPL-5	Neopathology	Laryngoscope for Pediatric	1	-	-	1
NPL-6	Neopathology	Nebulizer	-	1	-	1
NPL-7	Neopathology	Neonatal Monitor	1	-	-	1
NPL-8	Neopathology	Nursing Bottle Warmer	-	2	-	2
NPL-9	Neopathology	Phototherapy Unit	2	2	-	4
NPL-10	Neopathology	Portable Infant Incubator	1	1	-	2
NPL-11	Neopathology	Suction Unit, Portable	1	1	-	2
NPL-12	Neopathology	Syringe Pump	1	-	-	1
NPL-13	Neopathology	Ventilator for Infant	-	2	-	2
【Obstetric】						
OBS-1	Obstetric	Baby Scale	3	-	-	3
OBS-2	Obstetric	Delivery table	5	-	-	5
OBS-3	Obstetric	Doppler Heart Rate Detector	1	-	-	1
OBS-4	Obstetric	Fetal Monitor	1	-	-	1
OBS-5	Obstetric	Infant Incubator	2	-	-	2
OBS-6	Obstetric	Infant Warmer	2	-	-	2
OBS-7	Obstetric	Infusion Pump	1	-	-	1
OBS-8	Obstetric	Laryngoscope for Pediatric	1	-	-	1
OBS-9	Obstetric	Pulse Oximeter	1	-	-	1
OBS-10	Obstetric	Stand Lamp	1	-	-	1
OBS-11	Obstetric	Suction Unit, 2-bottle	2	-	-	2
【Ope. Room】						
OPR-1	Ope. Room	Anesthetic Apparatus	2	2	-	4
OPR-2	Ope. Room	Blood Refrigerator	-	1	-	1
OPR-3	Ope. Room	Electrosurgical Unit	1	2	-	3
OPR-4	Ope. Room	Infusion Pump	1	2	-	3
OPR-5	Ope. Room	Instruments for thoratic operations/travma-orto	-	2	-	2
OPR-6	Ope. Room	Instruments for urology operations	-	2	-	2
OPR-7	Ope. Room	Laryngoscope for Pediatric	-	2	-	2
OPR-8	Ope. Room	Mobile X-Ray Unit	1	1	-	2
OPR-9	Ope. Room	Operating Laparoscope/light	1	-	-	1
OPR-10	Ope. Room	Operating Table	2	2	-	4
OPR-11	Ope. Room	Operation Lamp (ceiling type)	2	2	-	4
OPR-12	Ope. Room	Patient Monitor	2	2	-	4
OPR-13	Ope. Room	Portable Defibrillator / cart	1	1	-	2
OPR-14	Ope. Room	Stand (MAYO)	2	2	-	4
OPR-15	Ope. Room	Stand Lamp with Battery	1	1	-	2
OPR-16	Ope. Room	Sterilizer for instruments	-	2	-	2
OPR-17	Ope. Room	Suction Unit, 2-bottle	2	2	-	4
OPR-18	Ope. Room	Surgical (gynecological) Instruments set	2	-	-	2
OPR-19	Ope. Room	Surgical Instruments for abdominal (child)	-	2	-	2
OPR-20	Ope. Room	Surgical instruments for abdominal cavity orga	2	-	-	2
OPR-21	Ope. Room	Surgical Instruments for cesarean section	2	-	-	2
OPR-22	Ope. Room	Syringe Pump	2	1	-	3

Item No.	Department	Description	Quantity			Total
			Republican Maternity Hospital	Republican Clinical Children's Hospital	Nukus City Children's Hospital	
【Pharmacy】						
PHM-1	Pharmacy	Autoclave for sterilization of glassware	-	1	-	1
PHM-2	Pharmacy	Medical Refrigerator	1	1	1	3
PHM-3	Pharmacy	Water Distilling Unit	-	1	-	1
【Reception】						
RCP-1	Reception	Diagnostic Gynecologic Instruments	2	-	-	2
RCP-2	Reception	Diagnostic Instrument Set	2	-	-	2
RCP-3	Reception	Sphygmomanometer	4	-	-	4
RCP-4	Reception	Stand Lamp	2	-	-	2
RCP-5	Reception	Sterilizer for Instruments	4	-	-	4
RCP-6	Reception	Stethoscope	6	-	-	6
RCP-7	Reception	Thermometer	6	-	-	6
【Rehabilitation】						
RHB-1	Rehabilitation	Infrared Ray Lamp	1	1	1	3
RHB-2	Rehabilitation	Low Frequency Therapy Unit	1	1	1	3
RHB-3	Rehabilitation	Nebulizer	-	1	-	1
RHB-4	Rehabilitation	Ultraviolet Ray Lamp	1	1	1	3
【X-ray】						
XRY-1	X-ray	Dark Room Apparatus Set	1	1	1	3
XRY-2	X-ray	Diagnostic X-ray Unit with TV-system	1	1	1	3
XRY-3	X-ray	Film Development Laboratory Set	1	1	1	3
		Total	152	122	57	331

2) Specification of Major Equipment

The specifications of major equipment planned to procure are in Table 2-4.

Table 2-4 Specification of Major Equipment

No.	Description	Specification	Purpose of use	Q'ty
1	Anesthetic Apparatus	Anesthesia Apparatus Main unit : mobile with flowmeter unit, w/Ventilator CO_2 absorber, top shelf for monitoring equipment Flowmeter : O_2 - ajastable : 0.1~10 lit./min. Anesthesia Ventilator Main unit : with circuit pressure meter, hinged control unit and bellows system. Minute volume : 1 ~20 lit./min. Breathing frequency : 5~40 times/min. Alarm	Necessary for the general anesthesia using anesthesic. Combining the function of ventilator it can be used also as auxiliary to the intravenous anesthesia. Vaporizer is single type. This can be used at opened/closed circuit.	4
2	Autoclave for Sterilization of Glassware	Type : free-standing single door, cabinet type Volume: 200 litters Built-in electric steam generator Water nozzle : rotary type Water consumption : less than 40lit./cycle Dimensions; Opening door : approx. 550 x 600mm Depth : 600mm With water softener	This should be used for sterilization of glass apparatuses and instrument. Jet hot water.	1
3	Biochemical Analyzer	Number of analytical items : max. 32 Cycle time : more than 180 tests/hour Sample volume : under 120 μl Reagent volume : under 240 μl/test Total volume : 250 μl	As multipurpose equipment, this can be used not only for a biochemical test, but also for general examination. It is economical and effective for minimising a sample. This also can be done for an emergency test. One whose reagents are available in the local area should be selected.	2
4	Bronchofiberscope Set (child)	Fiber optical system View angle : 120° Observation depth : more than 3~50㎜ Distal end outer diameter : under 3.5㎜ Bending angle : up - approx. 180° down - approx. 130° Soft part outer diameter : approx. 3.5㎜ Working length : approx. 550㎜	Used in thoracic surgery, internal medicine and otorhinolaryngology for diagnosis and observation of bronchial lesions and removal of matter.	2
5	Darkroom Apparatus Set	Film drier : infrared lump, above 1,000w Darkroom lamp : 20w Film box : wood, for 6 dozen X-ray protective apron : 0.35mPb, L.M.S Film cassette set : 14"x17" ~ 8"x12" Film marker : A ~ Z, 0 ~ 9	A whole set of equipment for X-ray film development. One for manual development should be selected.	3
6	Delivery Table	Dimensions : Height -- adjustable from 75 to 100㎝ Width -- 60㎝ Length -- 190㎝ Positions : Trendelengurg -- approx. 30° Reverse trendelenburg -- approx. 30° Back section tilts up -- approx. 40° down -- approx. 10°	Special equipment used for a delivery. For convenience of doctors and pregnant women, one whose height and slant are adjustable should be selected.	5

No.	Description	Specification	Purpose of use	Q'ty
7	Diagnostic X-ray Unit with TV-system	HT generator : above 50kw Remote control type R/F table X-ray tube : max. 150kv Focus : 0.6/1.3mm I.I.tube : above 23cm TV monitor : 17 inches Bucky stand : fixed on the floor and wall	Will be an advanced system capable of X-ray fluoroscopic examination of skeleton, head, chest, abdomen, and soft tissues, etc. Remote controlled type should be selected.	3
8	EEG	Number of channels : Total 10 channels + 2 marker channels Recording speed : 5, 20, 30, 120mm/sec. Number of electrodes : about 30 Automatic measurement : automatic measurement according to programmed contents is possible Display : large LCD and LEDs	Used as a support diagnosis instrument to check how the function of the central nervous system is for cases such as cerebral blood vessel disorder, injury of the head, brain tumour and epilepsy.	2
9	Fetal Monitor	Measuring items : heart beat of fetus, intervals of labour pains Measuring system : Pulse Doppler Oscillating frequency : within approx.1 ~ 2 MHz Heart beat counting range: within 50 ~ 210 bpm Recording range: within 50 ~ 210 bpm	Used at the labour room and delivery room for monitoring fetus and pregnant women. Essential for the safety of delivery. Used for the measurement of heartbeat of the fetus.	1
10	Film Development Laboratory Set	X-ray processing tank, manual DV. X-ray film illuminator Darkroom timer Thermometer for solution Ventilating fan X-ray film drier	A whole set used for manual film development of X-ray unit in darkroom.	3
11	Gastrointestion-fiberscope Set (child)	View angle : approx. 120° Observation depth : deeper than 5~50㎜ Distal end outer diameter : under 5.5㎜ Bending angle : up : approx. 180° , down : approx. 180° right/left : approx. 100° Working length : approx. 925㎜	Used for examination of upper gastrointestinal tract, resection of polyps, hemostasis, and removal of foreign matter.	2
12	High Pressure Steam Sterilizer	Effective volume : more than 200 lit. Control system : automatic Sterilizing system : high steam pressure Door : single, swing-out type Temperature display : analogue Protection : by interlocked door Built-in steam boiler With water softener	Used for sterilizing medical instruments by high-pressured steam to prevent hospital infection.	6
13	Instruments for Thoratic Operation / Travma-ortopea	Mayo operation scissors, Forceps, Needle holder, Dressing forceps, Spreader, Sternum approxomator, Rib shear, Rib rasp, Bronchus clamp, Dressing case.	A set of forceps for surgery of chest/outer wound. To avoid rust, high-grade stainless steel made type should be selected.	2
14	Instruments for Urology operations	Mayo forceps, Hemostatic forceps, Needle holder, Forceps, Suction tube, Retractor, Tongue depressor, Prostatic retractor, Bladder retractor, Tenaculum forceps, Metal case.	Basic forceps set necessary for urology operations. To avoid rust, high-grade stainless steel made type should be selected.	2

No.	Description	Specification	Purpose of use	Q'ty
15	Mobile X-ray Unit	Tube voltage : around125kv Tube current : around 400mA X-ray tube : around 120KHU Travelling : Hand-operating Maximum rating : around 30kw X-ray setting range : min. 0.5 ~ 100mAs in at least 20 steps	Used for serious cases who are too infirm to go to the X-ray examination room. Since the whole body is the subject of examination, simple radiography is done for each bodily part. The system is provided with a	3
16	Operation Laparoscope/ light	View angle : approx. 70° Image size : approx. 40㎜ diameter Working length : approx. 290㎜ Outer diameter : approx. 5㎜ With monitor	Used in internal medicine and gynecology - obstetrics for diagnosis and surgical operation on intraperitoneal lesion .	1
17	Operating Table	Table top size : about 1,800 x 530㎜ Height adjustable : about 780 ㎜ ~ 1,130㎜ Trendelenburg : about 45° Reverse trendelenburg : about 45° Lateral tilt : about 30° both sides Back section : up - about 90° down - about 40°	Used for general and maternal surgeries. Hydraulic elevation type which is solid and operated by crank handle with easy maintenance should be selected.	4
18	Operating Lamp (ceiling type)	Lamp housing (Main) : approx. 900cm dia. 8~10 bulbs (Auxiliary) : approx. 600cm dia. 4~6 bulbs Light source : Halogen bulb 24v/50w Light intensity (Main) : about100,000 lux. (Auxiliary) : about 63,000 lux.	This is an indispensable appliance for the operation room. Specification should be selected one combined with a hanging main lamp and a support lamp which can be used even in case of big operation.	4
19	Patient Monitor	Display : CRT monitor Operation : panel-touch key type, or equivalent Measuring mode : ECG, respiratory frequency, heart rate, body temperature, NIBP, IBP, etc. Recorder : built-in	Used for post-operative monitoring of cardiac functions, and for the cardiac monitoring of ICU patient for a definite period.	11
20	Portable Ultrasound Scanner	Indication mode : B, M. B/M Monitor : 9 inches Scanning technique : electronic convex Probe : 3.5MHz	Used for general ultrasonic inspection and for early diagnosis of pregnancy. Small unit should be selected to use in a sickroom.	3
21	Spectrophotometer	Programs : full step programmable type Wavelength range : within 190 ~ 1,100nm Wavelength stability : about 0.1 nm Photometric readout : -0.300 ~ 3.000A, or 0.0 ~ 200.0 %T Photometric accuracy : ±0.005A	This is used for blood biochemical analysis at the time of clinical test. Since it is difficult to handle a large quantity of tests, it is used 1) at facilities where fewer tests are conducted, 2) for test items to be done in a few times, 3) for test items which cannot be done automatically. One whose reagents are available in the local market should be selected.	3
22	Surgical Instruments for Caesarean Section	Mayo forceps, Forceps, Hemostatic forceps, Retractor, Kocher forceps, Caesarean section hemo forceps, Retractor, Uterine dilator, Pelulmeter, etc.	Basic forceps set necessary for Caesarean section and urgent delivery. To avoid rust, high-grade stainless steel made type should be selected.	2
23	Ultrasound Scanner with B/W Doppler (A)	Indication mode : B, M. B/M, D (doppler) Monitor : about 12 inches Scanning technique : linear, convex, sector Probe : 3.5, 7.5, 5.0, 7.5 MHz Mobile stand : with casters	Used for general ultrasonic inspection and for early diagnosis of pregnancy and fetus, etc. One with Doppler should be selected for examination of blood vessel flows.	1

No.	Description	Specification	Purpose of use	Q'ty
24	Ultrasound Scanner with B/W Doppler (B)	Indication mode : B, M. B/M, D (doppler) Monitor : 12 inches Scanning technique : linear, convex Probe : 3.5, 7.5, 5.0, 7.6 MHz Mobile stand : with casters	Used for general ultrasonic inspection of child's chest and abdominal part. One with Doppler should be selected for examination of the circulatory organs and blood vessel flows.	2
25	Ventilator	Volume controlling type Mode : PEEP T/V : ajastable between 0.1 lit. and 2.0 lit. in more than 15 steps Volume : approx. 1 ~ 40 lit. With build-in compressor	Used for assistance of patients showing spontaneous respiration and those requiring forced ventilation. Volume controlled type should be selected.	2
26	Ventilator for Infant	Pressure control system Mode : IPPV, IMU, CPAP/ PEEP T/V : about 200bpm O_2 blender : ajastable within 20~100% Alarm : response to less air, less oxygen and no battery	Used for assisting in spontaneous breathing or for forced, controlled respiration of infant . Pressure controlled type should be selected.	4
27	Washing Machine (30kg)	Cylinder : stainless steel type Volume : more than 30kg Timer : ajastable within 1 ~ 30 min. Fixed on floor with anchors	For washing of general circulation goods and surgical linen. One to apply to a small amount should be selected.	5

3) Equipment layout drawing

The layout drawings for main equipment in the respective project facilities are given on the following pages.

Since this project mainly concerns renewal of existing equipment, most of the equipment units procured are to be procured in the rooms where old equipment is currently installed. However, as for the X-ray room in the Republican Maternity Hospital, it is planned to repair a vacant room in another building and install a new one there, because the current X-ray room is quite small and it is difficult to utilize that room effectively. The parts of room that require modification or repair work with introduction of new equipment are also indicated in these layout drawings.

LEGEND

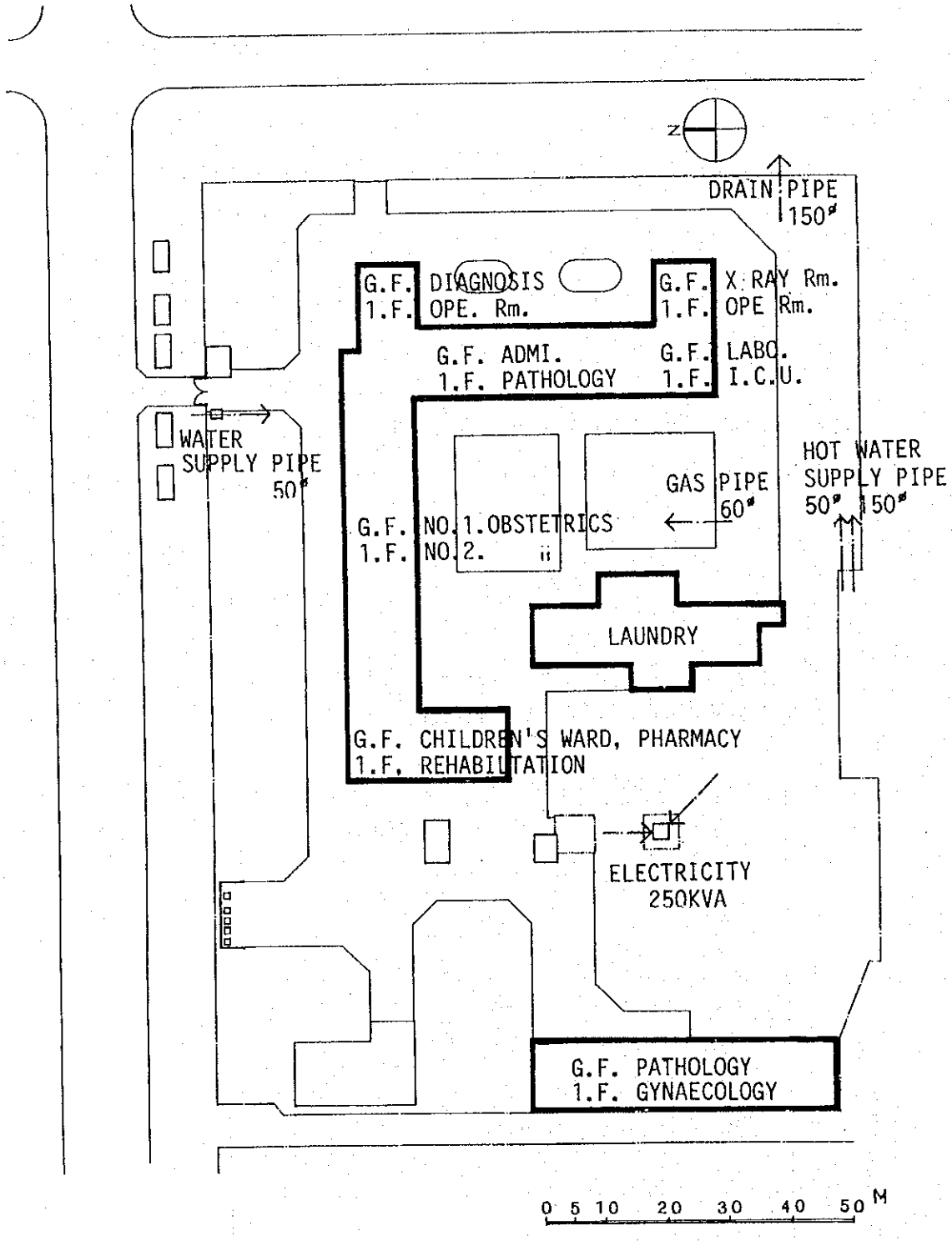
EXISTING EQUIPMENT 

NEW SUPPLY EQUIPMENT 

	ELECTRICAL OUTLET.
	ELECTRICAL OUTLET. W/EARTH
	SWITCH BOARD 220V 2φ
	SWITCH BOARD 380V 3φ
	DRAINAGE
	DRAINAGE (BIG)
	DRAIN GUTTER
	WATER TAP
	HOT WATER TAP
	MIXING TAP
	SHOWER
	RADIATOR
	AIR CONDITIONER
	VENTILATION
	VENTILATOR

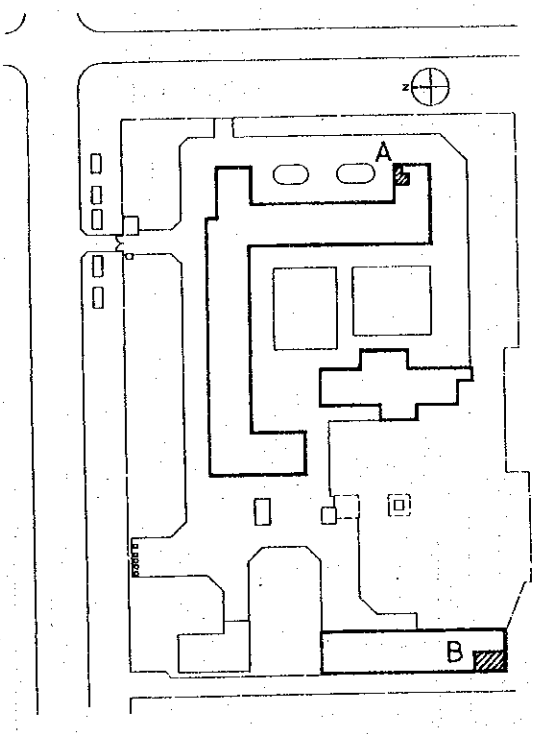
REPUBLICAN MATERNITY HOSPITAL

SITE PLAN



REPUBLICAN MATERNITY HOSPITAL

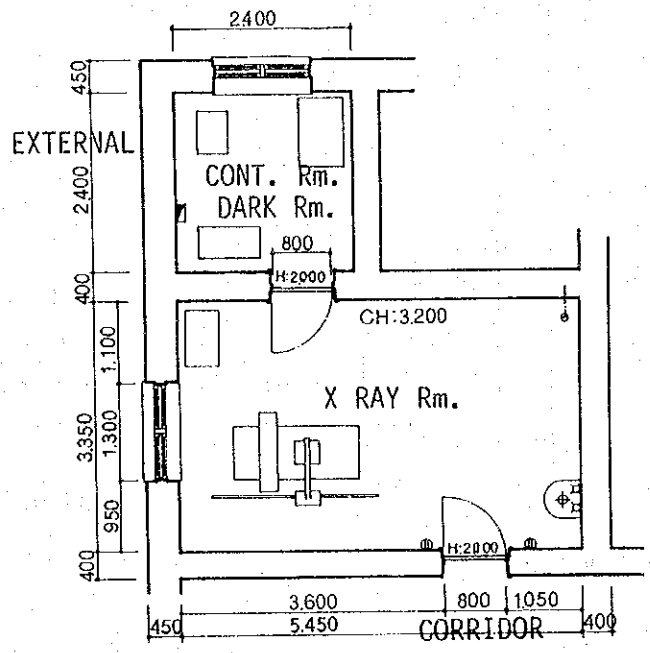
X RAY Rm.



INTERNAL FINISH

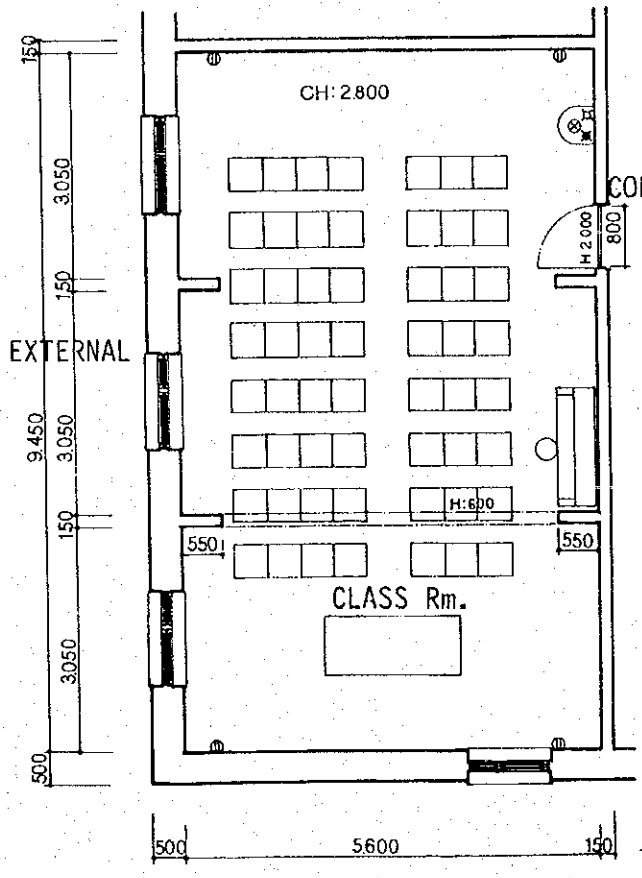
FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR
CEILING	: CONCRETE PANEL O.P.
DOOR. MIN. WIDTH	MIN W. 1,200
CORRIDOR. 〃	MIN W. 1,700

EXISTING PLAN. (A)

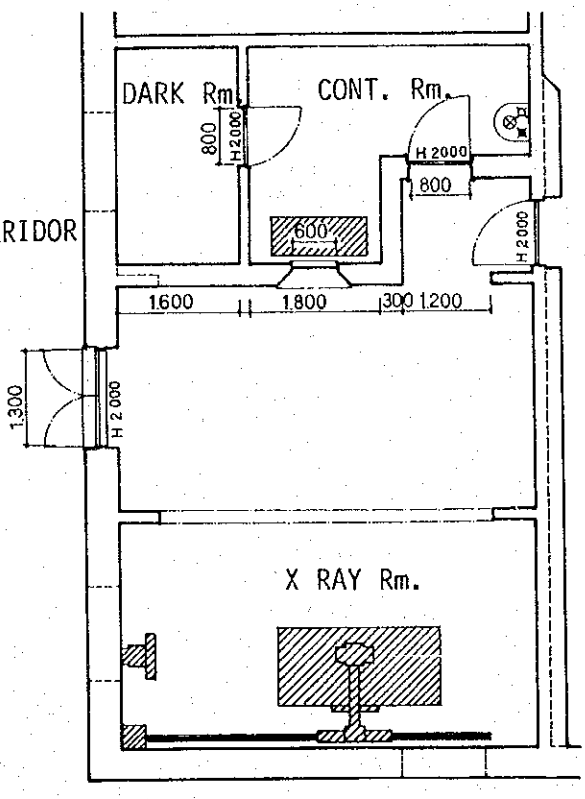


ALTERED Rm.

EXISTING PLAN (B)

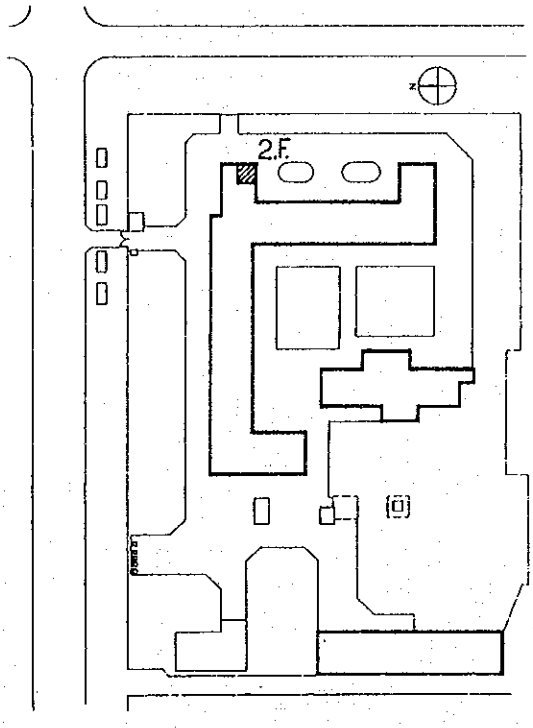


NEW PLAN



REPUBLICAN MATERNITY HOSPITAL

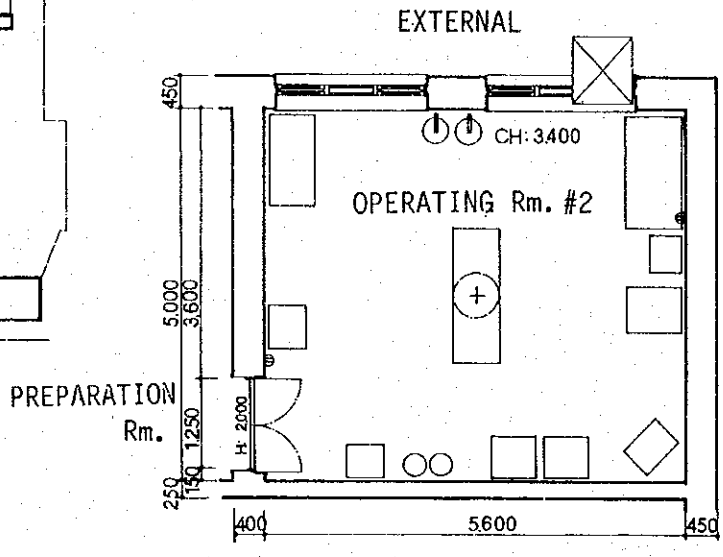
OPERATION # 1



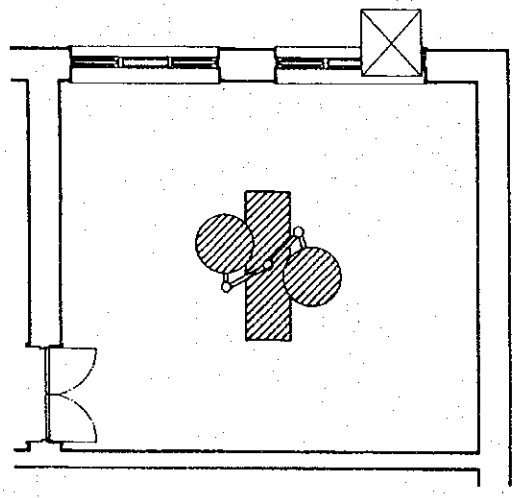
INTERNAL FINISH

FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR
CEILING	: CONCRETE PANEL O.P.
DOOR. MIN. WIDTH	MIN W. 1,200
CORRIDOR. 〃	MIN W. 1,700
STAIR CASE 〃	MIN W. 1,200

EXISTING PLAN.

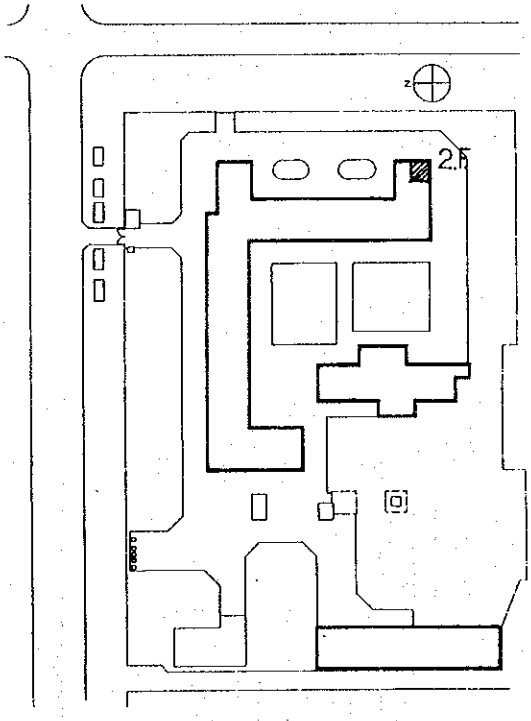


NEW PLAN



REPUBLICAN MATERNITY HOSPITAL

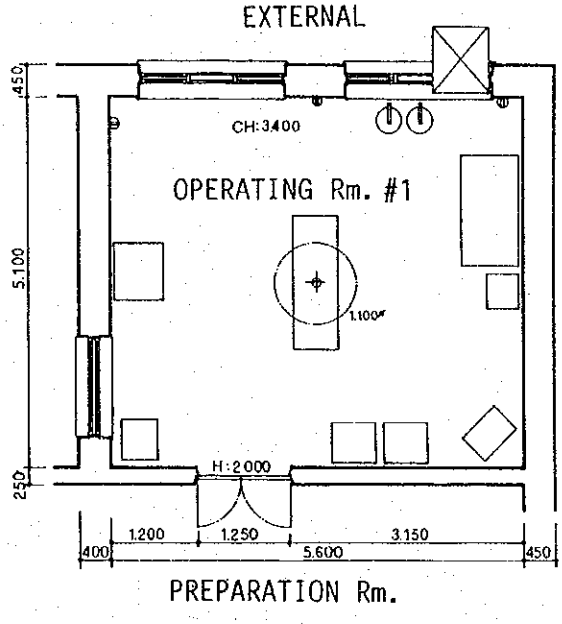
OPERATION # 2



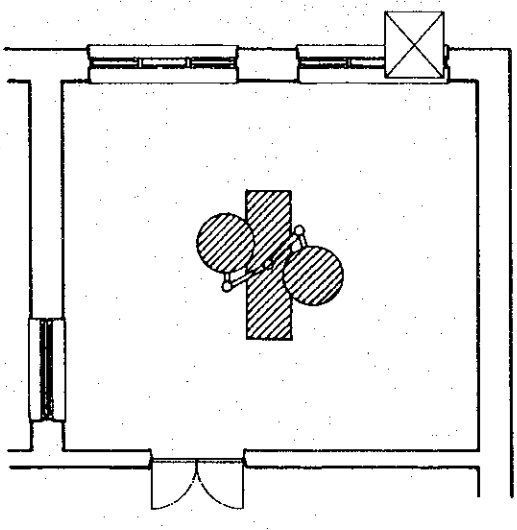
INTERNAL FINISH

FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR
CEILING	: CONCRETE PANEL O.P.
DOOR MIN. WIDTH	MIN W. 1,200
CORRIDOR. 〃	MIN W. 1,700
STAIR CASE 〃	MIN W. 1,200

EXISTING PLAN.

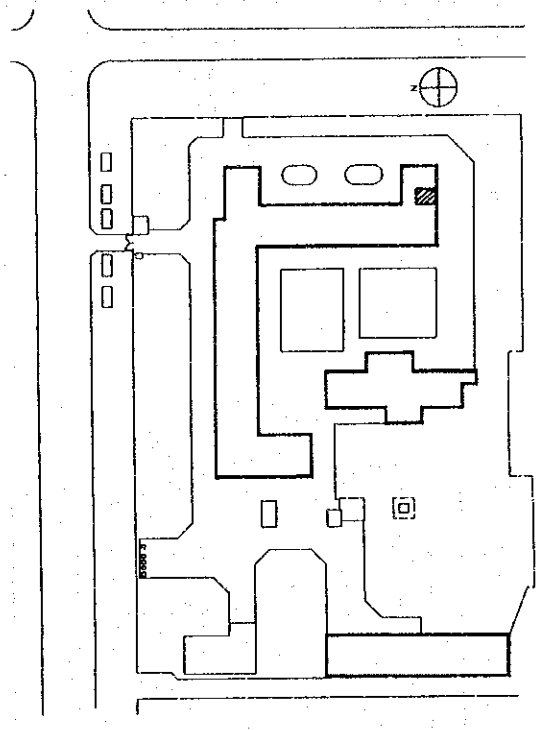


NEW PLAN



REPUBLICAN MATERNITY HOSPITAL

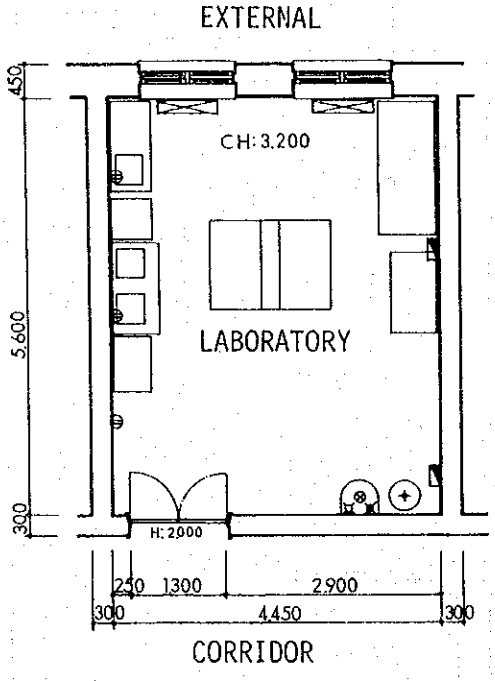
LABORATORY



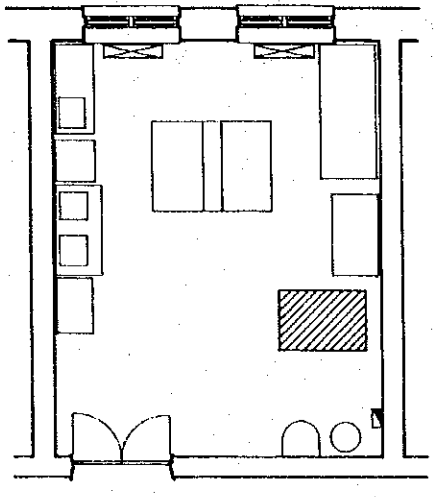
INTERNAL FINISH

FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR
CEILING	: CONCRETE PANEL O.P.
DOOR. MIN. WIDTH	MIN W. 1,300
CORRIDOR. 〃	MIN W. 2,000

EXISTING PLAN.

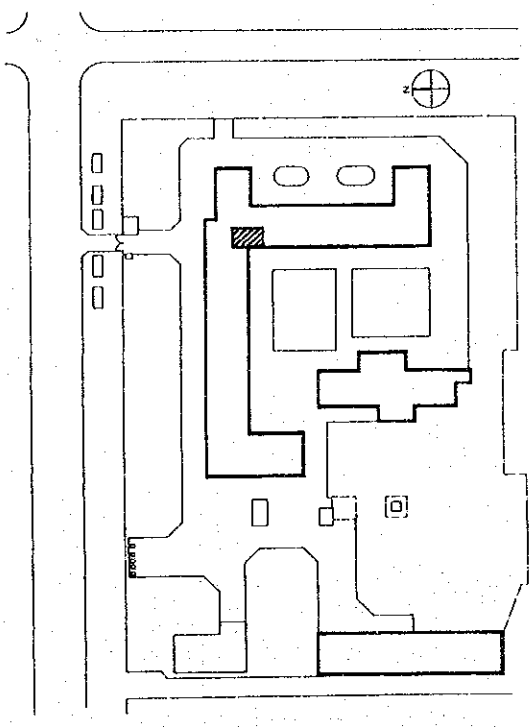


NEW PLAN



REPUBLICAN MATERNITY HOSPITAL

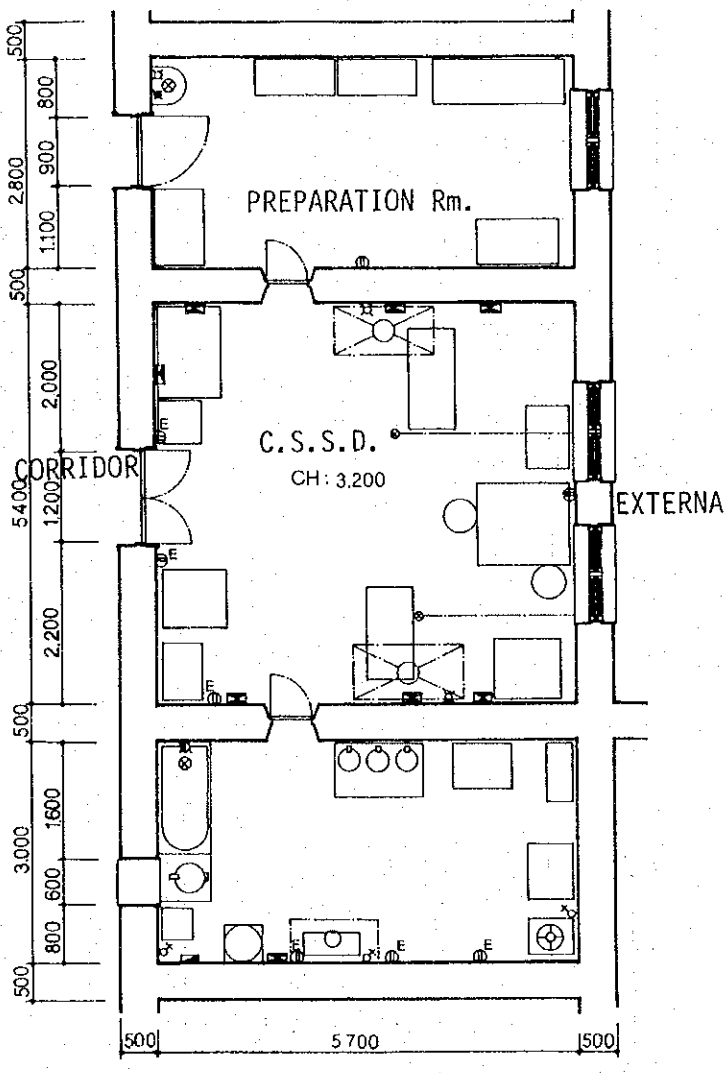
CSSD



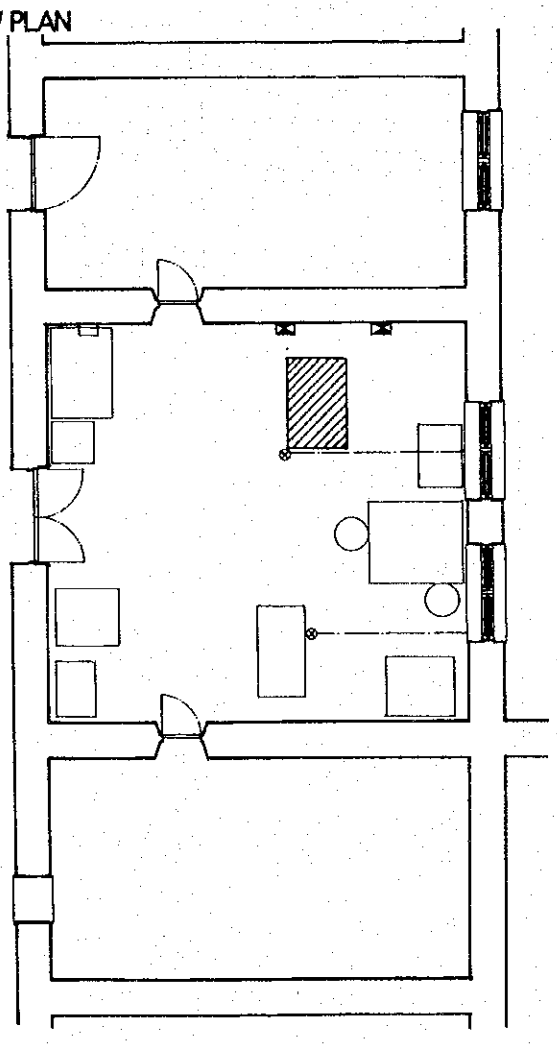
INTERNAL FINISH

FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR
CEILING	: CONCRETE PANEL O.P.
DOOR. MIN. WIDTH	MIN W. 1,300
CORRIDOR. 〃	MIN W. 2,000

EXISTING PLAN.

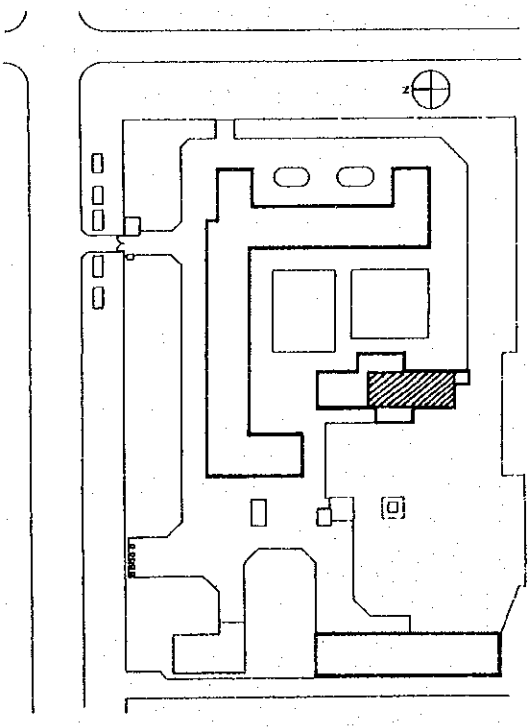


NEW PLAN



REPUBLICAN MATERNITY HOSPITAL

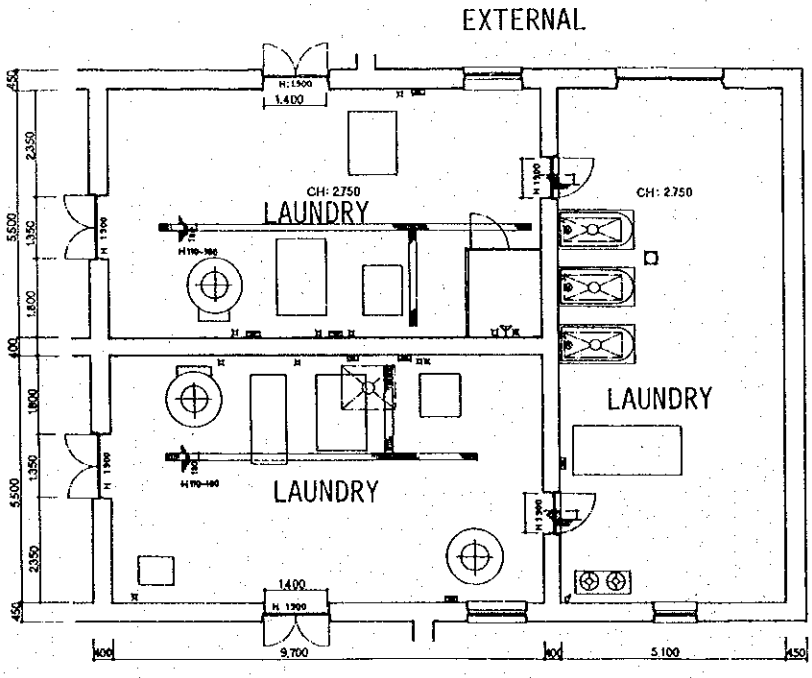
LAUNDRY



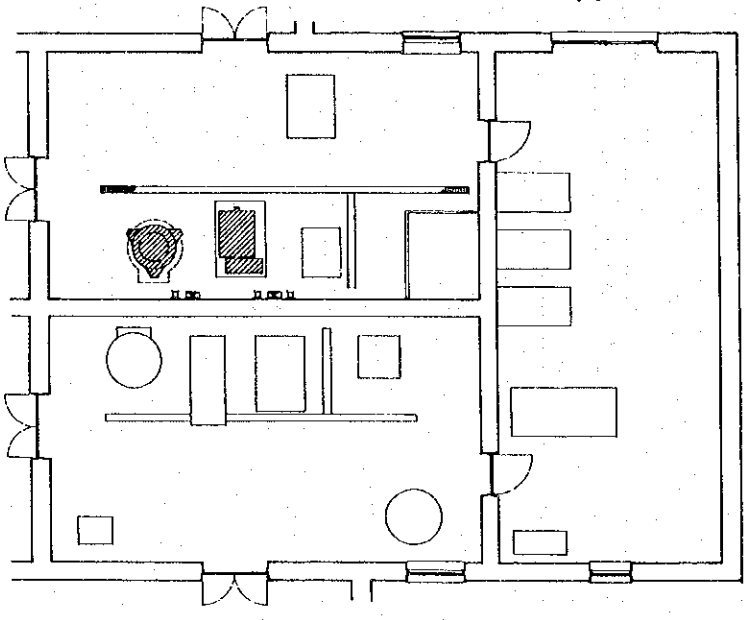
INTERNAL FINISH

FLOOR	FLOOR	: CONCRETE FINISH LINOLEUM
WALL		: BRICK MORTAR
CEILING		: CONCRETE PANEL O.P.
DOOR. MIN. WIDTH		MIN W. 1,400
CORRIDOR.	〃	MIN W. 2,000

EXISTING PLAN.

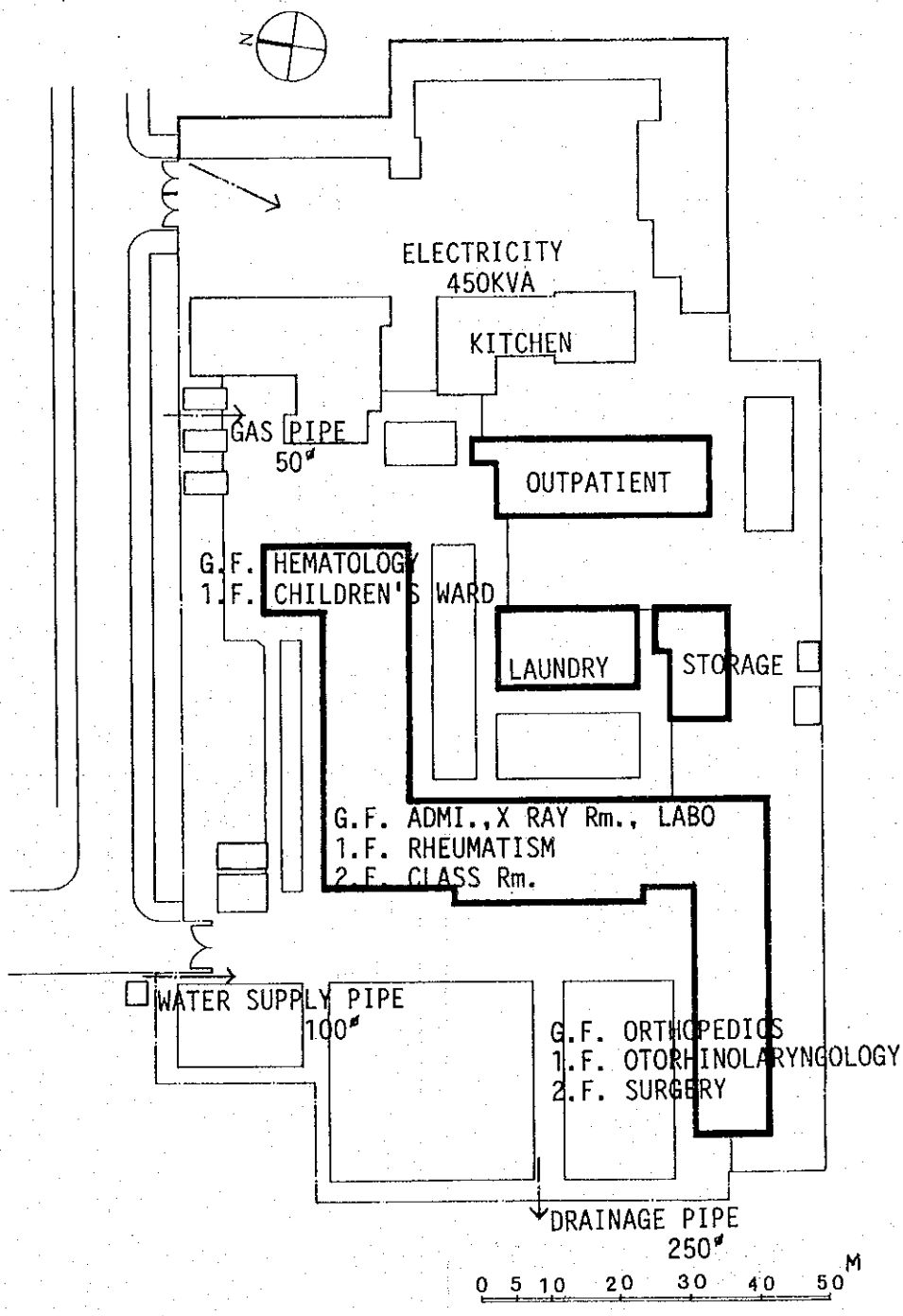


NEW PLAN



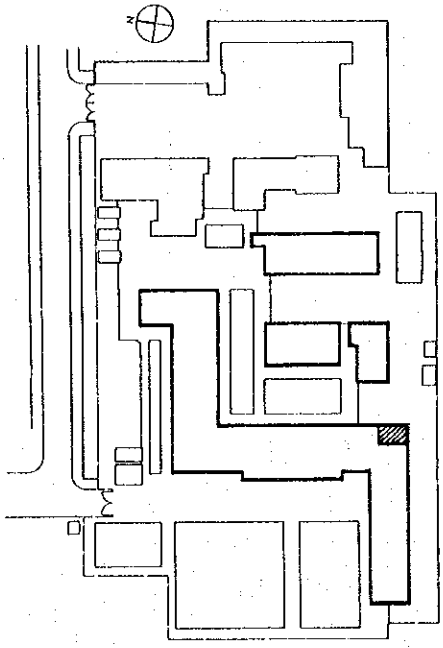
REPUBLICAN CLINICAL CHILDREN'S HOSPITAL

SITE PLAN



REPUBLICAN CLINICAL CHILDREN'S HOSPITAL

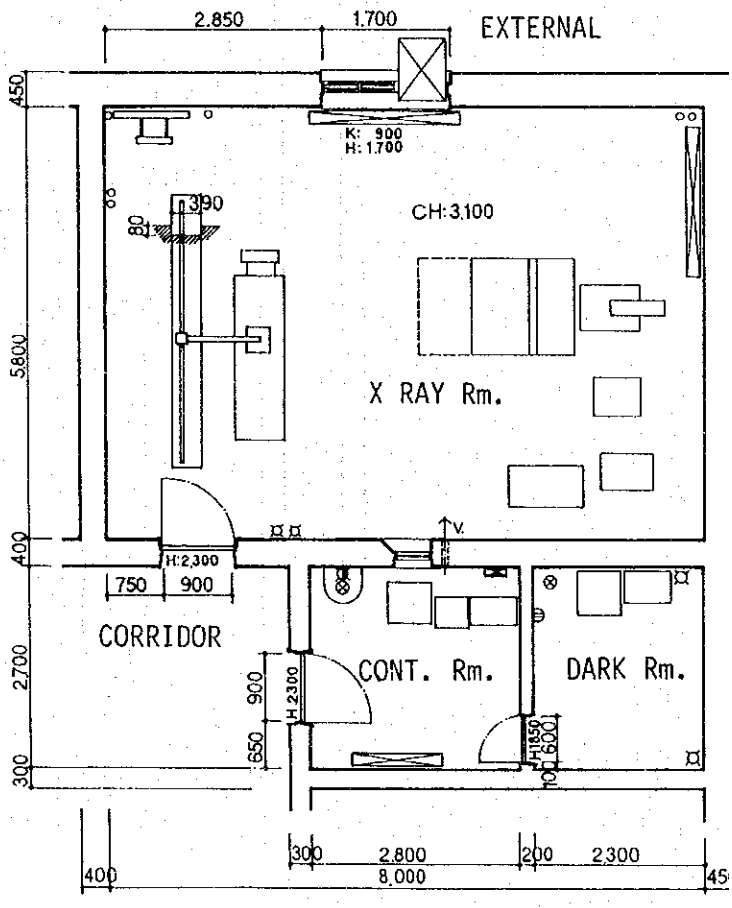
X RAY Rm.



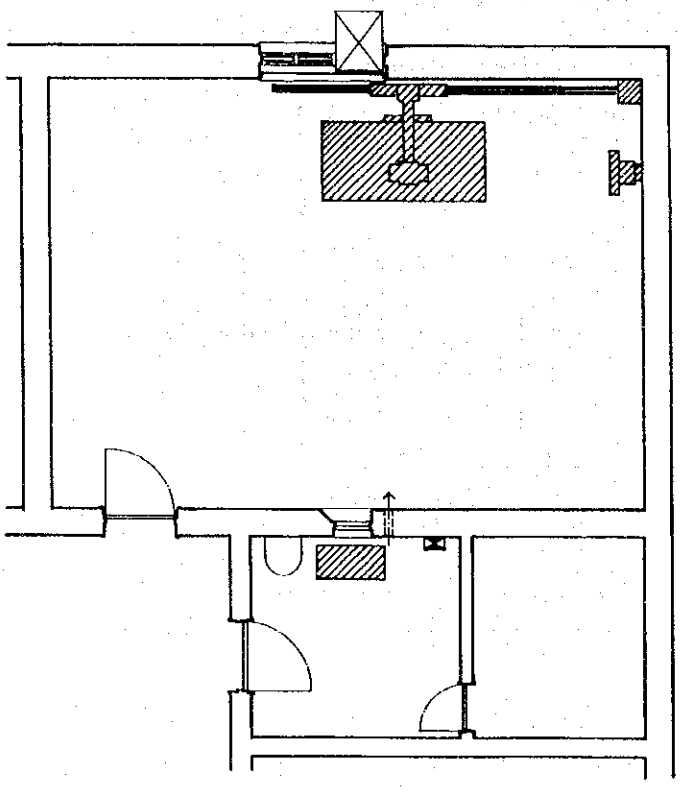
INTERNAL FINISH

FLOOR FLOOR	: CONCRETE WOODEN FLOOR
WALL	: BRICK MORTAR O.P.
CEILING	: CONCRETE PANEL O.P.
DOOR. MIN. WIDTH	MIN W. 1,300
CORRIDOR. 〃	MIN W. 2,000

EXISTING PLAN.

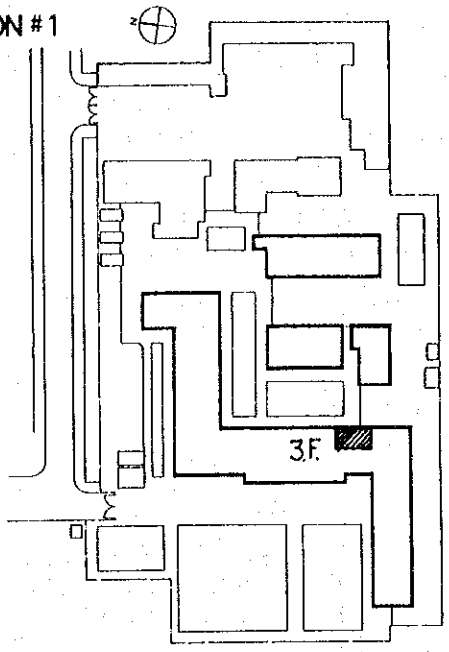


NEW PLAN



REPUBLICAN CLINICAL CHILDREN'S HOSPITAL

OPERATION # 1

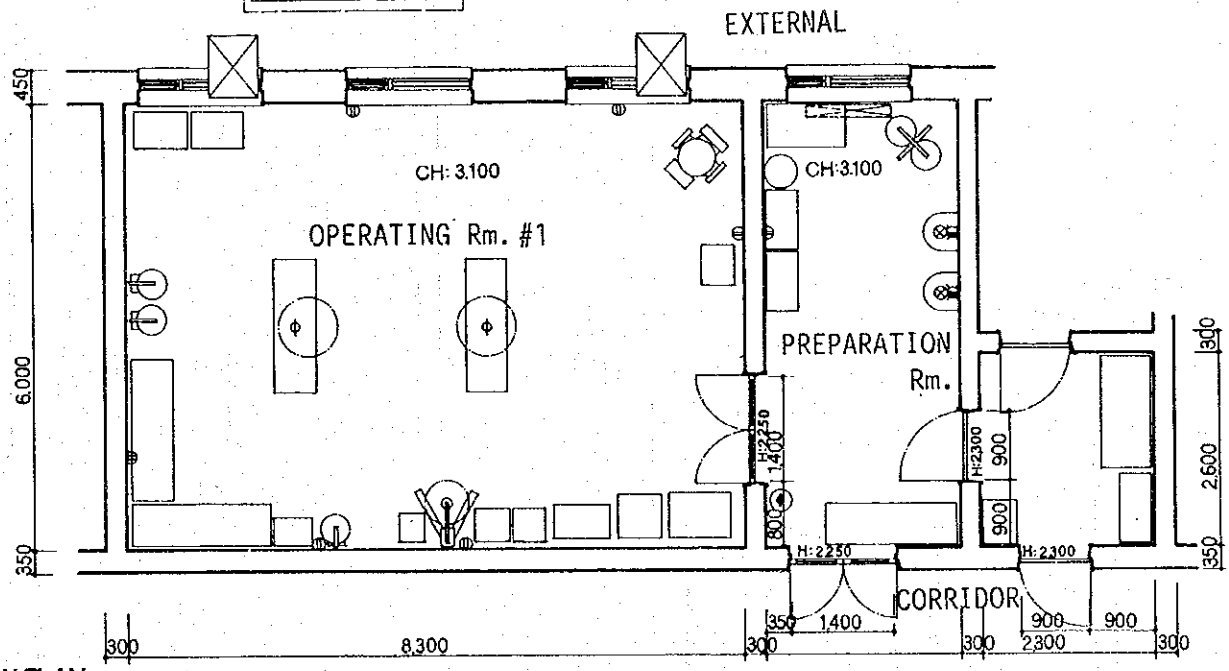


INTERNAL FINISH

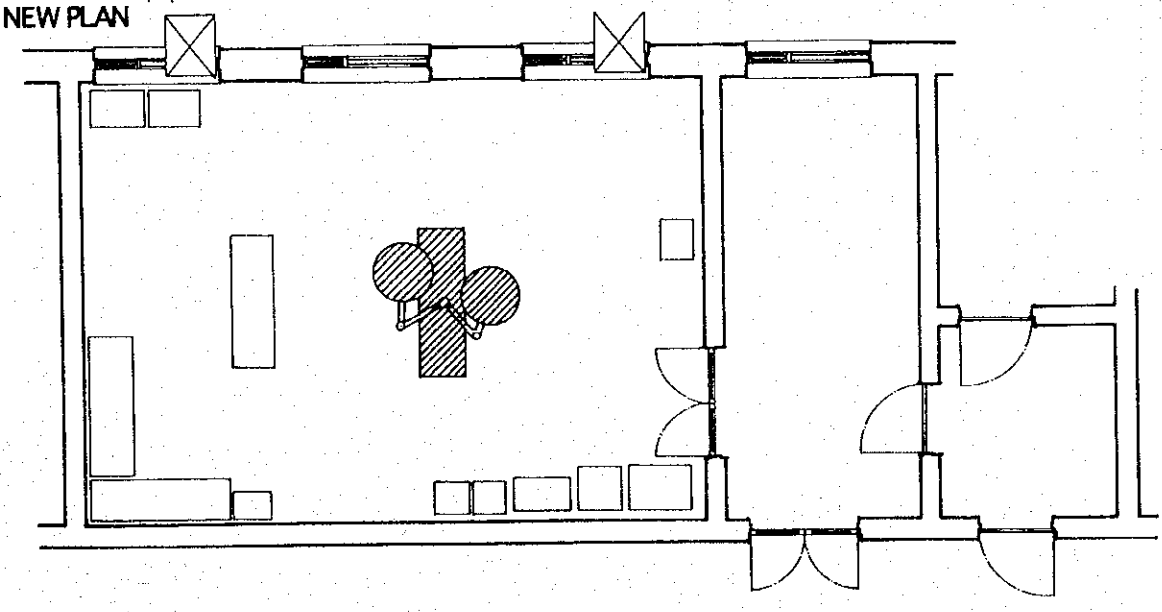
FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR O.P.
CEILING	: CONCRETE PANEL O.P.

DOOR. MIN. WIDTH	MIN W. 1,300
CORRIDOR. 〃	MIN W. 2,000
STAIR CASE 〃	MIN W. 1,200

EXISTING PLAN.

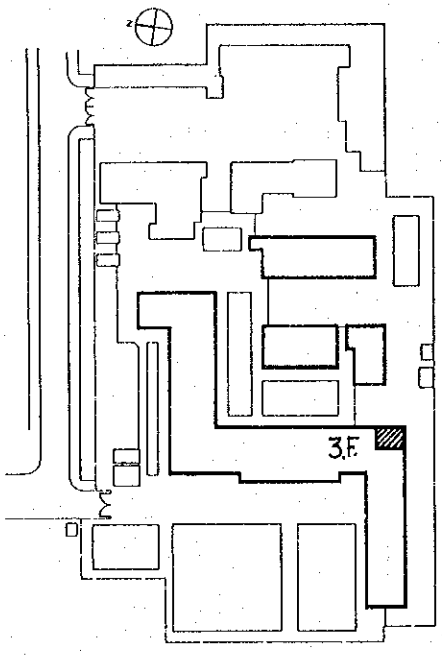


NEW PLAN



REPUBLICAN CLINICAL CHILDREN'S HOSPITAL

OPERATION #2



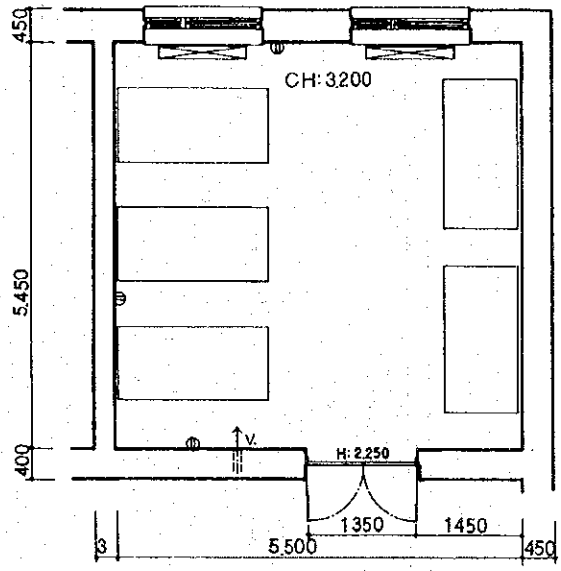
INTERNAL FINISH

FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR O.P.
CEILING	: CONCRETE PANEL O.P.

DOOR. MIN. WIDTH	MIN W. 1,300
CORRIDOR. 〃	MIN W. 2,000
STAIR CASE 〃	MIN W. 1,200

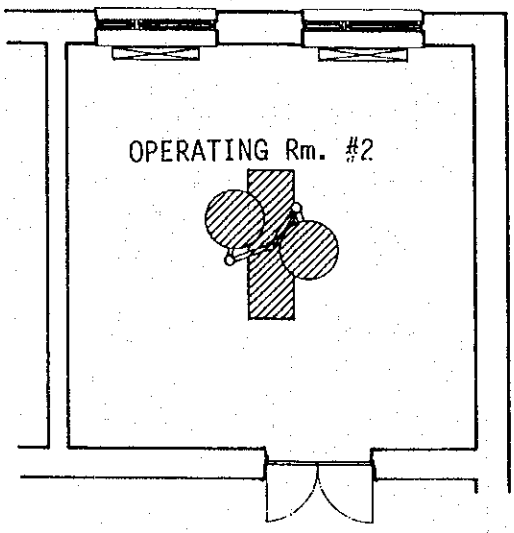
EXISTING PLAN.

EXTERNAL



CORRIDOR

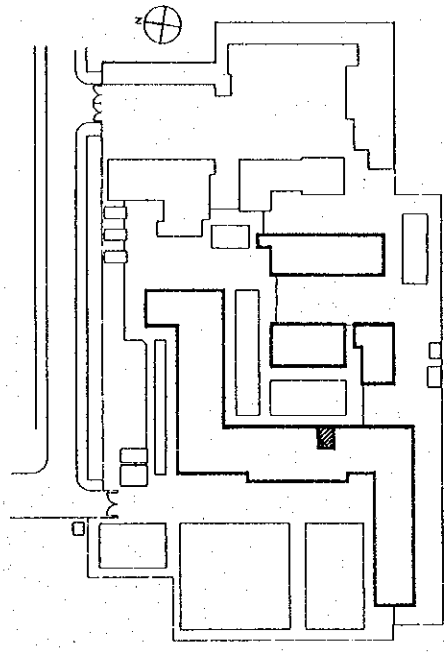
NEW PLAN



PREPARATION Rm.

REPUBLICAN CLINICAL CHILDREN'S HOSPITAL

LABORATORY

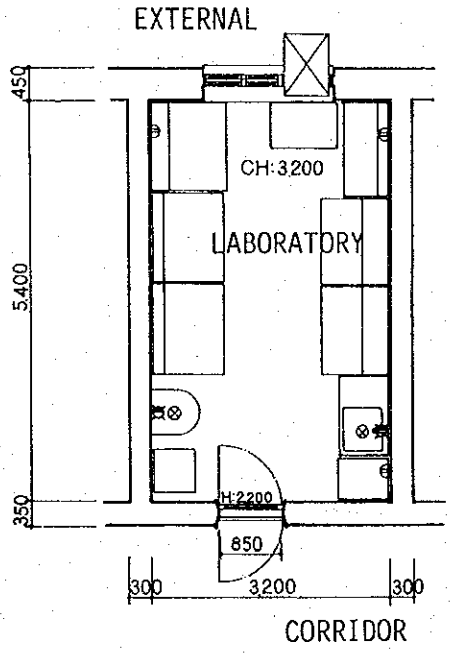


INTERNAL FINISH

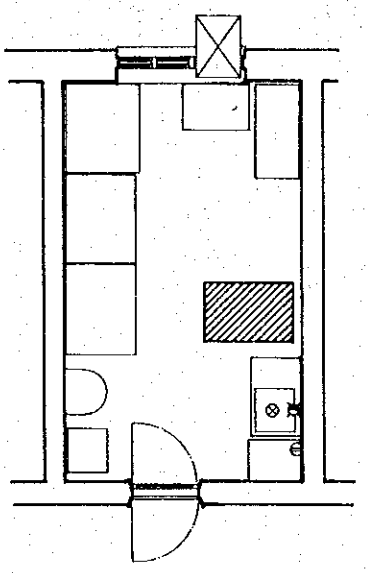
FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR O.P.
CEILING	: CONCRETE PANEL O.P.

DOOR. MIN. WIDTH	MIN W. 1,300
CORRIDOR. 〃	MIN W. 1,700

EXISTING PLAN.

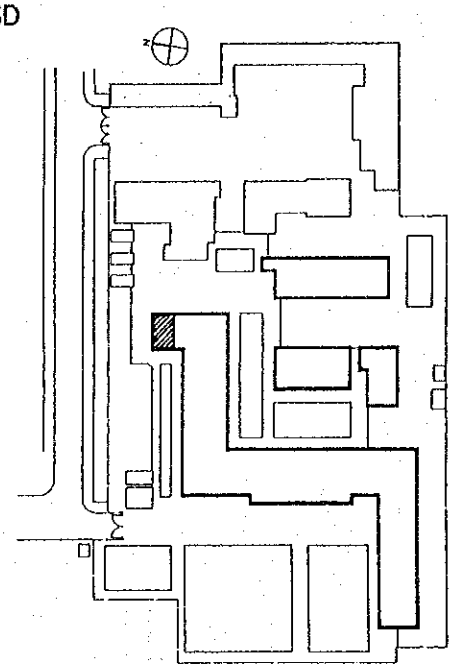


NEW PLAN



REPUBLICAN CLINICAL CHILDREN'S HOSPITAL

CSSD

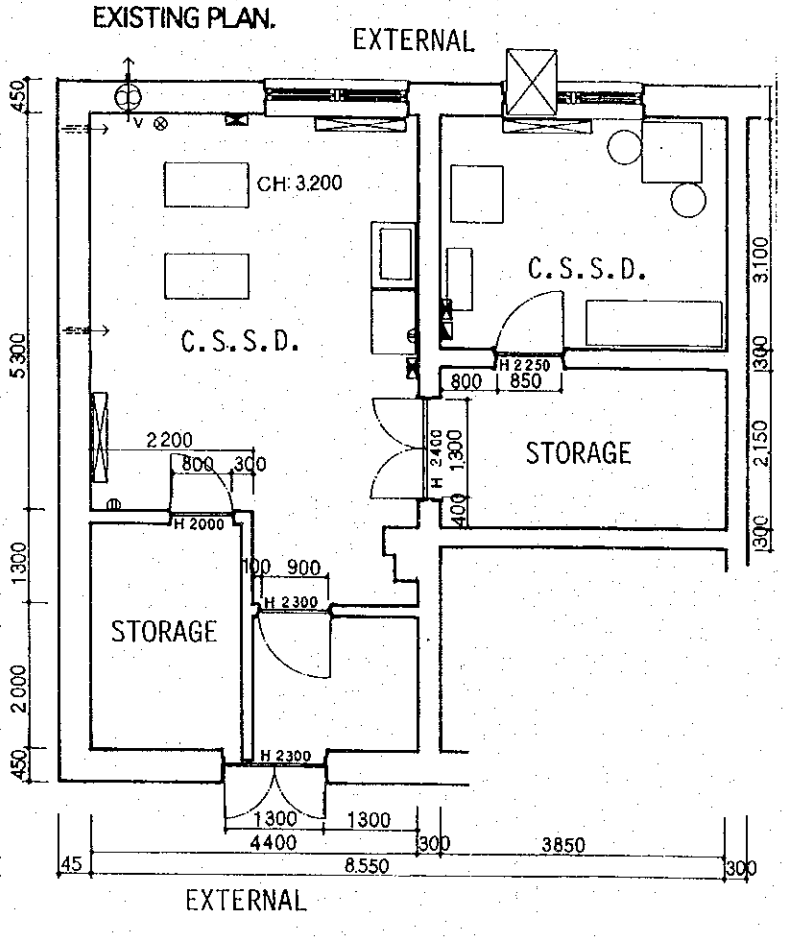


INTERNAL FINISH

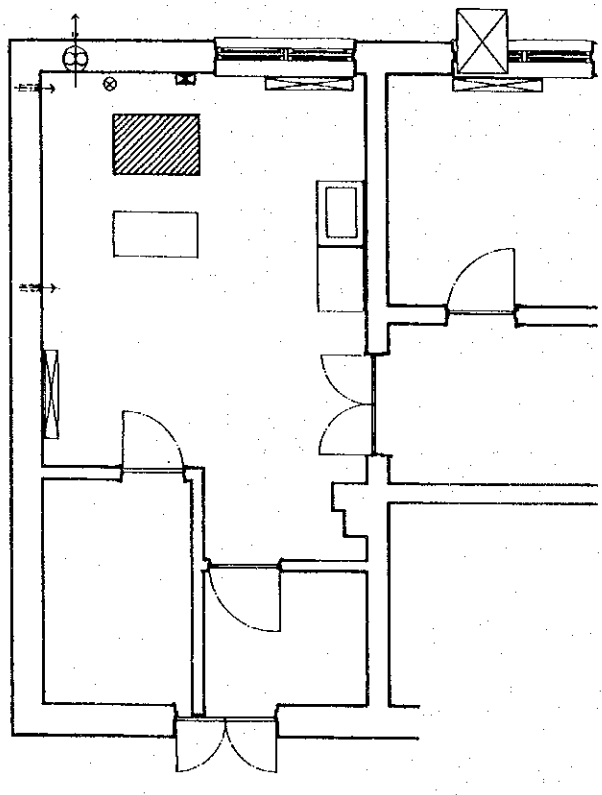
FLOOR	FLOOR	: CONCRETE FINISH LINOLEUM
WALL		: BRICK MORTAR O.P.
CEILING		: CONCRETE PANEL O.P.

DOOR. MIN. WIDTH	MIN W. 900
CORRIDOR. 〃	MIN W.

EXISTING PLAN.

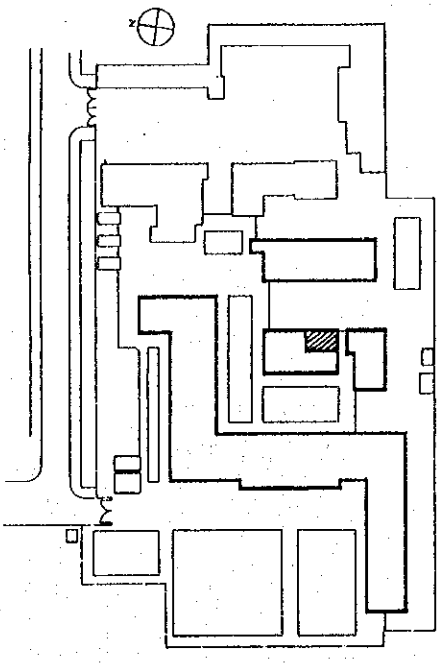


NEW PLAN



REPUBLICAN CLINICAL CHILDREN'S HOSPITAL

LAUNDRY

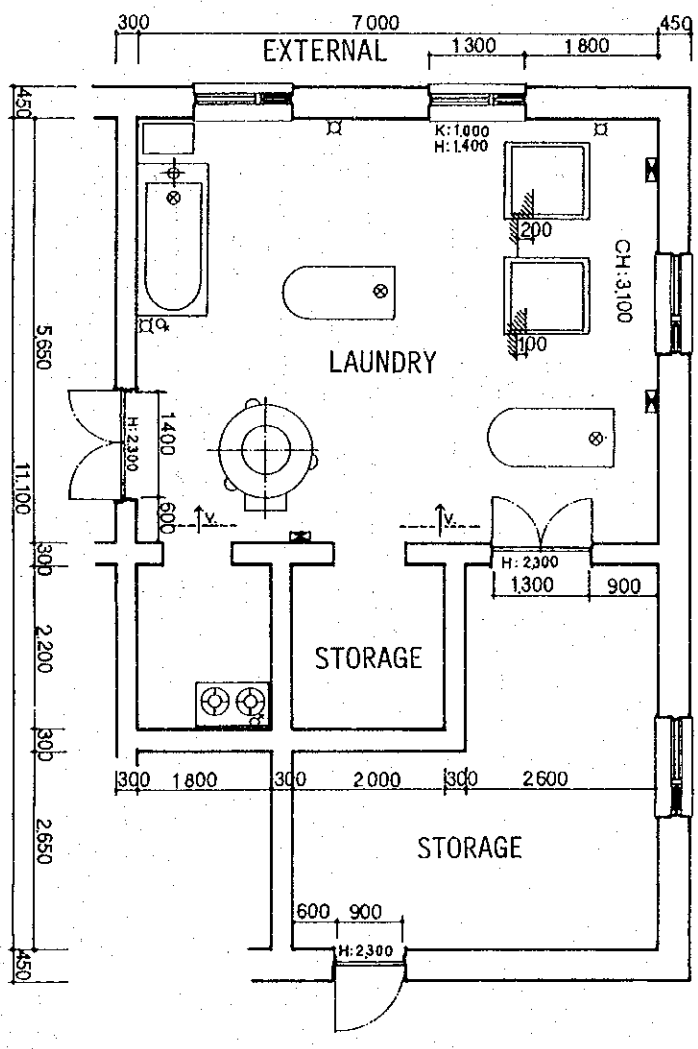


INTERNAL FINISH

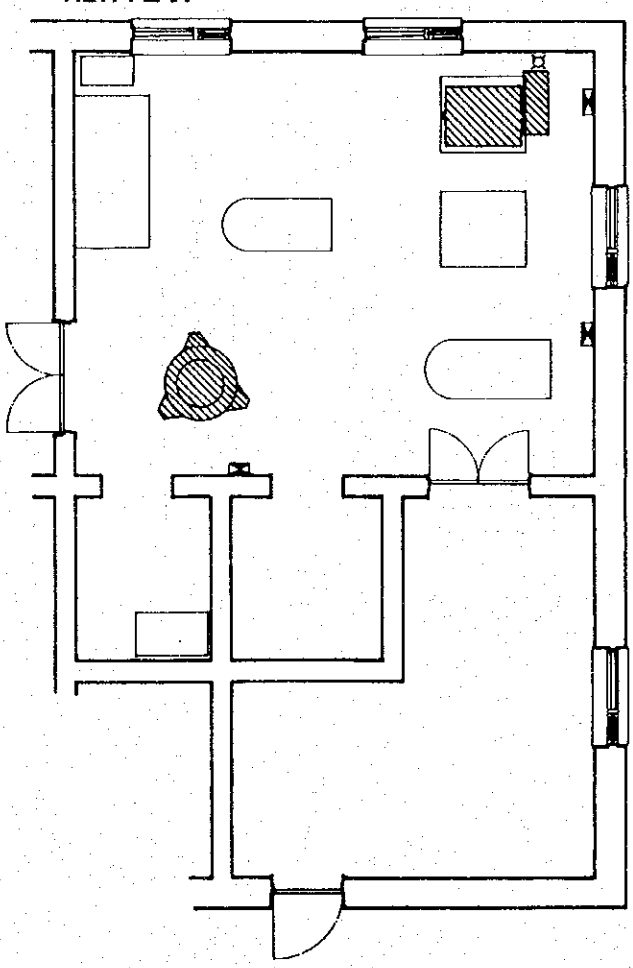
FLOOR	FLOOR	: CONCRETE FINISH LINOLEUM
WALL		: BRICK MORTAR O.P.
CEILING		: CONCRETE PANEL O.P.

DOOR. MIN. WIDTH	MIN W.	1,100
CORRIDOR. 〃	MIN W.	1,700

EXISTING PLAN.

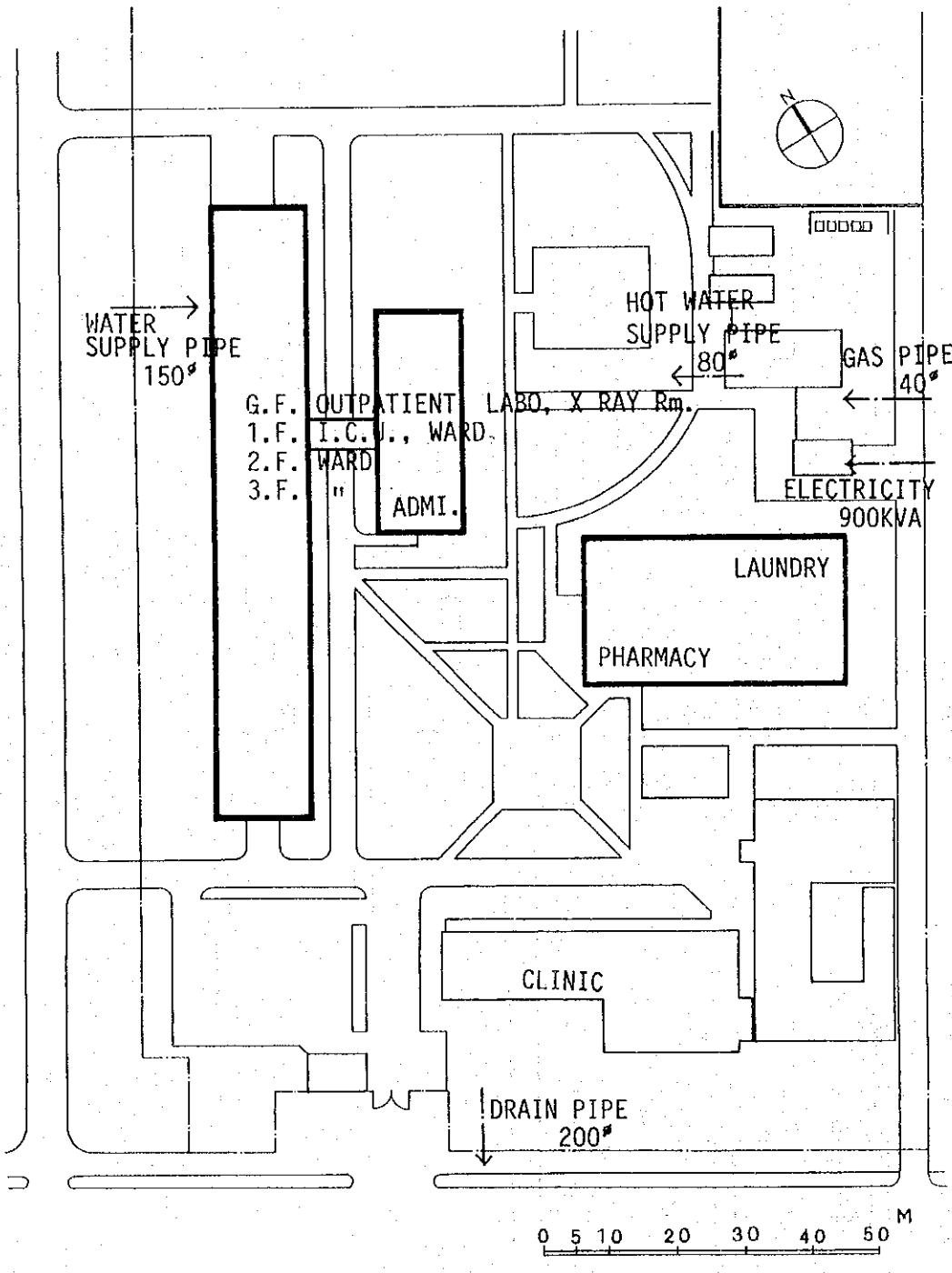


NEW PLAN



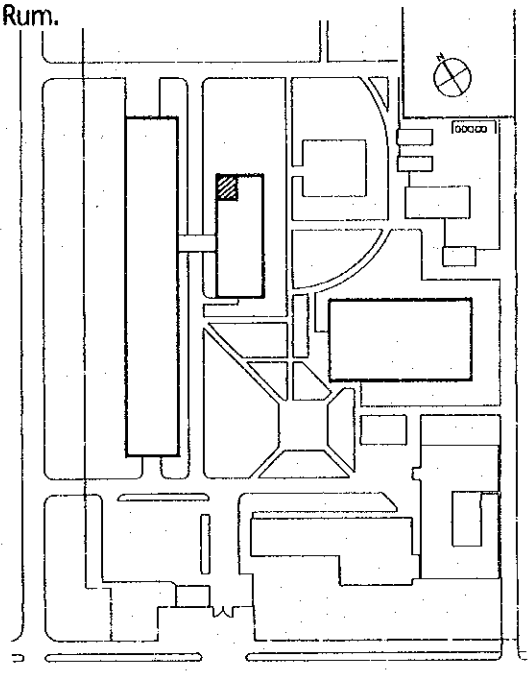
NUKUS CITY CHILDREN'S HOSPITAL

SITE PLAN



NUKUS CITY CHILDREN'S HOSPITAL

X RAY Rum.

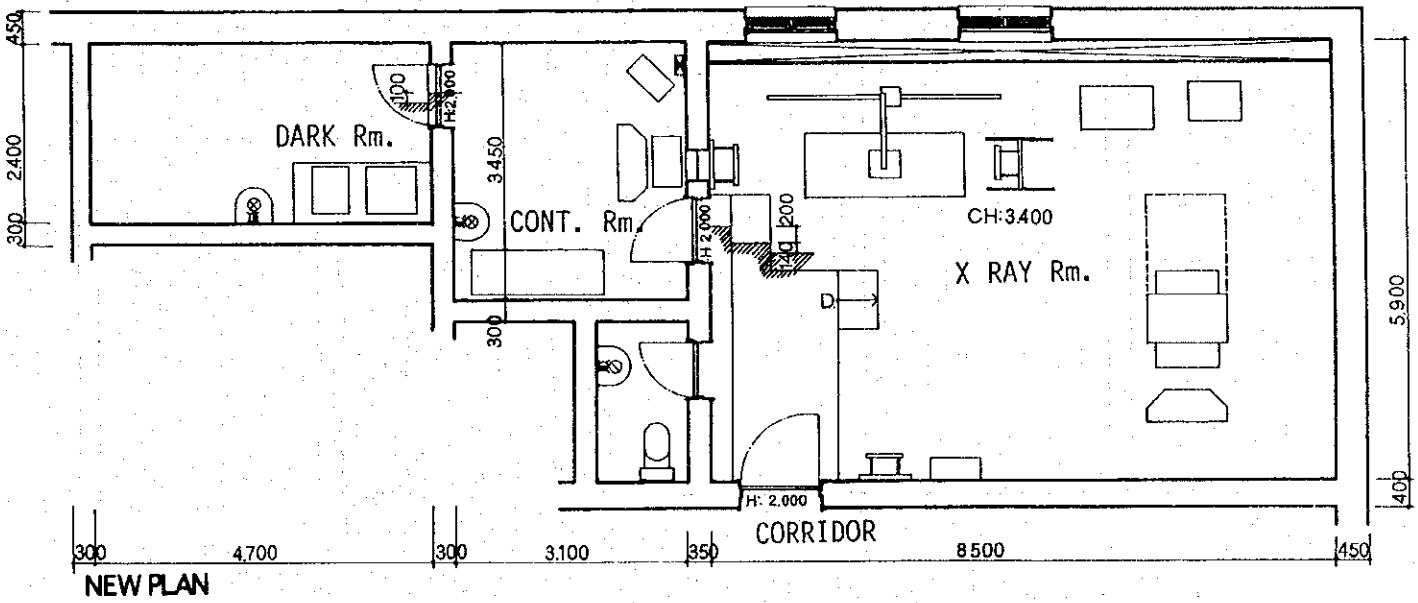


INTERNAL FINISH

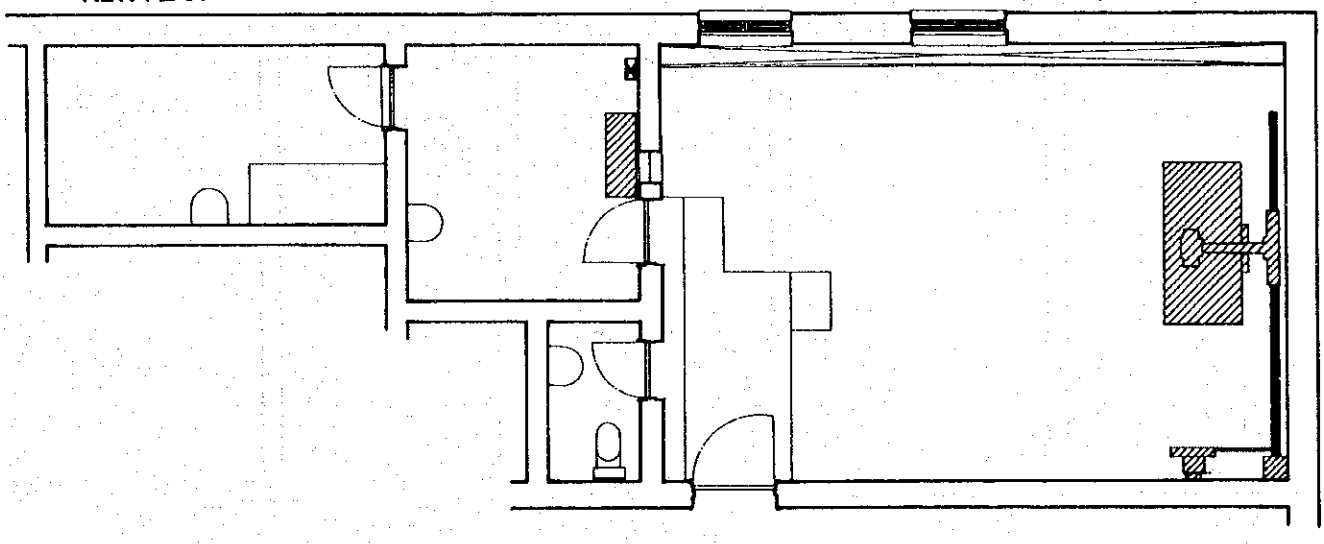
FLOOR FLOOR	: CONCRETE WOODEN FLOOR
WALL	: BRICK MORTAR O.P.
CEILING	: CONCRETE PANEL O.P.
DOOR. MIN. WIDTH	MIN W. 1,300
CORRIDOR. 〃	MIN W. 1,270

EXISTING PLAN.

EXTERNAL

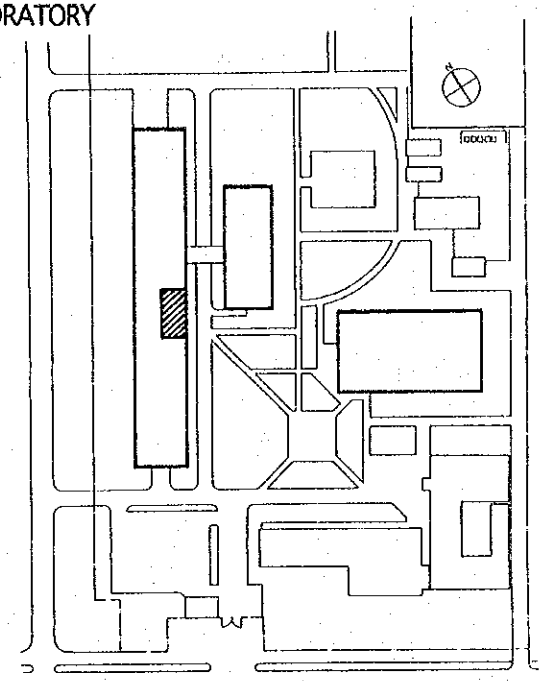


NEW PLAN



NUKUS CITY CHILDREN'S HOSPITAL

LABORATORY



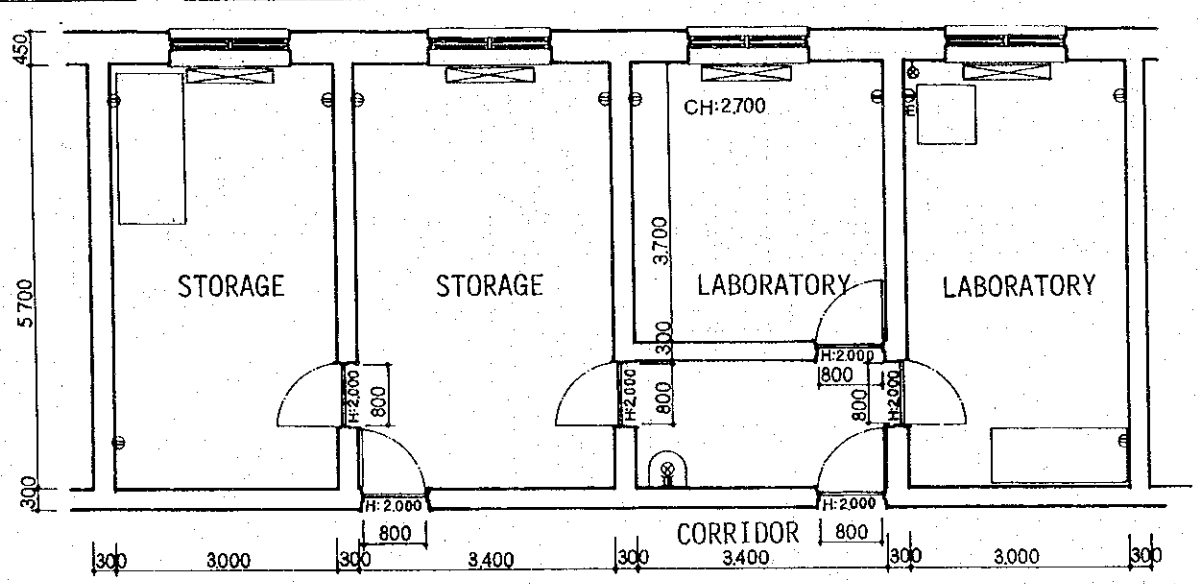
INTERNAL FINISH

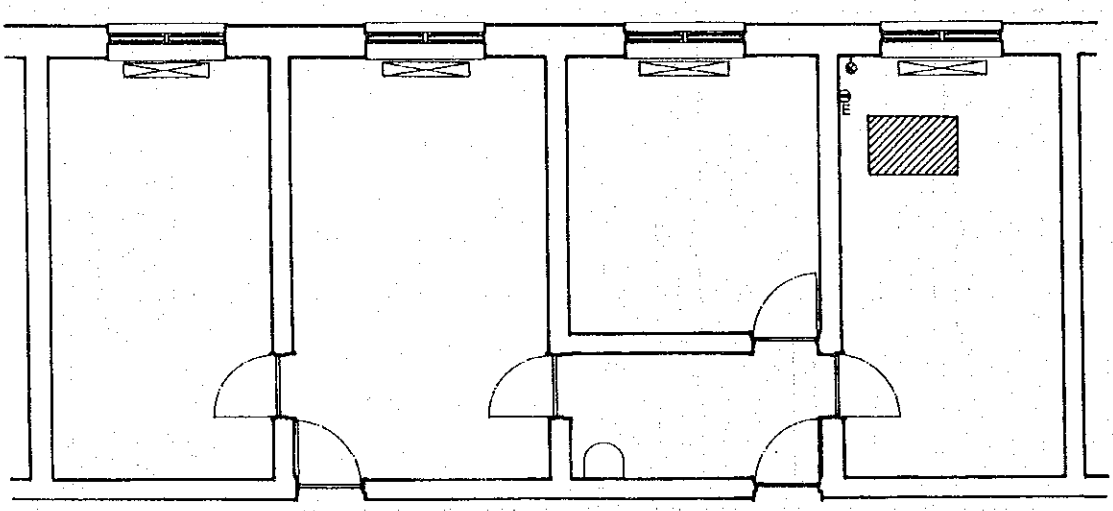
FLOOR	FLOOR	: CONCRETE FINISH LINOLEUM
WALL		: BRICK MORTAR O.P.
CEILING		: CONCRETE PANEL O.P.

DOOR. MIN. WIDTH	MIN W.	1,300
CORRIDOR. 〃	MIN W.	1,700

EXISTING PLAN.

EXTERNAL

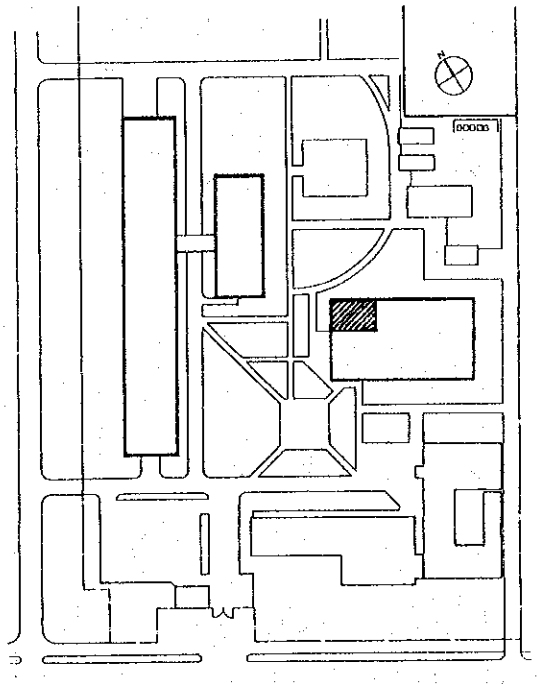




NEW PLAN

NUKUS CITY CHILDREN'S HOSPITAL

CSSD

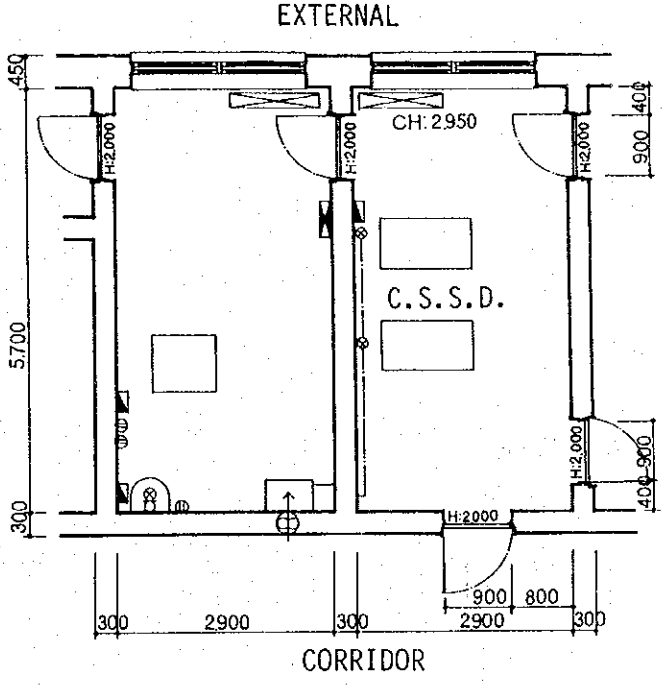


INTERNAL FINISH

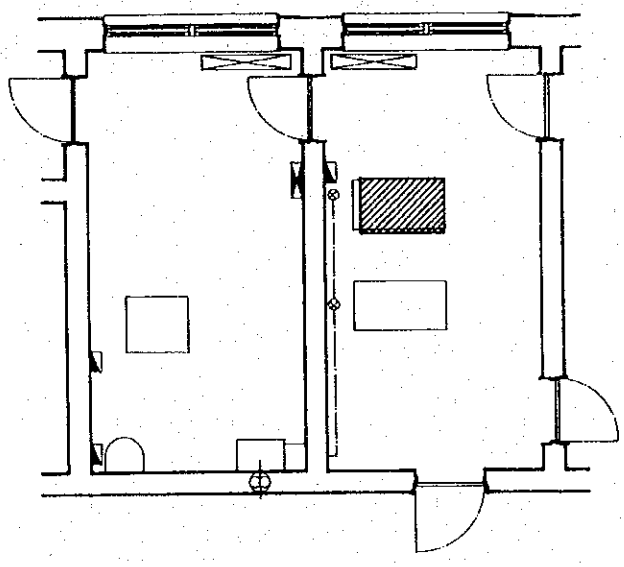
FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR O.P.
CEILING	: CONCRETE PANEL O.P.

DOOR. MIN. WIDTH	MIN W. 1,300
CORRIDOR. 〃	MIN W. 1,700

EXISTING PLAN.

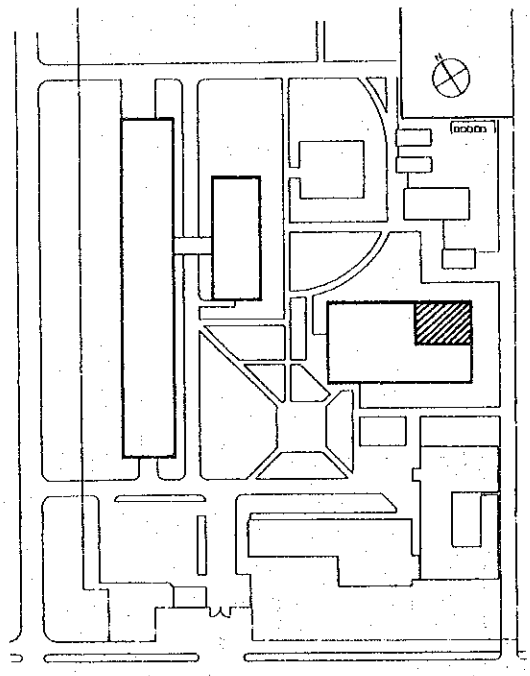


NEW PLAN



NUKUS CITY CHILDREN'S HOSPITAL

LAUNDRY

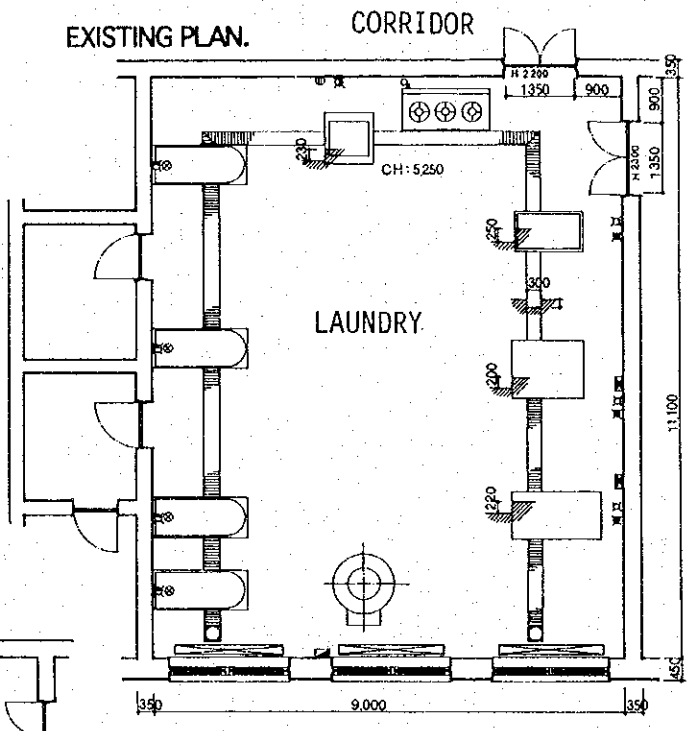


INTERNAL FINISH

FLOOR FLOOR	: CONCRETE FINISH LINOLEUM
WALL	: BRICK MORTAR O.P.
CEILING	: CONCRETE PANEL O.P.

DOOR. MIN. WIDTH	MIN W. 1,600
CORRIDOR. 〃	MIN W. 1,800

EXISTING PLAN.



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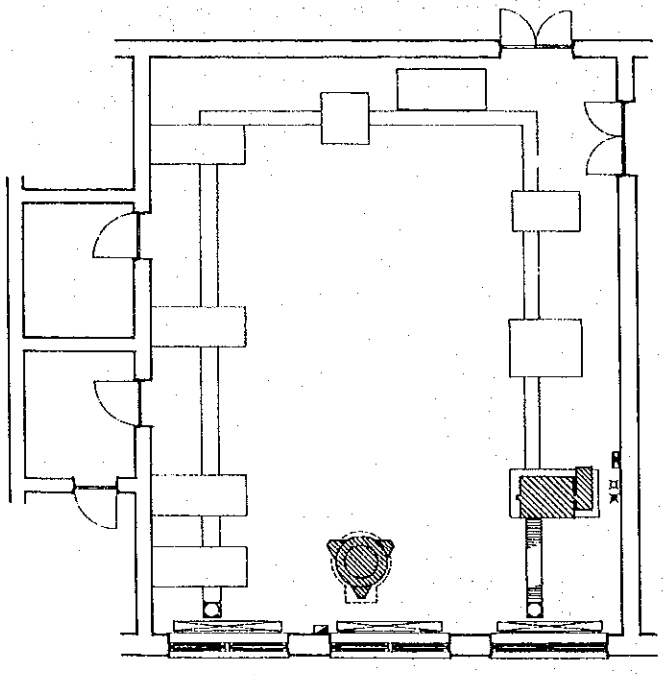


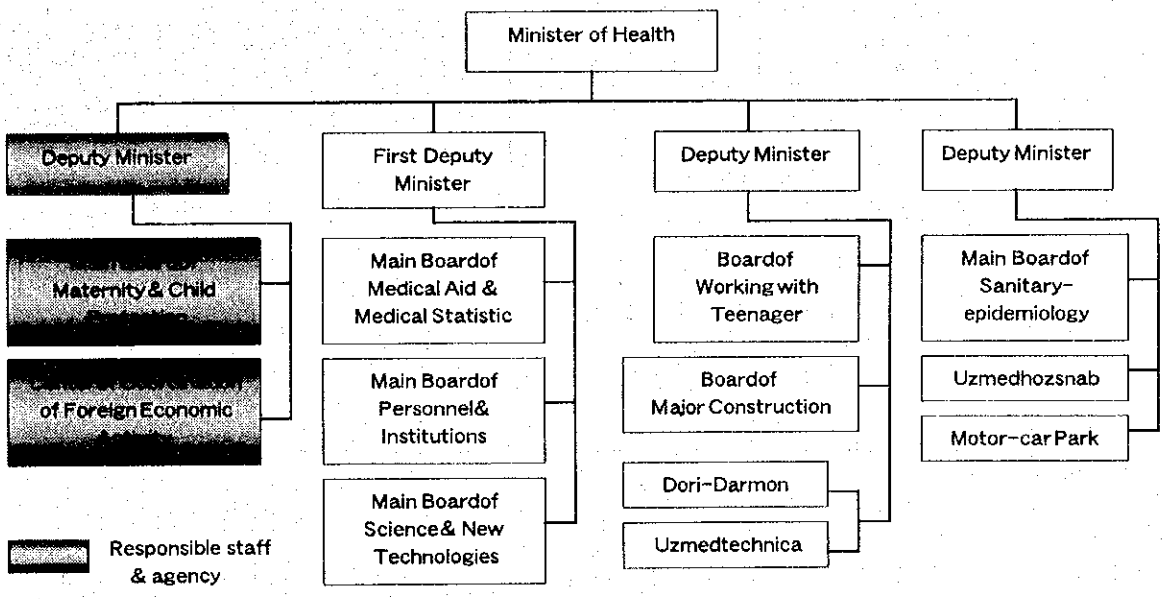
2-4 Implementation System of the Project

2-4-1 Organization

(1) Implementation Organization

1) Responsible agencies

The Republic of Karakalpakstan is a province in Uzbekistan. The Ministry of Health of the Uzbekistan Government is the responsible agency of the Project; and the MCH Office is in charge of medical policies of mothers and children as the supervising agency of the project implementation. The External Economic Cooperation Center is the division to contact for external communication.



Note) Dori-Darmon and Uzmedtechnica are a semi-governmental body, however, both of them are controlled by MOH.

Figure 2-5 Organization Chart of MOH of Uzbekistan

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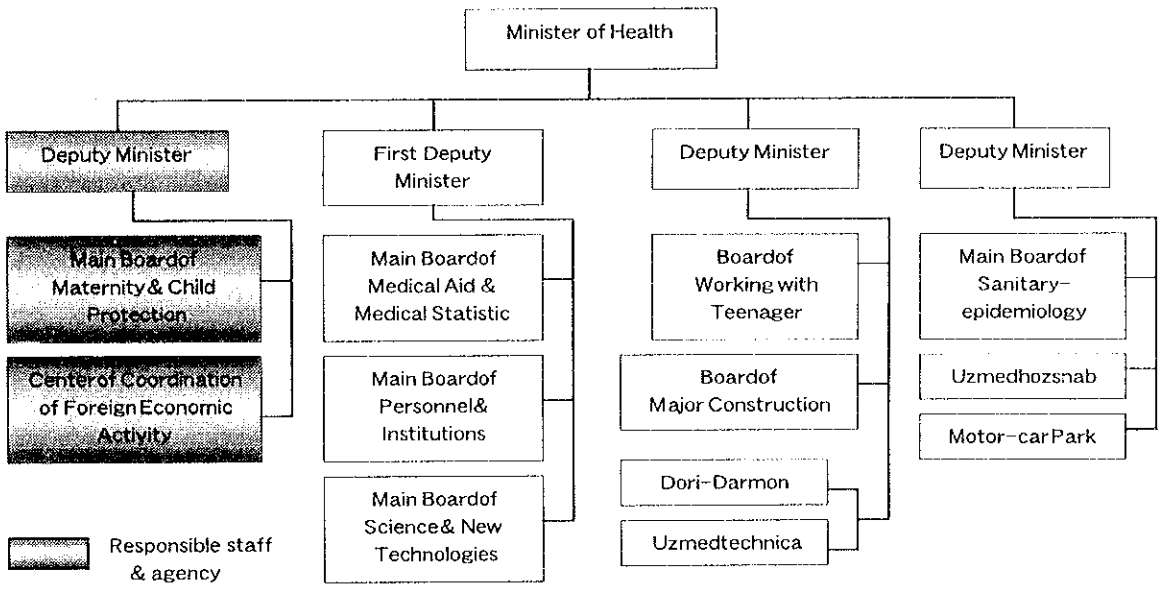

Note) Dori-Darmon and Uzmedtechnica are a semi-governmental body, however, both of them are controlled by MOH.

Figure 2-5 Organization Chart of MOH of Uzbekistan

2) Operation and supervision

The Ministry of Health of Karakalpakstan is the agency responsible for operation and supervision of the project with the budget from the Uzbek government. The Minister of MOH takes charge of management. Organization of the MOH of Karakalpakstan is in Figure 2-6.

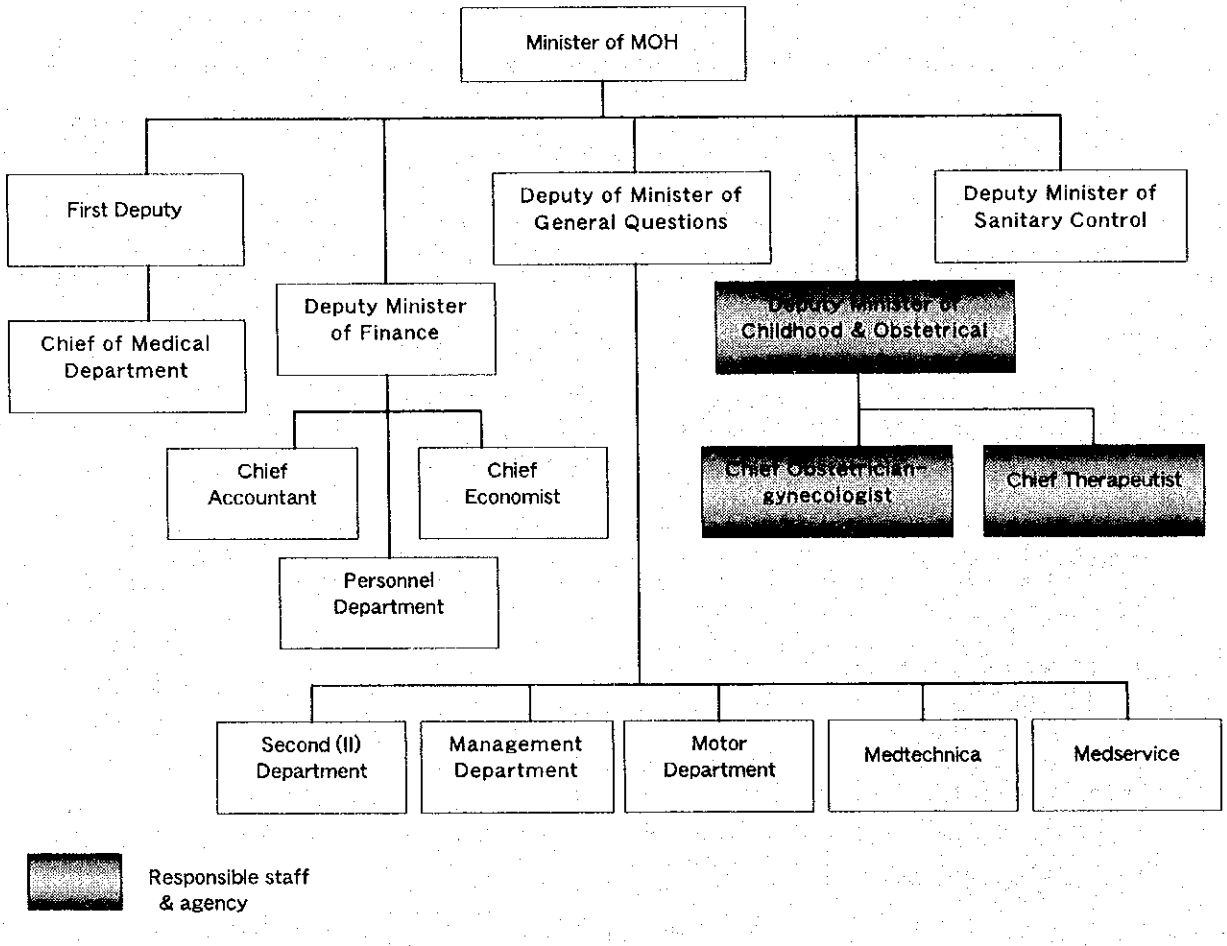

Figure 2-6 Organization Chart of MOH of Karakalpakstan

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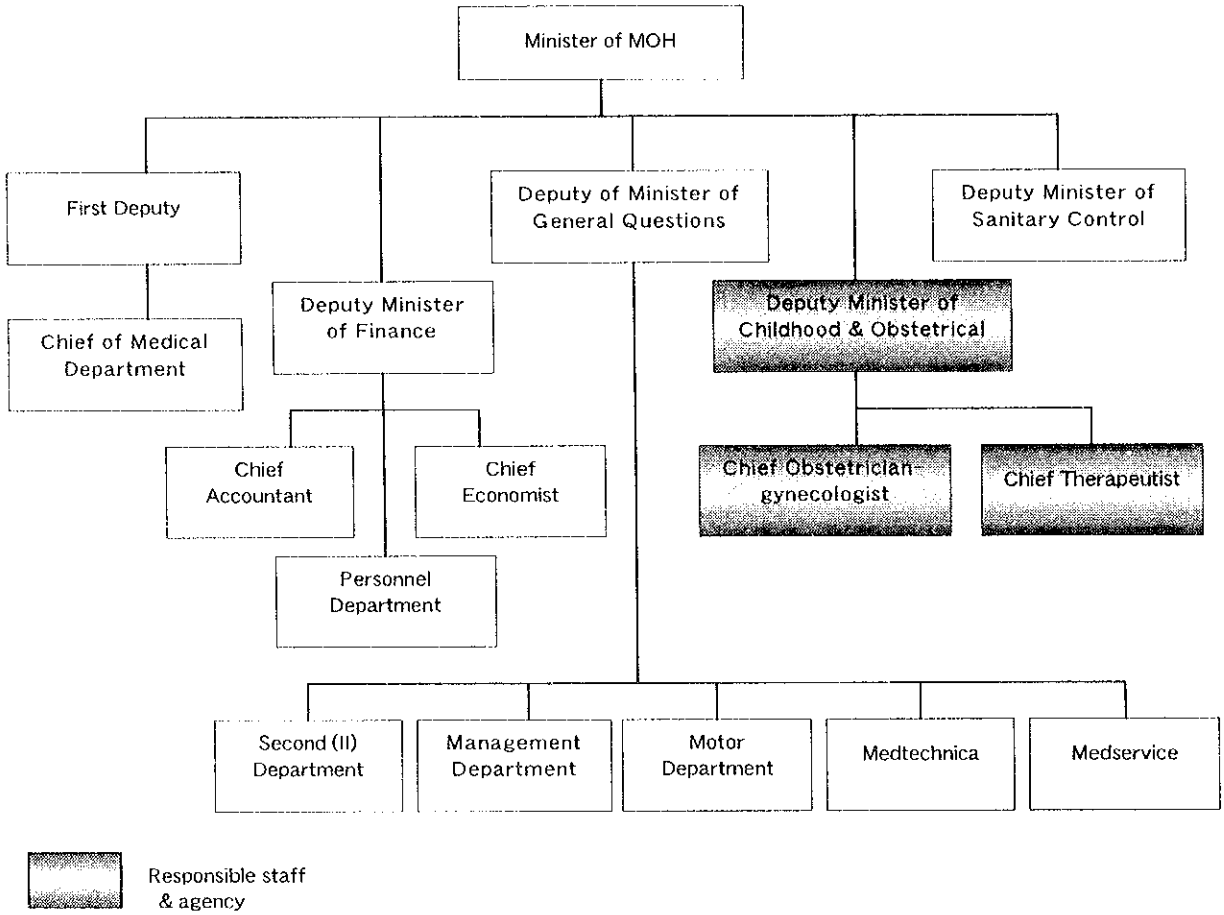

Figure 2-6 Organization Chart of MOH of Karakalpakstan

2-4-2 Budget

(1) Ministry of Health of Uzbekistan

The health care budget of Ministry of Health (MOH) of Uzbekistan has been increasing with the average annual growth rate of 100% for three years from 1995 to 1997. With the inflation rate of this period of about 65%, the actual increasing rate is 35%.

Concerning the national finances, the actual rate of economic growth has obtained increasing tendency since 1996. The budget for MOH has been increasing as well as revenue and expenditure has about from 30 to 40% annually (Table 2-7). The ratio of the MOH budget to the total national expenditure is about 10% .

Table 2-7 Economic index of Uzbekistan

Item	1995	1996	1997	Unit
National GDP	303	560	962	billion sum
Real GDP	-0.9	1.6	2.4	%
Consumer prices	117	64	50	%
Revenue	104,812	191,551	293,676	million sum
Expenditure	115,317	222,940	317,350	million sum

Table 2-8 The change of expediture of MOH budget of Uzbekistan

Items	1995	1996	1997
Personnel	3035.00	6923.90	11011.60
Management	2038.50	4601.20	6239.10
Food	1576.40	2320.00	4078.50
Medicine	1422.40	1628.10	3130.00
Facility	349.60	652.40	3281.70
Equipment	57.50	61.70	224.10
Repair	279.20	312.40	654.10
Other	2524.90	2492.50	4244.90
Total expediture (1,000 sum)	10283.50	18992.20	32864.00
Growth ratio against 1995	100%	185%	173%

Source : MOH of Uzbekistan

Although most of the MOH budget is assigned for personnel, management and food, only 10% of the budget (3,354.1 million) is used for equipment and medicine in 1997 because of shortage of funds.

(2) Health care budget of Karakalpakstan

In linkage with the health care budget of Uzbekistan, the MOH budget of Karakalpakstan also shows an upward tendency. Table 2-9 indicates the transition of budget during the period from 1995 to 1997. The growth rate during the past 3 years was about 100% (the actual increasing rate calculated with inflation rate is about 35%) as against the pervious year, at about the same level with the growth rate of the health care budget of Uzbekistan.

In addition to this budget, MOH also secures up to 5% of the health care budget as a "spare fund" in preparation for incidental expenditure due to occurrence of diseases or breaking of facilities and equipment by disaster. This "spare fund" is intended to assign also for the operation and maintenance costs after implementation of the present project, as required.

Table 2-9 Change of MOH budjet of Karakalpakstan

(Unit : million sum)

1995	1996	1997
537.85	1,035.72	1,600.10

Source:MOH of Karakalpakstan

(3) Budget of project facilities

The budget achievements for the period from 1995 to 1998 and the estimated budget for the year 1999 at the project facilities are as shown on Table 2-10. The average annual increase rate of budget

from 1995 to 1998 is approximately 100%, and its actual rate after calculation with inflation rate is about 35%.

The budget allocation is made according to the planned number of beds and the number of days of treatment of patients and, as for expenditure, 70 to 80% of the budget is assigned for fixed expenses such as personnel expenses, food cost, etc. For that reason, there is constant shortage of the amounts assigned for medicines, cost of purchase of medical equipment and facility operating expenses such as facility maintenance expenses, etc.

From this year, attempts are being made to reduce the financial burden by charging the medicine cost and the food expenses during the hospitalization on patients expect the mentally and physically challenged, orphans, pregnant women with disease, and newborn babies. This income is allocated to management cost of each hospital.

Tabel 2-10 Budjet result of designated facilities and estimated budget

(Unit : 1,000 sum)

	1995	1996	1997	1998	1999 (Estimation)
Republican Maternity Hospital	8,889.00	18,232.00	24,598.00	32,784.20	42,619.50
Republican Clinical Children's Hospital	8,640.50	17,851.00	22,924.70	60,554.80	39,721.20
Nukus City Children's Hospital	4,323.90	4,217.20	14,630.80	16,807.30	21,849.50

Source : MOH of Karakalpakstan

2-4-3 Project Staff and Technical Level

(1) Medical Education and Technical Level of the Medical Staff

1) Medical doctors

The composition of medical staff at project facilities is shown in Table 2-11.

Table 2-11 Number of medical staff at desinated facilities

	Republican Maternity Hospital	Republican Clinical Children's Hospital	Nukus City Children's Hospital
Top-class doctor	9	6	6
Class 1 doctor	15	8	8
Class 2 doctor	11	5	1
General doctor	17	41	4
Nurse	166	236	85
Laboratory engineer	15	10	2
Maintenance engineer	110	163	48
Total	343	469	154

Source : MOH of Karakalpakstan

(With a year of practical study as intern, doctors are classified as general doctors. After 5 years, they study their major fields at university or graduate school for 4 or 5 months to qualify for the classification test of Class 2 doctor. After 3 years of Class 2 doctor, they can try for Class 1 doctor. The qualification for a test of Top-class doctor is given after 12 or 13 years as Class 1 doctor. All doctors have to take reeducation program every 5 years.)

Since equipment to be procured by this project is for renewal and supplement of existing one and sufficient educational programs are provided to medical staff, it is judged that there is no particular problem in personnel technical level of project facilities.

2) Nurses and Paramedical

There are 48 vocational schools for medical workers such as nurses, paramedical and pharmacists, where approximately 21,300 students are trained each year.

In Uzbekistan, the nurses are being thought better of. The WHO-recommended nursing education curriculum "Lemon Project" is introduced into its nursing education. The government is practicing improvements in quality and quantity to bring the ratio of doctor to nurse (currently 1 to 3.3) close to the WHO standard of 1 to 8.

The nurses are expected to understand the importance of nursing itself, medical knowledge, utilization of medical equipment, etc., not only working as assistants of the doctors.

Therefore, the extension of understanding the importance of nursing, it is expected that various services will be improved in the equipment and facilities, human resources, etc., in the hospitals.

3) Radiographer and Laboratory Engineer

Since the equipment to be procured are mainly intended to renew and supplement the existing equipment, there will be no technical problem in operating equipment including X-ray machine. In terms of equipment like biochemical analyzer which requires special training for operation, there will also be no particular problem in utilizing equipment because staff handling equivalent equipment procured under the "1994 Pediatrics Medical Equipment Arrangement Plan" will instruct how to use the newly procured equipment.