

BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR
IMPROVEMENT OF REHABILITATIVE
EQUIPMENT IN REHABILITATION CENTERS
IN
THE REPUBLIC OF AZERBAIJAN

March 2002

JAPAN INTERNATIONAL COOPERATION AGENCY

BINKO LTD.

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PREFACE

In response to a request from the Government of the Republic of Azerbaijan, the Government of Japan decided to conduct a basic design study on the Project for Improvement of Rehabilitative Equipment in Rehabilitation Centers in the Republic of Azerbaijan and entrusted the study to the Japan International Cooperation Agency (JICA).

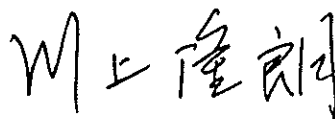
JICA sent to Azerbaijan a study team from Sept. 30 to Oct. 25, 2001.

The team held discussions with the officials concerned of the Government of Azerbaijan, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Azerbaijan in order to discuss a draft basic design, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Azerbaijan for their close cooperation extended to the teams.

March, 2002



Takao Kawakami

President

Japan International Cooperation Agency

March, 2002

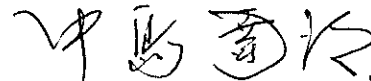
Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Improvement of Rehabilitative Equipment in Rehabilitation Centers in the Republic of Azerbaijan.

This study was conducted by Binko Ltd., under a contract to JICA, during the period from September, 2001 to March, 2002. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Azerbaijan and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,

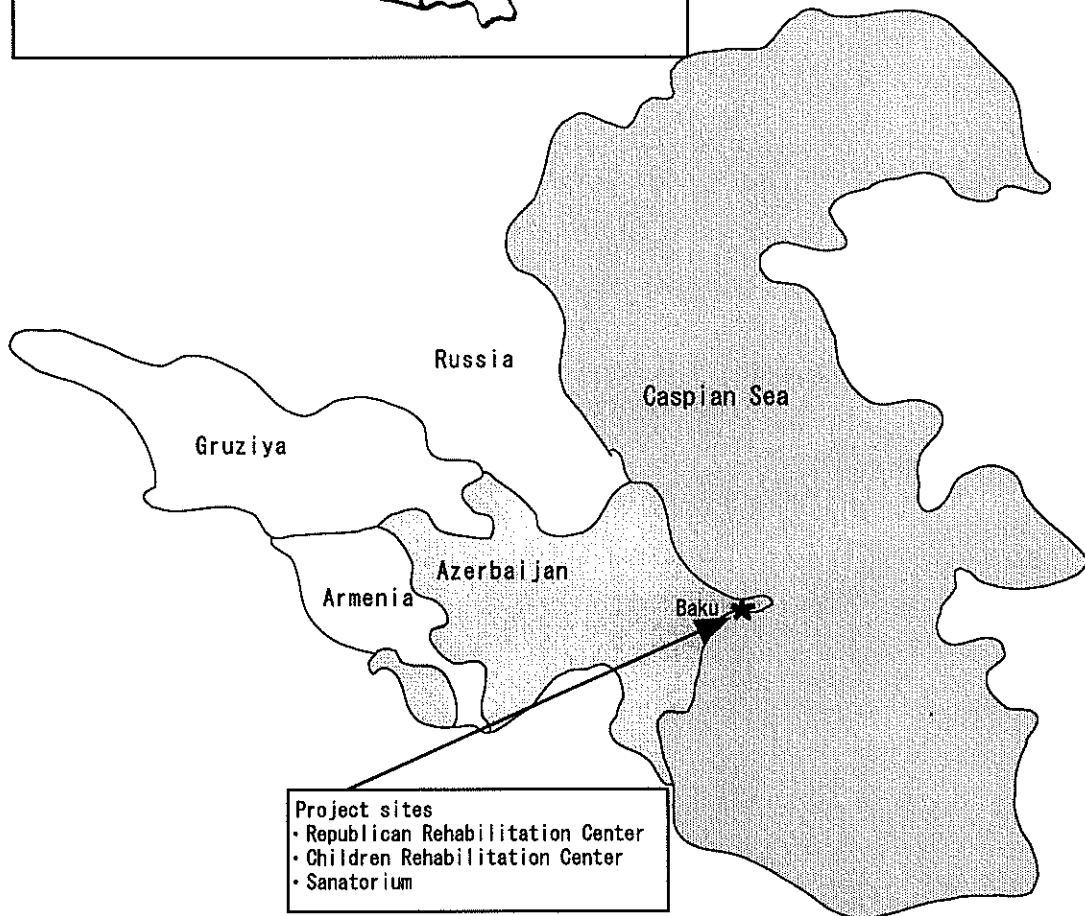
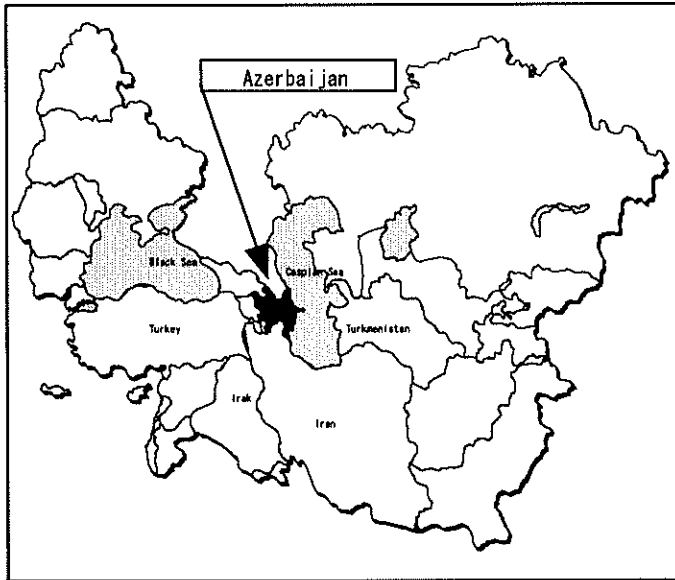


Tatsuro Nakajima

Project manager,

Basic design study team on
the Project for Improvement
of Rehabilitative Equipment
in Rehabilitation Centers in
the Republic of Azerbaijan
Binko Ltd.

Location Map



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ABBREVIATIONS

JICA	Japan International Cooperation Agency
QOL	Quality of Life
CIS	Commonwealth of Independent States
ADB	Asian Development Bank
GNP	Gross National Product
DAC	Development Assistance Committee
PRSP	Poverty Reduction Strategy Paper
B/A	Banking Arrangement
A/P	Authorization to Pay
E/N	Exchange of Notes
PT	Physical Therapist
OT	Occupational Therapist
ODA	Official Development Assistance
BHN	Basic Human Needs

SUMMARY

With the development of the national economy of the Republic of Azerbaijan, the Government of Azerbaijan elaborated "the Government Program on Disability Reduction" (the Executive order of May 1999) for about 270,000 handicapped persons of this country, under the leadership of the Ministry of Labor and Social Protection of Population and under the inter-agency cooperation among the authorities concerned. In order to save and care the handicapped persons who require rehabilitation, the Government elaborated this Program aiming for the system that enables to provide consistently the substantial medical and rehabilitative care by establishment of a fulfilling organization.

The Republican Rehabilitation Center is now the only institution specialized in rehabilitation in Azerbaijan, and has accepted the designated patients as handicapped from the whole country. This Center is also assigned as an institution for the staff development of the Committee of Medical-Social Protection who officially performs authorization of the handicapped persons. However, the rehabilitative services have not been extended properly in Azerbaijan. It is caused by the inefficiency of the facility management, the delay in renewal of facilities and equipment, the shortage of equipment and medicines, the absence of the referral system (the system of patient transfer), etc.

The services for the handicapped persons of the whole country cannot be covered only by the Republican Rehabilitation Center. Under such situation, the Government of Azerbaijan decided to newly establish the Children Rehabilitation Center and the Sanatorium. Thereafter, the regional rehabilitation centers shall be established in the local cities, and the referral system of the rehabilitative care shall be formed. And, Azerbaijan submitted a request for a Grant Aid to Japan as for improvement of the equipment for each rehabilitation facilities.

In response to the request, the Government of Japan sent a project formation survey team to Azerbaijan in December 1999. The team made

confirmation of the above situation and collected the related information. As a result of the survey, the necessity and appropriateness were admitted to implement the requested project as a Japan's Grant Aid program. Implementation of a Basic Design Study was decided, and the Japan International Cooperation Agency (JICA) sent a study team to Azerbaijan from September 30th to October 25th, 2001. The team held discussions with the officials concerned of the Government of Azerbaijan and made confirmation of the background, the details and the implementing system of the project. The team also conducted a field survey and collected the relevant data.

After the team returned to Japan, further study was made and the contents of the study were worked up into "the Draft Report on the Basic Design Study". Then, a mission was sent to Azerbaijan from January 9th to January 29th, 2002, in order to explain the Draft Report. In the discussion, the both countries reached a mutual consent on the purpose of the Basic Design and on the summary of the implementation plan. The further study was made in Japan, while examining the contents of the project as to designation of the project facilities, the scale and the sphere of cooperation, etc. And, this project was elaborated to meet the guidelines of the Japan's Grant Aid Scheme. The contents of the study were worked up into this Basic Design Study Report.

The project facilities are the Republican Rehabilitation Center, the Children Rehabilitation Center, and the Sanatorium, which are located in the capital Baku and placed as top referral facility in the rehabilitative services. In this project, the equipment shall be procured to these project facilities and the Soft Component Plan (dispatch of therapists from Japan, and so on) shall be implemented in order to introduce the new rehabilitation concept (therapeutic exercise and occupational therapy) into the rehabilitation system in Azerbaijan where too much importance has been laid on the physiotherapy. This project aims at improving the rehabilitative services in Azerbaijan.

Considering the following points (the role, positioning and current

conditions of the project facilities), the criteria for selection of equipment were set. Such criteria include the scale, specifications and quantity of the equipment.

- (1) In the improvement plan of rehabilitative services in Azerbaijan, the new rehabilitation concept is set to help the handicapped persons become autonomous and reintegrate to the society. The equipment plan shall be elaborated so that the project facilities can extend rehabilitative services along the above rehabilitation concept.
- (2) The most effective therapies to help the handicapped persons become autonomous are the therapeutic exercise and the occupational therapy. The equipment that is used for such therapies shall be selected. The implementation of Soft Component Plan is planned for smooth introduction of these therapies.
- (3) The project facilities are the top referral facilities, which extend the rehabilitative services in Azerbaijan.
- (4) The function should be restored as training and educational facility for the personnel who shall assume share in the rehabilitative services.
- (5) Consideration should be given toward the referral function among the rehabilitation facilities throughout the country in the medical system.
- (6) The procurement plan should be reasonably dealt with the current capability (financial condition, technical level, and personnel) of the project facilities.
- (7) Consideration should be given toward the environment. (Installation of the planned equipment shall not bring about any environmental problems to the residents, such as environmental contamination by the radiation and medical wastes.)

The main equipment selected in this project is as follows

Department	Main Equipment
Diagnostic	X-ray unit, Ultrasound Scanner, Electrocardiograph, Electroencephalograph, Reograph, EMG, Hot air sterilizer, Car for disabled person, etc.
Dental	Dental unit, Dental X-ray, Dental treatment equipment, etc.
Physiotherapy	Electric traction, Ultrasound therapy, Low frequency therapy, Microwave therapy, Ultraviolet lamp, Paraffin bath, Hot pack unit, Treatment table, etc.
Therapeutic Exercise	Multi station with wire net, Shoulder wheel, Wall stall bars, Parallel bars, Exercise stairs, Training mat, Training equipment for motor function for each region, etc.
Occupational Therapy	Standing table, Hydraulic work table, etc.
Hydro Therapy	Bath with lift, Whirlpool bath for full body, Bubbler, Pressure hose set, etc.
Evaluation	Forward flexmeter, Goniometer set, Spirometer, Step simple test for evaluating hand function, Dynamometer, Weight measure, Height measuring gauge, etc.
Positioning	Walker, Invalid walkers, Wheelchair, etc.

The work period for implementation of the project should be approximately 11.7 months from conclusion of the consultant contract to the completion. The responsible agency is the Ministry of Labor and Social Protection of Population. The sites of the project are 3 rehabilitation facilities in the capital Baku (the Republican Rehabilitation Center, the Children Rehabilitation Center, and the Sanatorium). After implementation of this project, the project facilities are responsible for the operation and maintenance of the equipment and shall execute such work under the control of the Ministry of Labor and Social Protection of Population. All the maintenance costs shall be covered by the Ministry of Labor and Social Protection of Population in principle.

The following effects can be expected by implementation of this project.

(1) Direct Effect

- ① The Republican Rehabilitation Center annually accepts approximately 1000 handicapped persons (inpatients: 800, outpatients: 200). The proper and prompt rehabilitative services shall be provided to such patients by improvement of the rehabilitative equipment of this Center.
- ② The Children Rehabilitation Center annually accepts approximately 1100 handicapped persons (inpatients: 600, outpatients: 500). The

proper and prompt rehabilitative services shall be provided to such patients by improvement of the rehabilitative equipment of this Center.

- ③ The Sanatorium annually accepts approximately 1000 handicapped persons (inpatients: 1000). The proper and prompt rehabilitative services shall be provided to such patients by improvement of the rehabilitative equipment of this Sanatorium.

(2) Indirect Effect

- ① The rehabilitative care shall be improved for about 270,000 handicapped persons among the people of the whole Azerbaijan with a population of about 8 million.
- ② The rehabilitation technique of medical personnel of these project facilities shall improve by introduction of the new rehabilitation (therapeutic exercise and occupational therapy).
- ③ The Government of Azerbaijan holds up such policy that enables the handicapped persons to perform the daily life activities by self-reliance and to return to society. This project shall support such policy. By promoting rehabilitation of the handicapped persons in society and stimulating their will to work, their family is relieved from care of the patient, and this may contribute for reinvigoration of the local community.

In order to implement this project smoothly and use the equipment to be procured more effectively and continuously, recommendation is made for the following points.

(1) Securing of the medical personnel

Improvement of the rehabilitation technique cannot be achieved only by making arrangements on the hardware (establishments and equipment) side. And, it is indispensable to secure the necessary medical personnel in order to extend more proper and effective rehabilitative services.

- (2) Securing of the budget for operation and maintenance

The necessary budget should be secured for the new facilities and the equipment, because the maintenance costs shall increase after implementation of this project.

- (3) Patients positively accept and join for therapeutic exercises.

The therapeutic exercise brings about pain, because a stiffed joint is forcibly moved. Therefore, it is necessary for the patient to positively accept and join for this exercise.

- (4) Introduction of the new rehabilitation (therapeutic exercise and occupational therapy) shall be made in order to smoothly proceed with the improvement plan of rehabilitative services of Azerbaijan. Implementation of the technical support, such as the Soft Component and the counterpart trainings, is expected.

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CHAPTER 1. BACKGROUND OF THE PROJECT

CHAPTER 1. BACKGROUND OF THE PROJECT

The national economy of the Republic of Azerbaijan (hereinafter referred to as "Azerbaijan") has been developed since the independence of the Azerbaijan. With this development, the Government of Azerbaijan elaborated "the Government Program on Disability Reduction and Rehabilitation" (the Executive order of May 1999) for about 270,000 handicapped persons of this country, under the leadership of the Ministry of Labor and Social Protection of Population and under the inter-agency cooperation among the authorities concerned (such as the Ministry of Health, the Ministry of Education, the Ministry of Finance, and the local governments). In order to relieve and care the handicapped persons who require rehabilitation, the Government elaborated this Program aiming for the system that enables to provide consistently the substantial medical and rehabilitative care by establishment of a fulfilling organization.

The Republican Rehabilitation Center is now the only institution specialized in rehabilitation in Azerbaijan, and has accepted the designated patients as handicapped from the whole country. This Center is also assigned as an institution for the staff development of the Committee of Medical-Social Protection who officially acts acknowledgement of the handicapped persons. However, the rehabilitative services have not been extended properly in Azerbaijan. It is caused by the inefficiency of the facility management, the delay in renewal of facilities and equipment, the shortage of equipment and medicines, the absence of the referral system, etc.

The services for the handicapped persons of the whole country cannot be covered only by the Republican Rehabilitation Center. Under such situation, the Government of Azerbaijan decided to newly establish the Children Rehabilitation Center and the Sanatorium, and plans to improve the system of rehabilitative services. And, Azerbaijan made a request for a Grant Aid to Japan as for improvement of the equipment for each rehabilitation facilities.

In response to the request, the Government of Japan sent a project team to Azerbaijan in December 1999. The team made confirmation of the above situation and resource acquisition in the field survey. After the team returned to Japan, further study was made, and the necessity and appropriateness were admitted for implementation of this project as a Japan's Grant Aid program. Consequently, the Basic Design Study was instituted, and here this Basic Design Study Report is submitted.

CHAPTER 2. CONTENTS OF THE PROJECT

CHAPTER 2 Contents of the project

2-1 Basic Concept of the Project

Ten (10) years have elapsed after the independence of the Republic of Azerbaijan. The rehabilitative care has not been extended properly toward the handicapped persons by the battle injury during the independent war and the Nagorno-Karabakh conflict and the general handicapped persons. In order to improve such situation, "the Government Program on Disability Reduction and Rehabilitation" was elaborated by the Executive order of May 1999, and the Ministry of Labor and Social Protection of Population has strived for practice of the improvement plan. The Ministry aims at improvement of the rehabilitation facilities in order to help the handicapped persons for whom rehabilitative care is necessary, so that they may be able to perform the daily life activity by themselves as much as possible and return to the society. Also, the goal is set at preparing such medical system that enables the medical facilities to systematically provide the services of diagnosis, curative and rehabilitation.

In order to achieve the above-mentioned goal, three (3) rehabilitation facilities shall be improved or newly established in Baku, the capital of Azerbaijan, and enhancement of the rehabilitative services and training of the personnel necessary shall be made in this project. The project facilities are the Republican Rehabilitation Center, the Sanatorium, and the Children Rehabilitation Center. Thereafter, the regional rehabilitation centers shall be established in the seven (7) local cities all over the country, and the referral system of the rehabilitative care shall be formed.

The rehabilitative services in Azerbaijan are still instituted along the concept of the Soviet Union age. The therapeutic exercise is slighted, and too much importance is laid on the physiotherapy. The Azerbaijan side intends to employ the therapeutic exercise and occupational therapy which are in

line with the new rehabilitation concept, and to improve the rehabilitative services of this country by supplying necessary equipment and by teaching therapies with such equipment. Accordingly, it is expected to promote the return of the handicapped persons to the society.

Under such circumstances, the project for the handicapped persons of Azerbaijan shall be implemented through the Japan's Grant Aid. This project is intended to contribute to improvement of the rehabilitative services of Azerbaijan. The activities in this project are to procure the rehabilitative equipment, to introduce the current praxis of rehabilitation in Japan, and to introduce the new therapeutic exercise and occupational therapy.

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

The equipment plan for this project shall be elaborated according to the following policies.

<Basic Policies>

- ① In the improvement plan of rehabilitative services in Azerbaijan, the new rehabilitation concept is set to help the handicapped persons become autonomous and reintegrate to the society. The equipment plan shall be elaborated so that the project facilities (the Republican Rehabilitation Center, the Children Rehabilitation Center, and the Sanatorium) can extend rehabilitative services along the above rehabilitation concept.
- ② The equipment that is submitted to the most effective therapies (therapeutic exercise and occupational therapy) to help the handicapped persons become autonomous, shall be selected.

- ③ The implementation of the Soft Component Plan (dispatch of the physical therapist and the occupational therapist from Japan) is planned for smooth introduction of exercise and occupational therapies.

Based on the above-mentioned conditions, the equipment design policy is set for each project facility as follows.

- The Republican Rehabilitation Center

This is now the only facility in service. A large number of equipment is which of the old Soviet Union age, and it is in the time of renewal. In order to introduce the new rehabilitation concept besides the physiotherapy as ever, the selection of equipment in this project is made while giving priority to the therapeutic exercise and occupational therapy.

- The Children Rehabilitation Center

This is a newly-established facility where the construction work will be completed in October 2002, and shall treat children less than 16 years old. The equipment procurement plan for this facility fundamentally follows the one for the Republican Rehabilitation Center. However, this Center is aimed at children, and the equipment selection is made for the toys and the equipment of children's size.

- The Sanatorium

This is also a newly-established facility where the construction work will be completed in October 2002. This is placed as facility where another rehabilitation is extended to the patients, who leave the above two (2) facilities but be behind in the physical recovery in recuperation at home, and helps them early return to the society. The equipment procurement plan is fundamentally same as the plan for the Republican Rehabilitation Center.

<Basic Policies on the Technical Aspects>

- ① The concrete countermeasures shall be suggested, in case the infrastructure (such as water supply, drainage, power supply, and radiation shield) of the project facilities is not sufficiently provided for the installation of the planned equipment.
- ② For the medical activity of each project facility, examination should be made of the technical level, and the concrete target in treatment. The grade of the planned equipment shall be decided according to the result of this examination, and the equipment plan shall be designed within the range that the technical sustainability of each facility can be secured. On that occasion, the equipment should be selected, considering the flow chart, the standard process and the basic criteria for the equipment selection.
- ③ Measures should be taken so that installation of the planned equipment (X-ray unit and hydrotherapy unit) shall not bring about any environmental problems to the area, such as environmental contamination and change in the ecosystem.
- ④ The equipment plan shall be designed, considering if there is a local agent of the equipment manufacture in Azerbaijan. Consequently, the deliberate procurement of spare parts and consumables can be made under the control of the inventory management department.

<Basic Policies on the Work Period>

- ① The work period for implementation of this project, including the procurement of equipment and the installation work, should be within one (1) physical term that is twelve (12) months after the Exchange of Notes is concluded between both governments.
- ② Two (2) of the three (3) project facilities are now under construction and the work is to be completed by October 2002. Enough attention should be paid to the progress of the construction work so as not to disturb and delay the procurement of equipment by this project.

2-2-2 Basic Plan

The goal of this project is to improve the rehabilitative services in Azerbaijan. This project aims at helping the handicapped persons become autonomous and reintegrate to the society through improvement or establishment of the three (3) facilities (the Republican Rehabilitation Center, the Children Rehabilitation Center, and the Sanatorium) under the control of the Ministry of Labor and Social Protection of Population.

This project shall contribute not only toward compensating for the present conditions of the rehabilitative services. Moreover, the new rehabilitative therapy, which is effective and accomplished in the future, shall be adopted in this project.

(1) Overall plan

The Ministry of Labor and Social Protection of Population takes the lead in promoting the plan for improvement of rehabilitative services in "the Government Program on Disability Reduction and Rehabilitation". There are three (3) top referral facilities in the Baku metropolitan, which are the Republican Rehabilitation Center, and the Children Rehabilitation Center and the Sanatorium under construction. And, seven (7) regional rehabilitation centers shall be established in local cities all over the country. By making practical use of these facilities, such system of the rehabilitative care shall be formed that the handicapped persons may be able to perform the daily life activity by themselves and reintegrate to the society.

(2) Equipment plan

1) Selection of equipment

The equipment to be procured was selected according to the following principles; "Basic criteria for giving high/low priority", and "Additional criteria after consideration of the local conditions". The

equipment plan was elaborated in consideration of the targets of the superordinate programs and the goal of this project. The result of equipment selection at the field survey is attached to the Minutes of the Basic Design Study (16/OCT/2001).

Further analysis was made in Japan. The adequacy, necessity and allocation quantity of the requested equipment were examined. The result is shown in Table 2-2-1 "Equipment Plan".

[Basic criteria for selection of equipment]

1. Criteria for giving high priority

- ① Equipment that is to be a replacement of the existing but old equipment.
- ② Equipment that is to be a supplement to the equipment in shortage.
- ③ Equipment that is indispensable for basic medical services in the designated facility.
- ④ Equipment that is easy to operate and maintain.
- ⑤ Equipment that may give much benefit and effect to the designated facility.
- ⑥ Equipment that is highly cost-effective.
- ⑦ Equipment that is proved for its medical usefulness and necessity.

2. Criteria for giving low priority

- ① Equipment that requires high operation and maintenance cost.
- ② Equipment that has limited benefit and effect to the designated facility.
- ③ Equipment that is low cost-effective.
- ④ Equipment that is not used for diagnosis and treatment, but for academic research purpose.
- 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 proved for its medical usefulness and necessity.
- ⑧ Equipment that is not for medical use but for private usage by the facility staff.
- ⑨ Equipment that the designated facility has more than minimum required quantity (inefficient or redundant equipment).

[Additional criteria after consideration of the local conditions]

1. Criteria for giving high priority

- ① Equipment that can be operated by the current technical capabilities of the designated facility.
- ② Equipment that is or is to be maintained by the facility staff or an outside trustee who is entrusted by the designated facility.
- ③ Equipment that matches with the social position and function of the designated facility (referral system and local needs).
- ④ Equipment that usefulness can be expected also in cooperation with other donor.
- ⑤ Equipment necessary for introduction of the new rehabilitation concept.

2. Criteria for giving low priority

- ① Equipment that the spare parts and consumables are difficult to locally procure.
- ② Equipment that cannot be operated by the current technical capability of the designated facility.
- ③ Equipment that does not match with the social position and function of the designated facility (referral system and local needs).
- ④ Equipment that requires large scope of infrastructure work (water and power supply, drainage, etc.) for its installation.

- ⑤ Equipment that can be substituted by efficient usage of the existing equipment.

After examination through the above-stated criteria, a comprehensive assessment is given to each of the equipment.

Comprehensive assessment:

- Equipment of which the procurement is admitted to be appropriate.
- × Equipment that is not included in the project.

Table 2-1 Equipment plan

Republican rehabilitation Center in Baku

Item No.	Description	Required Qty	Basic Criteria																Additional Criteria				Priority listed in Minutes		Results										
			Criteria for giving High Priority							Criteria for giving Low Priority									Criteria for giving High				Criteria for giving Low				Evaluation	Quantity Planned							
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	12	10	11	12			13	14	A	c			
Dignostic																																			
D-1	X-ray Unit	2																													2	0		2	
D-2	Ultrasound Scanner	3																														1	2		1
D-3	Electrocardiograph	2																														1	1		1
D-4	Electroencephalograph	2																														1	1		1
D-5	Reograph	2																														1	1		1
D-6	Spirometer	5																														1	4		1
D-7	Spectrophotometer	1																														1	0		1
D-8	EMG	1																														1	0		1
D-9	Portable Defibrillator	1																														1	0		1
D-10	Hot Air sterilizer	1																														1	0		1
D-13	Car for disabled person	1																														1	0		1
D-14	Dark room equipment for X-ray	-																														1	0		2
Dental																																			
D-11	Dental Unit	1																														1	0		1
D-12	Dental X-ray	1																														1	0		1
D-15	Dental treatment equipment	-																														1	0		1
PHYSIOTHERAPY																																			
P-1	Electric traction	1																														1	0		1
P-2	Low Frequency Therapy	2																														2	0		2
P-3	Interferential Therapy	2																														2	0		2
P-4	Microwave Therapy	2																														2	0		2
P-5	Shortwave Therapy	2																														2	0		2
P-6	Ultrasound Therapy	2																														2	0		2
P-7	Ultraviolet & Interfered Therapy	2																														0	2	x	0
P-8	Interfered lamp	2																														2	0		2
P-9	Ultraviolet Lamp	2																														2	0		2
P-10	Treatment Table	5																														7	0		7
P-11	Paraffin Bath	2																														2	0		2
P-12	Hot Pack Unit	2																														2	0		2
P-13	Pack Wagon	2																														2	0		2
P-14	Low Frequency & Electroheat pack Therapy unit	4																														2	2		2
P-15	Automatic Air massager	4																														0	4	x	0
P-16	Infrared Ray Energy and Thermal Stimulation star Beam	5																														1	4		1
P-17	Ultrasound Unit, Two Channel Desktop	5																														0	5	x	0
THERPEUTIC EXERCISE																																			
T-1	Multi Station with Wire Net	1																														1	0		1
T-2	Training Bed	5																														2	3		2
T-3	Rotary Wrist Machine	1																														0	1	x	0
T-4	Wrist Roll	1																														0	1	x	0
T-5	Shoulder Wheel	1																														1	0		1
T-6	Shoulder Ladder, Bent	1																														0	1	x	0
T-7	Chest pulley	1																														0	1	x	0
T-8	Wall stall Bars	4																														4	0		4
T-9	Curved Back Board Exerciser	1																														0	1	x	0
T-10	Bicycle Exerciser	3																														3	0		3
T-11	Restator	1																														0	1	x	0
T-12	Lower Limb Extension & Exerciser Chair	1																														0	1	x	0
T-13	Quadriceps Table	1																														0	1	x	0
T-14	Ankle & Leg Exerciser	1																														0	1	x	0
T-15	Rowing Machine	1																														0	1	x	0
T-16	Electric Tilt Table	1																														0	1	x	0
T-17	Parallel Bars	2																														1	1		1
T-18	Posture Training Mirror	1																														2	0		2
T-19	Curb Blocks	2																														2	0		2
T-20	Exercise Stairs	1																														1	0		1
T-21	Mat Platform	2																														2	0		2
T-22	Training Mat	10																														10	0		10
T-23	Dumbbell with Rack	2																														2	0		2
T-24	Musclematic Weight	2																														2	0		2
T-25	Cart for Musclematic weight	1																														1	0		1
T-26	Remover	5																														0	5	x	0
T-27	Ankle Exercise Sandal with Bar	4																														4	0		4
T-28	Alternate Traction Pyllel Exerciser	4																														2	2		2
T-29	Sling & spring Suspension	4																														2	2		2
T-30	Holding Mitt	4																														4	0		4
T-31	Ankle Exercise Cuff	5																														3	2		3
T-32	Mat Platform	15																														0	15	x	0
T-33	Musclematic Weight	5																														0	5	x	0
T-34	Expander	10																														0	10	x	0
T-35	Barbell	5																														0	5	x	0
T-36	Timer	10																														6	4		6
T-37	Medicine Ball</																																		

Republican rehabilitation Center in Baku

Item No.	Description	Require d Q'ty	Basic Criteria																Additional Criteria				Priority listed in Minutes		Resulte										
			Criteria for giving High Priority							Criteria for giving Low Priority									Criteria for giving High				Criteria for giving Low				A	c	Evaluati on	Quantity Planned					
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	12	10	11	12					13	14			
O-3	Hydraulic Work Table	1			○														○	○									2	0	○	2			
O-4	Electric Jig Saw	2																					○							0	2	×	0		
O-5	Weaving Machine	2																					○							0	2	×	0		
O-6	Wood Work Training Set	3																					○							0	3	×	0		
O-7	Treadle Jig Saw	4																					○							0	4	×	0		
O-8	LeatherCraft Set	5																					○							0	5	×	0		
O-9	Octagon work Table	3																					○							0	3	×	0		
HYDRO THERAPY																																			
H-1	Bath with lift	2			○																	○	○							2	0	○	2		
H-2	Whirlpool Bath for Full Body	2			○																		○	○						2	0	○	2		
H-3	Whirlpool Bath for Arms&Legs	1			○																		○	○						1	1	○	1		
H-4	Hydro Bubbler for full Body	1														○														0	1	×	0		
H-5	Bubbler	4			○																		○	○						4	0	○	4		
H-6	Pressure hose set	-	○																				○	○						1	0	○	1		
EVALUATION																																			
E-1	Forward Flexmeter	4	○																				○	○	○					2	2	○	2		
E-2	Weight Measure	5	○																				○	○	○					4	1	○	4		
E-3	Height Measuring Gauge	5	○	○																				○	○	○					4	1	○	4	
E-4	Hand Evaluation Set	5														○											○			0	5	×	0		
E-5	Goniometer Set	10			○																			○	○	○					2	8	○	2	
E-6	Digital Hemadinamometer	20	○																					○	○	○					15	5	○	15	
E-7	Spirometer	10			○																			○	○	○					3	7	○	3	
E-8	Peg Board(Set of)	5			○																			○	○	○					3	2	○	3	
E-9	Step Simple Test for Evaluating Hand Function	5			○																			○	○	○					3	2	○	3	
E-10	Dynamometer	-			○																			○	○	○					2	0	○	2	
POSITIONING																																			
PO-1	Wedge	3																									○				0	3	×	0	
PO-2	Walker	10			○																			○	○	○					10	0	○	10	
PO-3	Infant Walker	10																									○				0	10	×	0	
PO-4	Invalid Walkers	10			○																			○	○	○					5	5	○	5	
PO-10	Crutch for adult	-			○																			○	○	○					10	-	○	10	
PO-11	Forearm Crutch for Adult	-			○																			○	○	○					10	-	○	10	
PO-12	Quad Can	-			○																			○	○	○					10	-	○	10	
PO-13	Wheelchair, Adult	-			○																			○	○	○					10	-	○	10	
TREADMILL																																			
TR-1	Sports Treadmill	3																										○				0	3	×	0
TR-2	Treadmill	4																										○				0	4	×	0
Others																																			
EX-1	Automatic Voltage	-																													-	-	○	30	
EX-2	Automatic Voltage	-																														-	-	○	15
EX-3	Automatic Voltage	-																														-	-	○	1
Total		349																													211	189		258	

Sanatorium

Item No.	Description	Required Q'ty	Basic Criteria																	Additional Criteria				Priority listed in Minutes		Resulte							
			Criteria for giving High Priority							Criteria for giving Low Priority										Criteria for giving High Priority				Criteria for giving Low Priority				A	C	Evalua tion	Quantity Planned		
			1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	8	9	10	11	12	10	11	12	13	14					
O-2	Standing Table	2			○														○	○	○							2	0	○	2		
O-3	Hydraulic Work Table	2			○														○	○	○							2	0	○	2		
O-4	Electric Jig Saw	2			○																		○					0	2	×	0		
O-5	Weaving Machine	2																						○				0	2	×	0		
O-6	Wood Work Training Set	3																						○				0	3	×	0		
O-7	Treadle Jig Saw	4																						○				0	4	×	0		
O-8	LeatherCraft Set	5																						○				0	5	×	0		
O-9	Octagon work Table	3																						○				0	3	×	0		
HYDRO THERAPY																																	
H-1	Bath with lift	2			○															○	○	○							2	0	○	2	
H-2	Whirlpool Bath for Full Body	2			○															○	○	○							2	0	○	2	
H-3	Whirlpool Bath for Arms&Legs	2			○															○	○	○							1	1	○	1	
H-4	Hydro Bubbler for full Body	2														○													0	2	×	0	
H-5	Bubbler	4			○															○	○	○							4	0	○	4	
EVALUATION																																	
E-1	Forward Flexmeter	4			○															○	○	○							2	2	○	2	
E-2	Weight Measure	5			○															○	○	○							4	1	○	4	
E-3	Height Measuring Gauge	5			○															○	○	○							4	1	○	4	
E-4	Hand Evaluation Set	5											○																0	5	×	0	
E-5	Goniometer Set	10			○															○	○	○							2	8	○	2	
E-6	Digital Hemadinamometer	20			○															○	○	○							15	5	○	15	
E-7	Spirometer	10			○															○	○	○							3	7	○	3	
E-8	Peg Board(Set of)	5			○															○	○	○							3	7	○	3	
E-9	Step Simple Test for Evaluating Hand Function	5			○															○	○	○							3	2	○	3	
E-10	Dynamometer	-			○															○	○	○							2	0	○	2	
POSITIONING																																	
PO-1	Wedge	3																							○				0	3	×	0	
PO-2	Walker	10			○															○	○	○							10	0	○	10	
PO-3	Infant Walker	10																							○				0	10	×	0	
PO-4	Invalid Walkers	10			○															○	○	○							5	5	○	5	
PO-10	Crutch for adult	-			○															○	○	○							10	-	○	10	
PO-11	Forearm Crutch for Adult	-			○															○	○	○							10	-	○	10	
PO-12	Quad Can	-			○															○	○	○							10	-	○	10	
PO-13	Wheelchair, Adult	-			○															○	○	○							10	-	○	10	
TREADMILL																																	
TR-1	Sports Treadmill	3																								○				0	3	×	0
TR-2	Treadmill	4																								○				0	4	×	0
Others																																	
EX-1	Automatic Voltage	-																							○				-	-	○	30	
EX-2	Automatic Voltage	-																							○				-	-	○	13	
EX-3	Automatic Voltage	-																							○				-	-	○	1	
Total		341																												207	188		253

2) Allocation plan of equipment

Based on the examination and assessment of the requested equipment as above, the equipment to be procured in the project is listed in Table 2-2-2 "Request equipment and final allocation of equipment" and Table 2-2-3 "List of equipment to be procured at every facility".

Table 2-2-2 Request and final allocation of equipment

Facility Name	Department	Final Request				Final allocation of equipment			
			Type		Pcs		Type		Pcs
Republican Rehabilitation Center	Dignostic	11	Type	21	Pcs	12	Type	14	Pcs
	Dental	2	"	2	"	3	"	3	"
	Physiotherapy	17	"	46	"	14	"	31	"
	Therpeutic exercise	38	"	139	"	21	"	57	"
	Occupational Therapy	9	"	22	"	2	"	4	"
	Hydro Therapy	5	"	10	"	5	"	10	"
	Evaluation	9	"	69	"	9	"	38	"
	Positioning	4	"	33	"	6	"	55	"
	Treadmill	2	"	7	"	0	"	0	"
	Others(AVR)					3	"	46	"
	Sub-total	97	"	349	"	75	"	258	"
Sanatorium	Dignostic	11	Type	11	Pcs	12	Type	12	Pcs
	Dental	0	"	0	"	3	"	3	"
	Physiotherapy	16	"	45	"	13	"	31	"
	Therpeutic exercise	38	"	139	"	21	"	57	"
	Occupational Therapy	9	"	25	"	2	"	4	"
	Hydro Therapy	5	"	12	"	4	"	9	"
	Evaluation	9	"	69	"	9	"	38	"
	Positioning	4	"	33	"	6	"	55	"
	Treadmill	2	"	7	"	0	"	0	"
	Others(AVR)					3	"	44	"
	Sub-total	94	"	341	"	73	"	253	"
Children Rehabilitation Center	Dignostic	11	Type	18	Pcs	12	Type	13	Pcs
	Dental	0	"	0	"	3	"	3	"
	Physiotherapy	17	"	45	"	14	"	31	"
	Therpeutic exercise	38	"	139	"	33	"	75	"
	Occupational Therapy	9	"	25	"	1	"	2	"
	Hydro Therapy	5	"	12	"	4	"	9	"
	Evaluation	9	"	69	"	9	"	38	"
	Positioning	4	"	33	"	7	"	55	"
	Treadmill	2	"	7	"	0	"	0	"
	Others(AVR)					3	"	45	"
	Sub-total	95	"	348	"	86	"	271	"
Grand Total		286	Type	1,038	Pcs	234	Type	782	Pcs

Table 2-2-3 Procurement equipment list

Item No.	Description	Republican rehabilitation Center in Baku	Sanatorium	Children Rehabilitation Center	Total Quantity
		Quantity	Quantity	Quantity	
	Dignostic				
D-1	X-ray Unit	2	1	1	4
D-2	Ultrasound Scanner	1	1	1	3
D-3	Electrocardiograph	1	1	1	3
D-4	Electroencephalograph	1	1	1	3
D-5	Reograph	1	1	1	3
D-6	Spirometer	1	1	2	4
D-7	Spectrophotometer	1	1	1	3
D-8	EMG	1	1	1	3
D-9	Portable Defibrillator	1	1	1	3
D-10	Hot Air sterilizer	1	1	1	3
D-13	Car for disabled person	1	1	1	3
D-14	Dark room equipment for X-ray	2	1	1	4
	Dental				
D-11	Dental Unit	1	1	1	3
D-12	Dental X-ray	1	1	1	3
D-15	Dental treatment equipment	1	1	1	3
	PHYSIOTHERAPY				
P-1	Electric traction	1	1	1	3
P-2	Low Frequency Therapy	2	2	2	6
P-3	Interferential Therapy	2	2	2	6
P-4	Microwave Therapy	2	2	2	6
P-5	Shortwave Therapy	2	2	2	6
P-6	Ultrasound Therapy	2	2	2	6
P-8	Infrared lamp	2	2	2	6
P-9	Ultraviolet Lamp	2	2	2	6
P-10	Treatment Table	7	7	7	21
P-11	Paraffin Bath	2	2	2	6
P-12	Hot Pack Unit	2	2	2	6
P-13	Pack Wagon	2	2	2	6
P-14	Low Frequency & Electroheat pack Therapy unit	2	2	2	6
P-16	Infrared Ray Energy and Thermal Stimulation Beam	1	1	1	3
	THERPEUTIC EXERCISE				
T-1	Multi Station with Wire Net	1	1	1	3
T-2	Training Bed	2	2	2	6
T-5	Shoulder Wheel	1	1	1	3
T-8	Wall stall Bars	4	4	4	12
T-10	Bicycle Exerciser	3	3	3	9
T-17	Parallel Bars	1	1	1	3
T-18	Posture Training Mirror	2	2	2	6
T-19	Curb Blocks	2	2	2	6
T-20	Exercise Stairs	1	1	1	3
T-21	Mat Platform	2	2	2	6
T-22	Training Mat	10	10	10	30
T-23	Dumbbell with Rack	2	2	2	6
T-24	Musclematic Weight	2	2	2	6
T-25	Cart for Musclematic weight	1	1	1	3

Item No.	Description	Republican rehabilitation Center in Baku	Sanatorium	Children Rehabilitation Center	Total Quantity
		Quantity	Quantity	Quantity	
T-27	Ankle Exercise Sandal with Bar	4	4	4	12
T-28	Alternate Traction Pulley Exerciser	2	2	2	6
T-29	Sling & spring Suspension	2	2	2	6
T-30	Holding Mitt	4	4	4	12
T-31	Ankle Exercise Cuff	3	3	3	9
T-36	Timer	6	6	6	18
T-37	Medicine Ball	2	2	-	4
T-39	Tilt Table, Child	-	-	2	2
T-40	Parallel Bars, Child	-	-	2	2
T-41	Exercise Stairs, Child	-	-	2	2
T-42	Wedge	-	-	1	1
T-44	Bubble Ball Bath	-	-	1	1
T-45	Rolls	-	-	1	1
T-46	Barrel Roll	-	-	2	2
T-47	Rocker Balance	-	-	2	2
T-48	Training Ball	-	-	1	1
T-49	Maintenance Kit	-	-	2	2
T-50	Deck Quoits	-	-	2	2
T-51	Tool set for perception and cognition	-	-	1	1
T-52	Exteria playing kit for child	-	-	1	1
OCCUPATIONAL THERAPY					
O-2	Standing Table	2	2	-	4
O-3	Hydraulic Work Table	2	2	2	6
HYDRO THERAPY					
H-1	Bath with lift	2	2	2	6
H-2	Whirlpool Bath for Full Body	2	2	2	6
H-3	Whirlpool Bath for Arms&Legs	1	1	1	3
H-5	Bubbler	4	4	4	12
H-6	Pressure hose set	1	-	-	1
EVALUATION					
E-1	Forward Flexmeter	2	2	2	6
E-2	Weight Measure	4	4	4	12
E-3	Height Measuring Gauge	4	4	4	12
E-5	Goniometer Set	2	2	2	6
E-6	Digital Hemadinamometer	15	15	15	45
E-7	Spirometer	3	3	3	9
E-8	Peg Board Set	3	3	3	9
E-9	Simple Test for Evaluating Hand Function	3	3	3	9
E-10	Dynamometer	2	2	2	6
POSITIONING					
PO-2	Walker	10	10	10	30
PO-4	Invalid Walkers	5	5	5	15
PO-5	Walkerette for child	-	-	5	5
PO-6	Fixed Walker for child	-	-	5	5
PO-7	Forearm Crutch for child	-	-	10	10
PO-8	Crutch for child	-	-	10	10
PO-9	Wheelchair, Child	-	-	10	10
PO-10	Crutch for adult	10	10	-	20
PO-11	Forearm Crutch for Adult	10	10	-	20

Item No.	Description	Republican rehabilitation Center in Baku	Sanatirium	Children Rehabilitation Center	Total Quantity
		Quantity	Quantity	Quantity	
PO-12	Quad Cane	10	10	-	20
PO-13	Wheelchair, Adult	10	10	-	20
	Others				
EX-1	Automatic Voltage Regulator(1.0KVA)	30	30	31	91
EX-2	Automatic Voltage Regulator(2.0KVA)	15	13	13	41
EX-3	Automatic Voltage Regulator(3.0KVA)	1	1	1	3
Total		258	253	271	782

3) Specifications of the main equipment

The specifications of the main equipment to be procured in this project are shown in the following Table 2-2-4.

Table 2-2-4 Specifications of main equipment

No	Item No	Discription	Main Spec	Level	Q`ty	Purpose
1	D-1	X-ray unit	Inverter model X-ray tube: 600mA 40-150Kv Timer: 0-99Min With X-ray table with Bukey table with Step for Pediatrics	Standard model	4	Will be installed at the X-ray room. This system is used for simple radiography of the whole body of a patient. The radiograms obtained are used for diagnosis of born fracture, pulmonary disease, cardiovascular disease, encephalopathy, etc. For obtaining clear images, the radiographic table and stand employed will be the bucky type
2	D-2	Ultrasound Scanner	Scanning type: Linear, Convex, Image mode: B.M.B/M Monitor: W/B Linear probe: 5.0-7.5Mhz Convex probe: 2.5-5.5Mhz Transvaginal probe: 4.0-8.0Mhz	Standard model	3	Ultrasonic waves are irradiated upon the human body, and echoes are analyzed to obtain an image of internal structures. Namely, by detecting and observing the echoes, we can interpret the morphology of a specific lesion or the characteristics of affected tissue, etc., which enables us to diagnose the patient.
3	D-4	Electroencephalograph	Number of channel: 16 Input: 25 other input: 8 Frequency response: 300Hz with Display	Standard model	3	Used for measuring the electric portential generated in the brain and for diagnosis of encephalopathy.
4	D-5	Reograph	Measurement channel: Blood flow, ECG Ellectric Current: 1mA, 100Khz Withcomputer analyzer	Standard model	3	Use for measuring the blood flow of the human body
5	D-7	Spectrophotometer	Range: 5nm Measurement range: 300-1000nm Measurement accuracy: 1.0nm with Display	Standard model	3	Necessary for clinical tests: diagnosis of patient conditions, measurement of important biochemical elements .
6	D-8	EMG	Input channel : 4 Input impedance $\geq 1000M \Omega$ A/D converter: 16bits Conversion speed: 10 μ s/channel Stimulation modes: Single, Double, Train	Standard model	3	Necessary equipment for examine of muscular trouble
7	D-9	Portable Defibrillator	Output Energy: 10-360J Charge time: less than 10 sec to 360J External Paddels(adult,pediatrics) within Hart rate display:	Standard model	3	An emergency device indispensable of patients suffering from cardiac standstill or ventricular difibrillation. It is equipped with a basic cardiographic function,
8	D-11	Dental unit	Main body: Type: Treatment chair built-in type Operating method: Hydraulically Turbine: Air turbine with Air compressor	Standard model	3	It equipment is used for basic treatment in dentistry.
9	D-13	Car for disabled person	Type: One box Cpacity of wheelchair person: 1 Other persons: 5 Engine: diesel type, 2500cc Lift in the back for handycapped persons	Standard model	3	It is used for transportation of disabled person from province to rehabilitation center and others in Baku.

No	Item No	Discription	Main Spec	Level	Q`ty	Purpose
10	D-14	Dark room equipment for X-ray	Protection apron, film cabinet, film hanger, film drier, development tank, hanger support, timer, lamp for darkroom, film illuminator, protection gloves, lead-glass, lead door, Automatic x-ray filme developing machine	Standard model	4	It equipments are used for develop a x-ray film in the dark room
11	D-15	Dental tretment equipment	Forcept for treatment, Table-top sterilizer, Instrument cabinet	Standard model	3	It equipment is used for basic treatment in dentistry. Included table-top sterilizer and instrumnet shelf.
12	P-1	Electric traction unit	Traction: 990N(Max) Mode: 3 kinds Safety Mechanism: Emagency stop switch is built-in. bed: 1 unit Chair: 1 unit	Standard model	3	It is used for basic eaupment for pulling the neck and waist
13	P-3	Interferential Therapy	Cycle: 2500, 4000, 5000Hz Meddling: output: 1to99Hz Timer: 30min(Max)	Standard model	6	It is used for treatment of the affected part.
14	T-52	Exteria playing unit for child	Structure: Slider and Junglegym Materials: FRP, Wood, Metal(Frame)	Standard model	1	It is used for recovery of physical function through the playing
15	H-1	Bath with lift	Main body: FRP Outer: 1600(d)x800(w)x700(h)mm Capacity: 400L built-in lift	Standard model	6	It is used for basically warm bath treatement with lift for disabled person
16	H-2	Whirlpool bath for full body	Main body: FRP Capacity: 230L Jet nozzle: 4places	Standard model	6	It is used for basically warm bath treatement and exercise for disabled person.
17	H-3	Whirlpool bath for Arns & Legs	Main body: FRP Capacity: 100L Jet nozzle : 4places	Standard model	3	It is used for basically warm bath treatement and exercise for disabled person.

- 4) Current conditions of the existing equipment and the expected effect by implementation of this project

This is shown in the following Table 2-2-5.

Table 2-2-5 Current Conditions of the Existing Equipment and the Expected Effect by Implementation of this Project

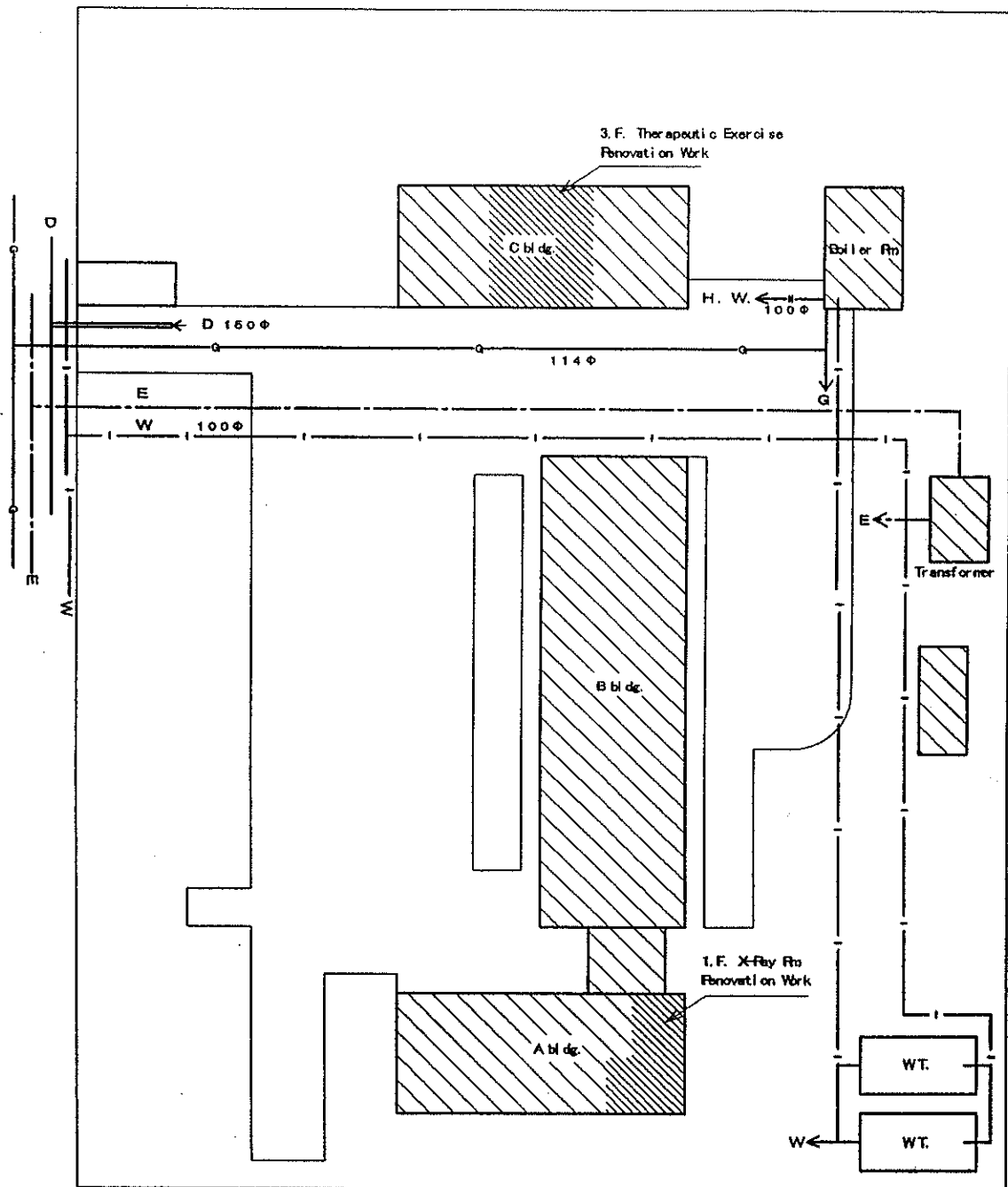
The Republican Rehabilitation Center

Building	Floor	Section	Room	Condition of the Existing Equipment	Equipment to be Procured	Expected Effect	
Administrative Institution (Building A)	1F	Dental	Room No.1	Dental treatment unit x1	Dental unit, Dental treatment equipment	Effective and proper treatment to the patient becomes possible by renewal of the equipment.	
		Ultrasonic Diagnosis	Room No.1	Ultrasound scanner x1	Ultrasound scanner x1	By supplement of the equipment and probe, it enables to examine many more bodily parts than before. Accordingly, the accurate diagnosis becomes possible.	
		Diagnostic	Room No.1	Electrocardiograph, Spirometer, Weight & Height scale	Electrocardiograph, Electroencephalograph, Spirometer, Reograph, EMG, Portable defibrillator, Treatment table, Weight measure, Height measuring gauge, Digital hemadinamometer	The accurate diagnosis on the patient becomes possible by well providing the diagnostic room with the basic equipment.	
		Radiology	Room No.1	X-ray unit, Dental X-ray	X-ray unit, Dental X-ray, Dark room equipment for X-ray	The smooth diagnosis can be made on the patient by renewal of the old equipment.	
	2F	Physiotherapy		Room No.1	Under repair	Microwave therapy, Shortwave therapy, Treatment table	Smooth treatment to the patient becomes possible by supplement of the basic equipment.
				Room No.2	Under repair	Shortwave therapy, Treatment table	Smooth treatment to the patient becomes possible by supplement of the basic equipment.
				Room No.3	Under repair	Treatment table, Paraffin bath, Hot pack unit, Pack wagon, Digital hemadinamometer	Smooth treatment to the patient becomes possible by supplement of the basic equipment.
				Room No.4	Under repair	Infrared ray energy & thermal stimulation star beam, Low frequency & electroheat pack therapy unit, Low frequency therapy	Smooth treatment to the patient becomes possible by supplement of the basic equipment.
				Room No.5	Under repair	Interfared lamp, Ultraviolet lamp, Ultrasound therapy	Smooth treatment to the patient becomes possible by supplement of the basic equipment.
				Room No.6	Under repair	Low frequency therapy, Interferential therapy, Ultraviolet lamp	Smooth treatment to the patient becomes possible by supplement of the basic equipment.
		Therapeutic Exercise	Room No.1	Under repair	Electric tilt table, Wall stall bars, Bicycle exerciser, Parallel bars, Curb blocks, Dumbbell with rack, Musclematic weight, Alternate traction pyller exerciser, Sling & spring suspension, Holding mitt, Ankle exercise cuff, Timer, Medicine ball, Posture training mirror, Mat platform	By supplement of the equipment, it enables to extend treatment to the patient in placing emphasis on therapeutic exercise.	

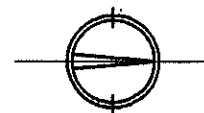
Building	Floor	Section	Room	Condition of the Existing Equipment	Equipment to be Procured	Expected Effect
Building A	3F	Clinical Examination	Room No.1	Centrifuge & Spectrophotometer (Russian-made) × 2, Spectrophotometer (Italian-made) × 1, Binocular microscope × 2	Spectrophotometer, Hot air sterilizer	Renewal of the equipment shortens the time required for biochemical test.
Ward (Building B)	2F	Ward Lounge	Room No.1	Sofa	Invalid walkers, Walker	Motivation of the patient to walk can be promoted by equipping walkers in ward.
	2F	Electric Traction	Room No.1	Electric traction × 1	Electric traction	Smooth treatment to the patient becomes possible by supplement of the basic equipment.
Annex (Building C)	1F	Hydro Therapy	Room No.1	Bathtub ×2	Bath with lift	As this is a bath with lift, physical burden on the patient can be reduced in warm bath therapy.
		Hydro Therapy	Room No.1	None	Whirlpool bath for arms & legs, Whirlpool bath for full body	Smooth treatment to the patient becomes possible by supplement of the basic equipment.
	2F	Functional Test	Room No.1	None	Crutch for adult, Forearm crutch for adult, Forward flexmeter, Weight measure, Height measuring gauge, Goniometer set, Digital hemadinamometer, Spirometer, Peg board, Step simple test for evaluating hand function, Dynamometer, Walker	By supplement of the basic testing apparatus, the effect of rehabilitation can be seen numerically. Therefore, it enables to accurately judge the progress of recovery of the patient.
	3F	Therapeutic Exercise	Room No.2	Exercise bars, Ankle & leg exerciser, Wall stall bars	Multi station with wire net, Shoulder wheel, Wall stall bars, Bicycle exerciser, Posture training mirror, Exercise stairs, Training mat, Ankle exercise sandal with bar, Holding mitt, Dumbbell with rack, Ankle exercise cuff, Timer, Medicine ball	By supplement of the equipment, it enables to extend treatment to the patient in placing emphasis on therapeutic exercise.
	4F	Occupational Therapy	Room No.1	Weaving machine for Rug, Work desk	Standing table, Hydraulic work table	By supplement of work table, the occupational therapy can be smoothly implemented toward the patient in wheelchair.

2-2-3 Equipment Plan

The layout drawings of the main equipment for each project facility are attached in the following pages.



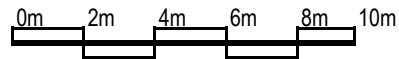
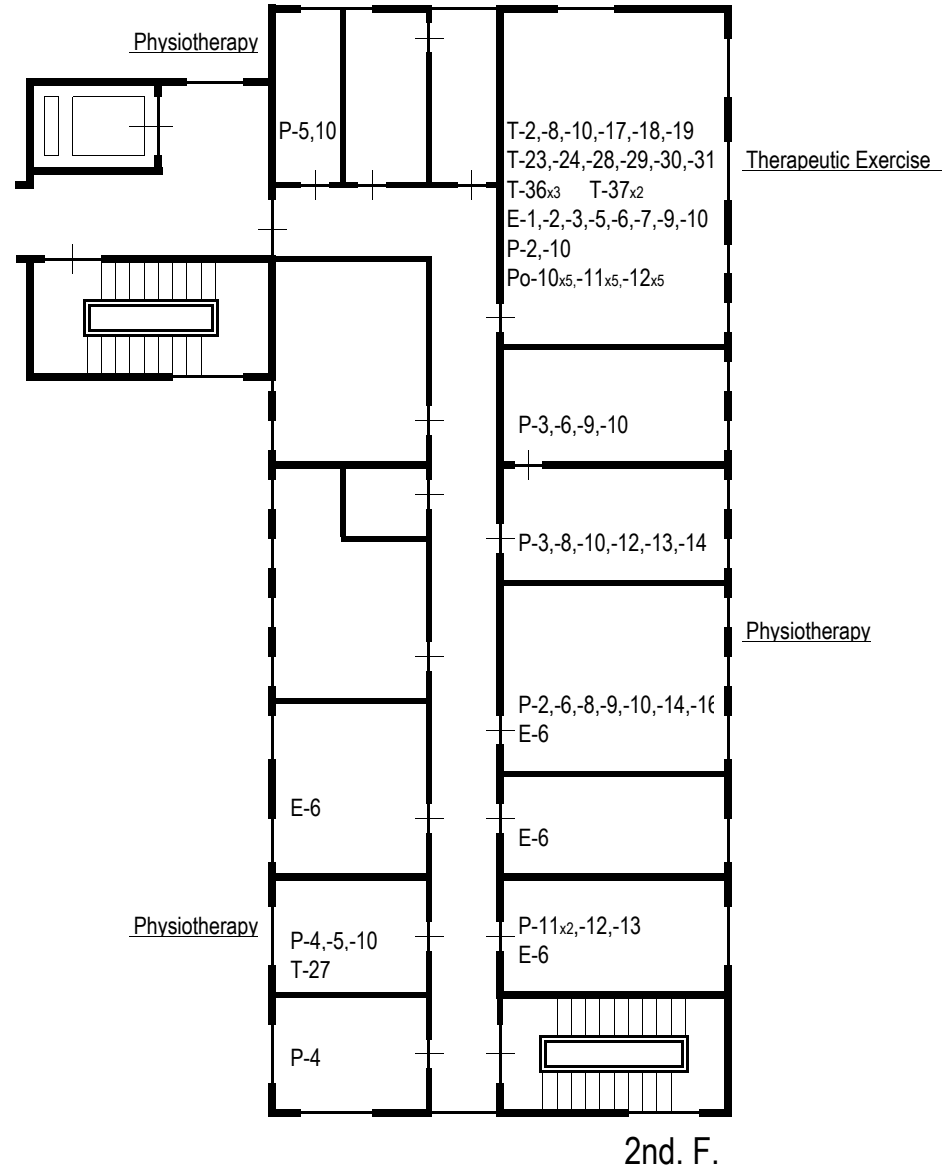
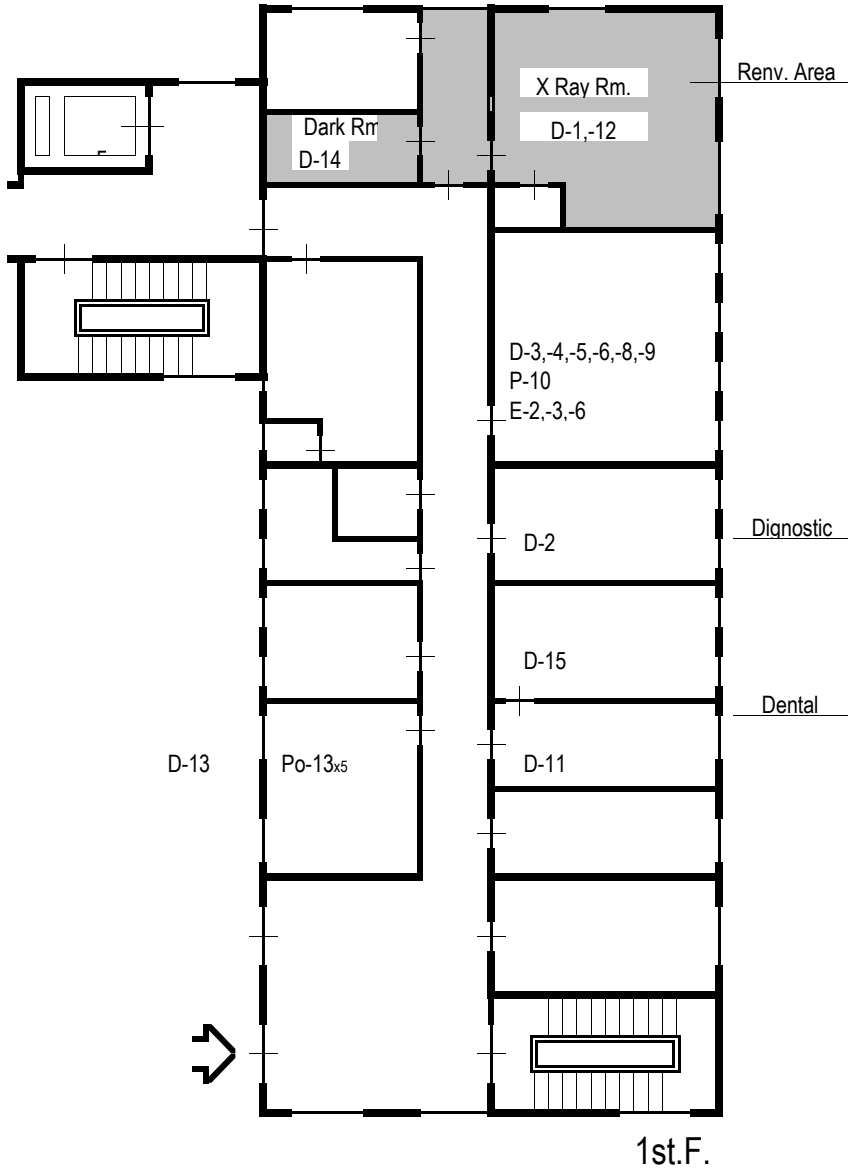
General Explanations		
— —	W	Water Supply Pipe
- - -	H. W.	Hot Supply Pipe
—○—	G	Gas Supply Pipe
- · - · -	E	Electricity Wiring (Underground)
- × - × -	D	Drainage Pipe

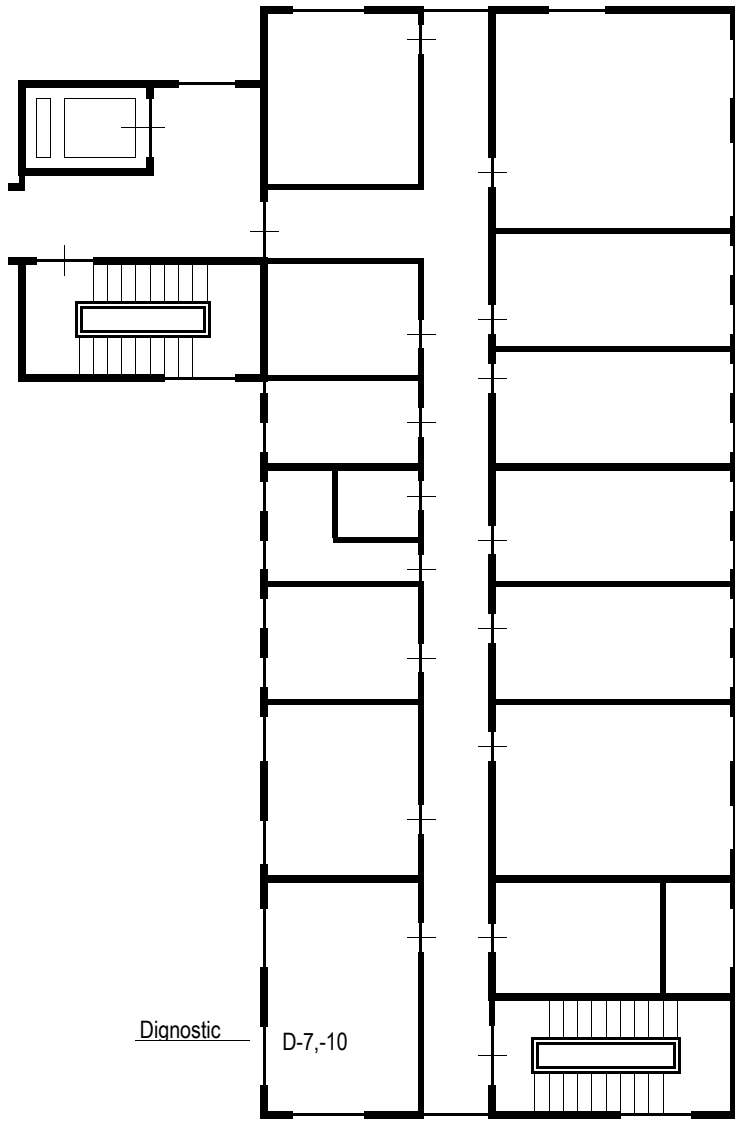


Site Plan

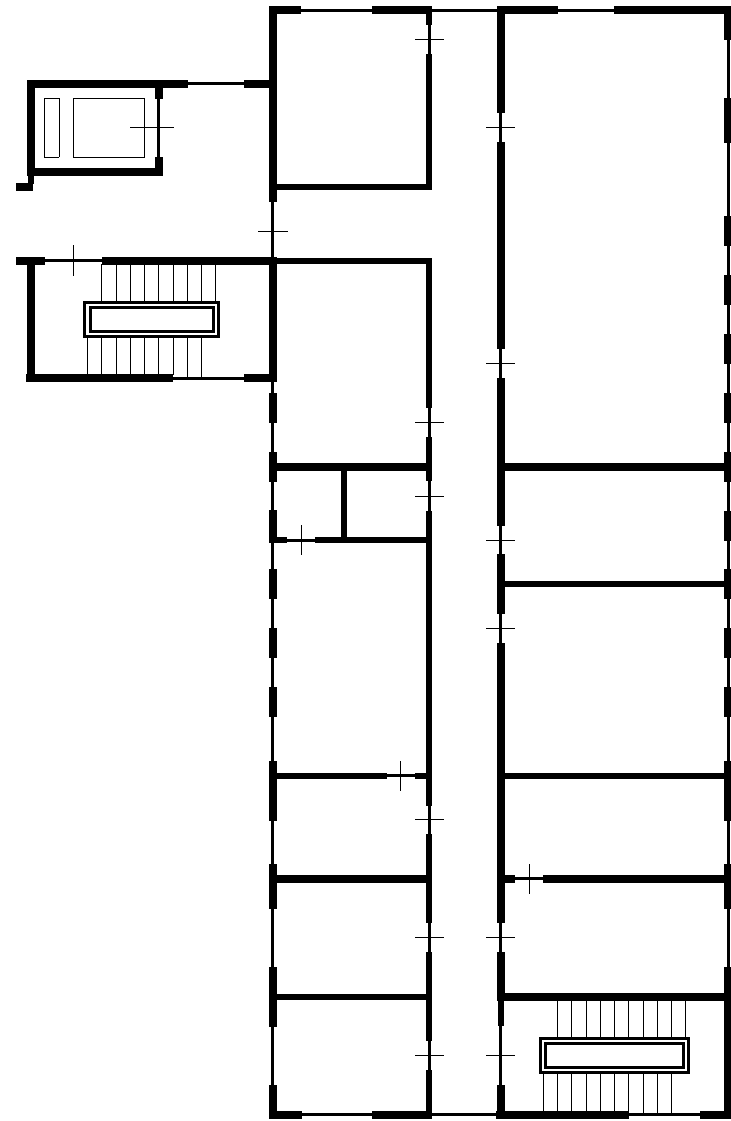
Republican Rehabilitation Center

S=1/800

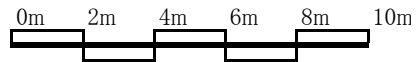




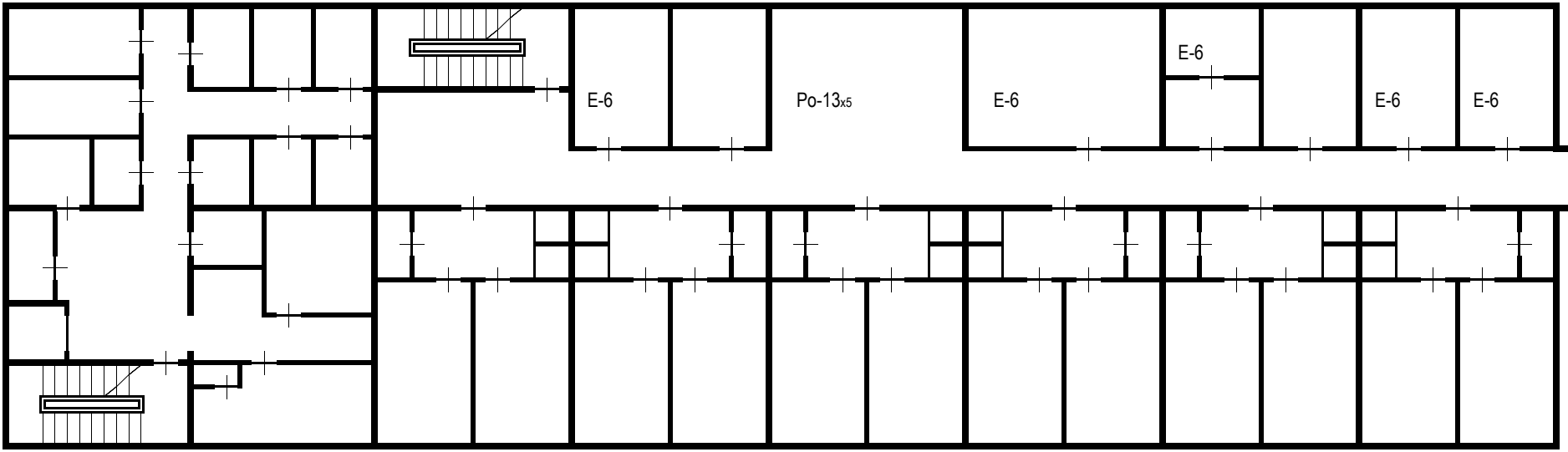
3rd. F.



4th. F.



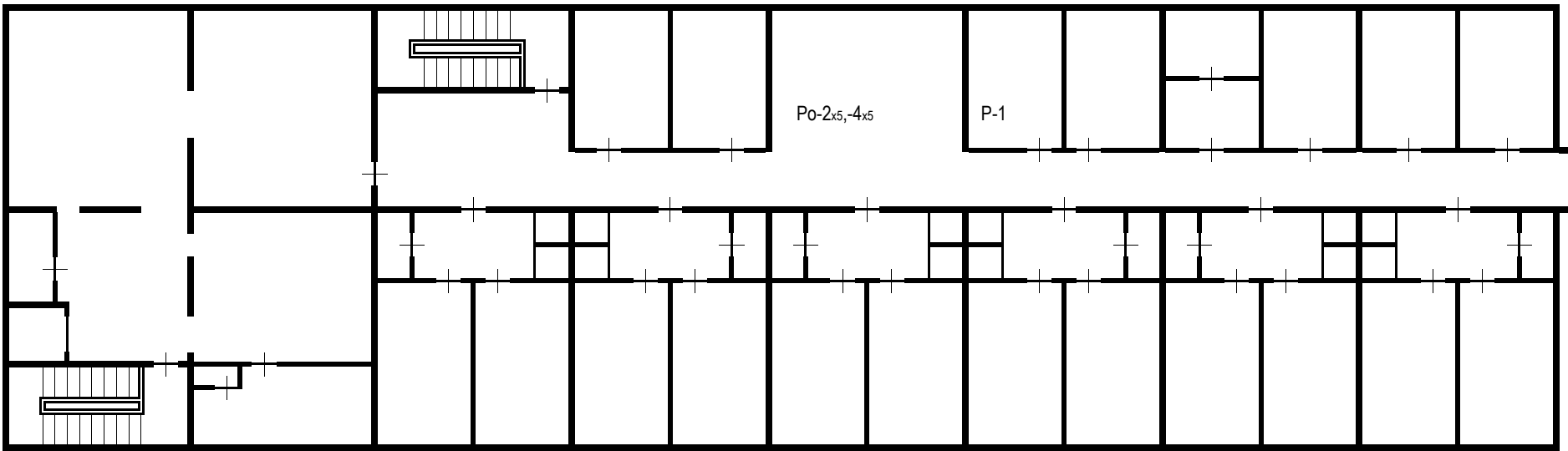
Republican Rehabilitation Center A bldg. S=1: 200



Ward

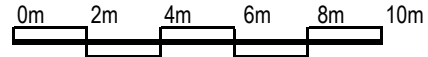
Physiotherapy

1st. F.

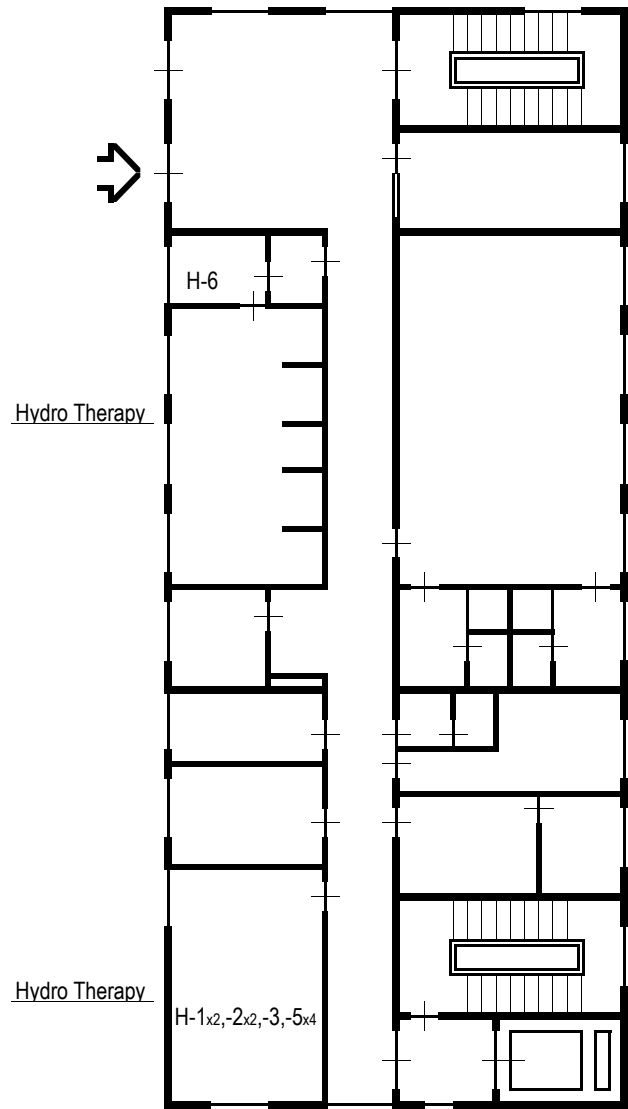


Ward

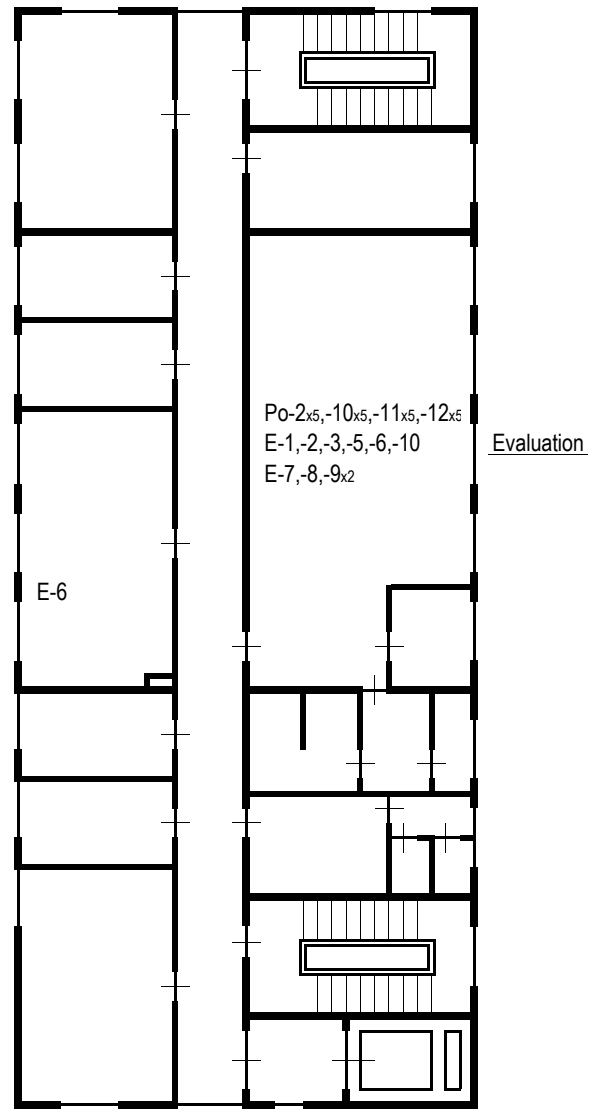
2nd. F.



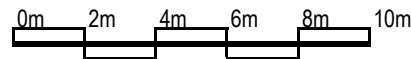
Republican Rehabilitation Center B bldg. S=1:200

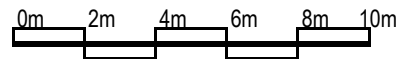
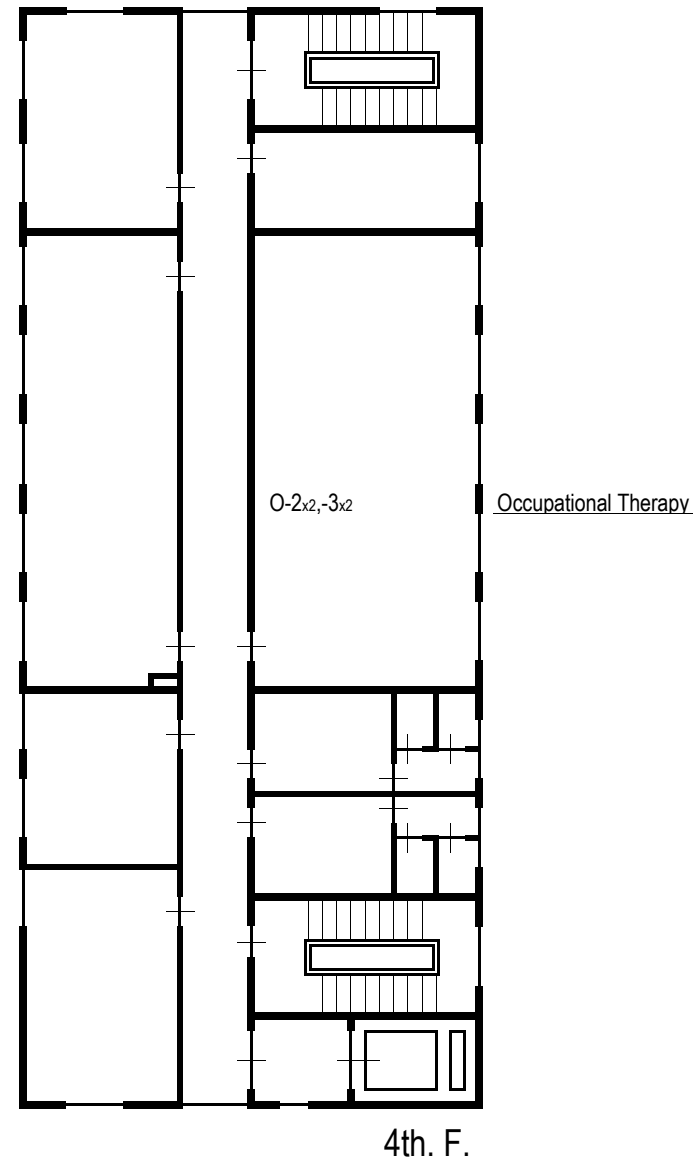
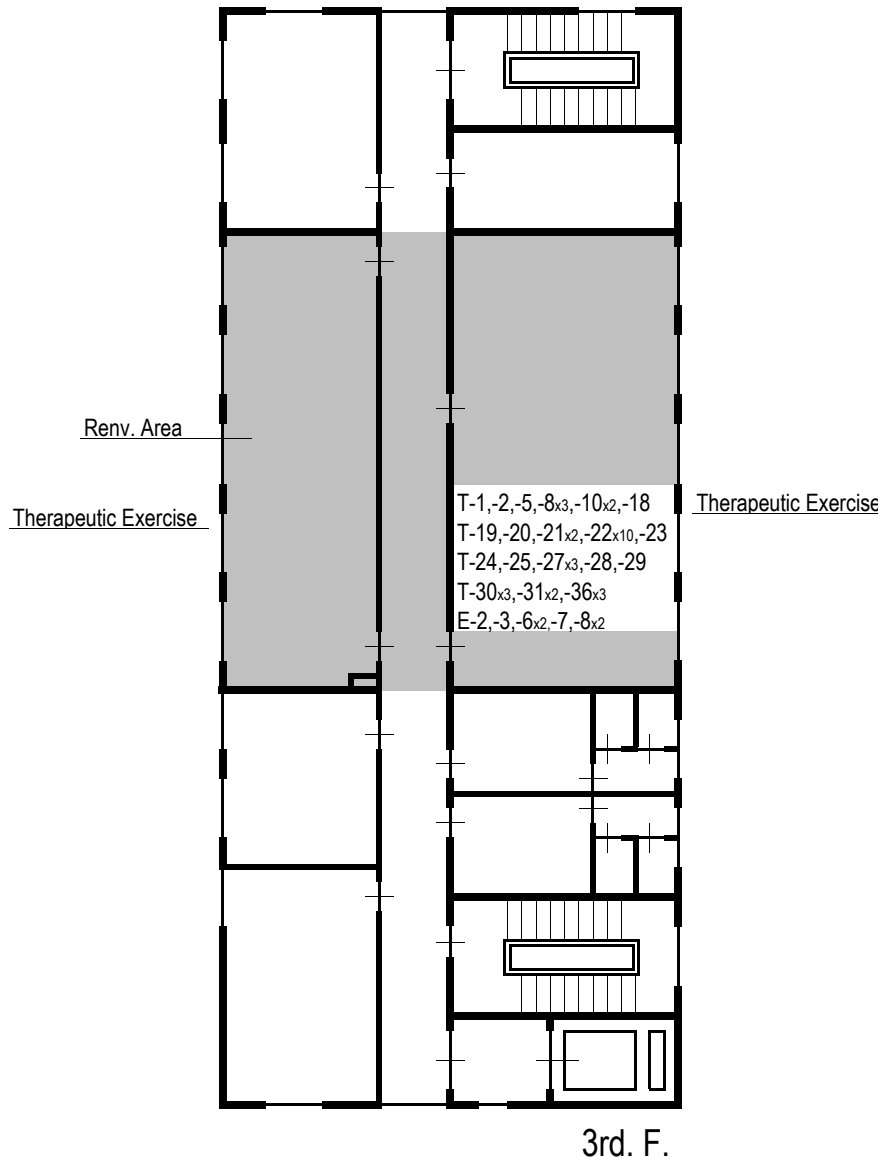


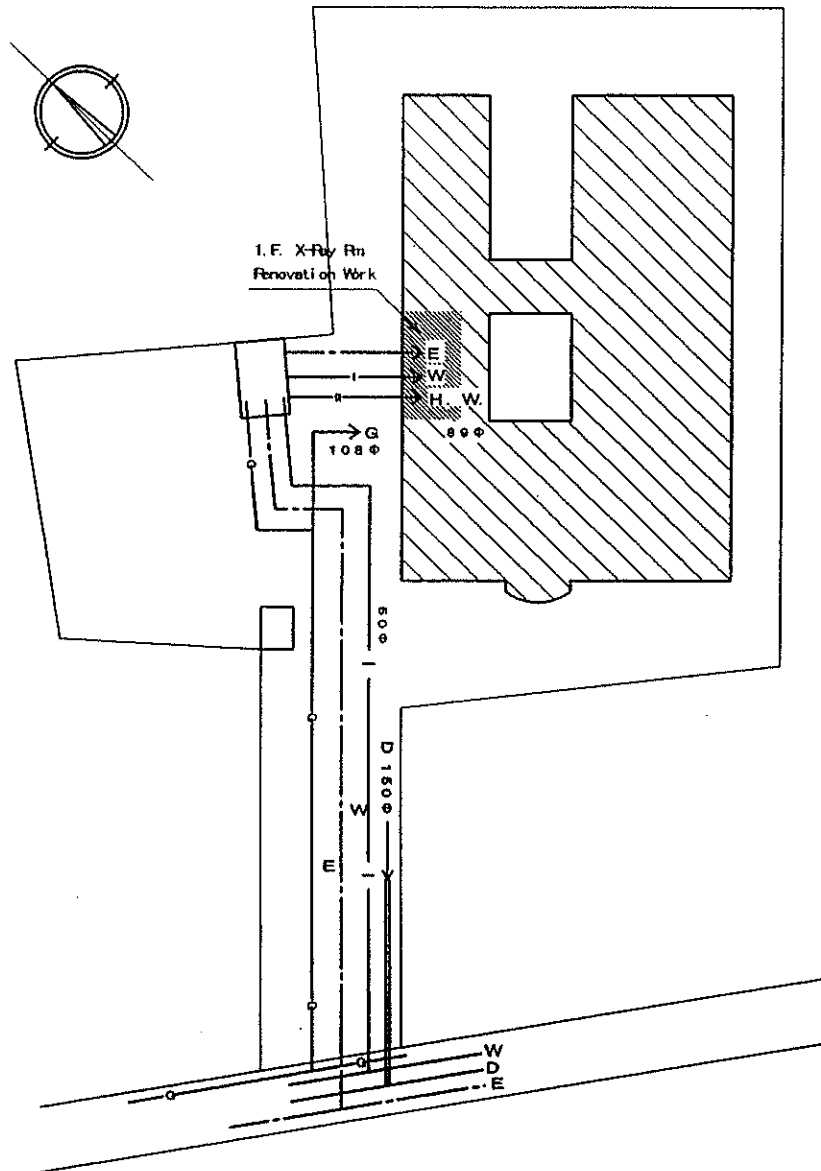
1st. F.



2nd. F.



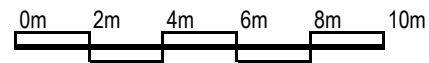
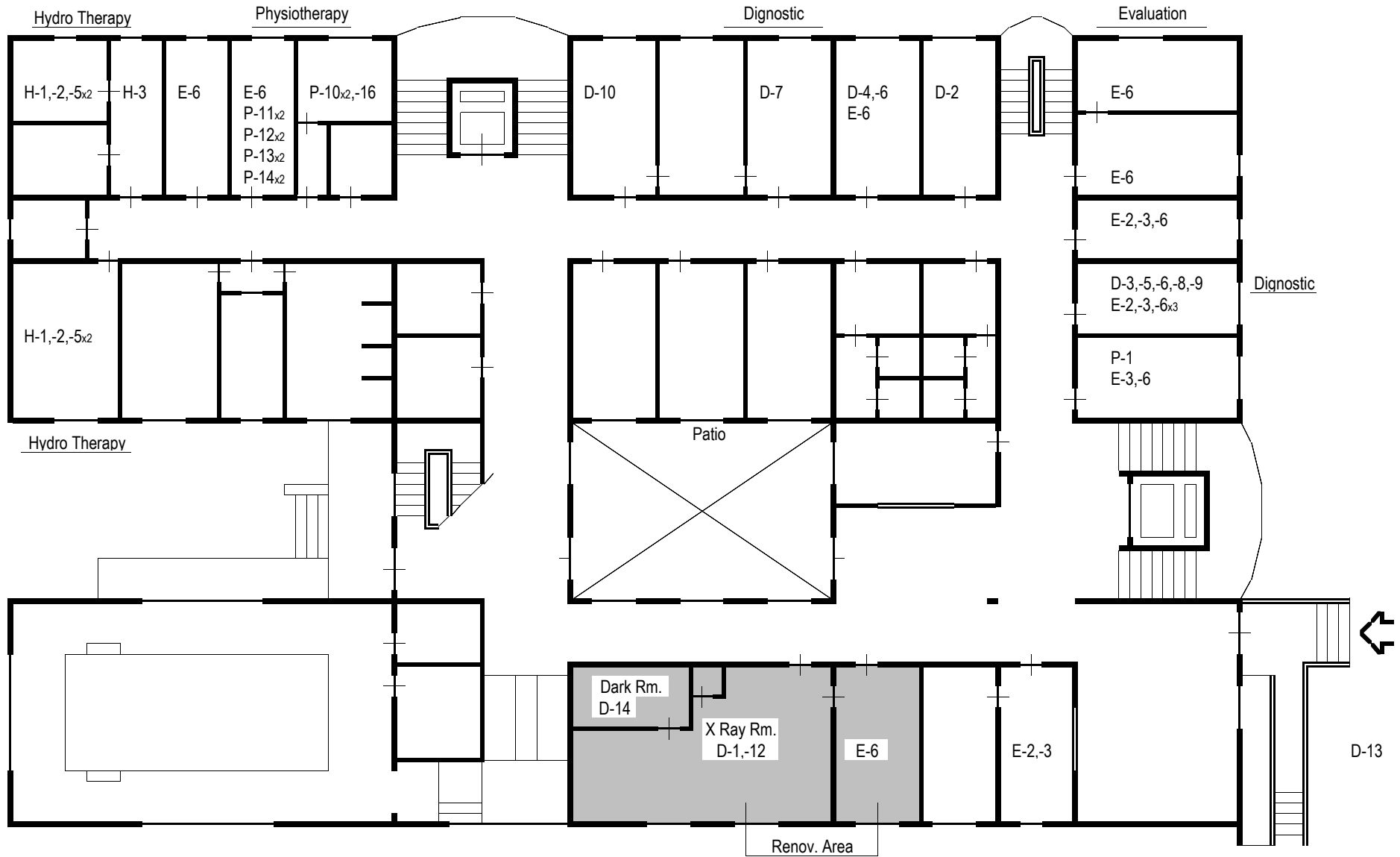




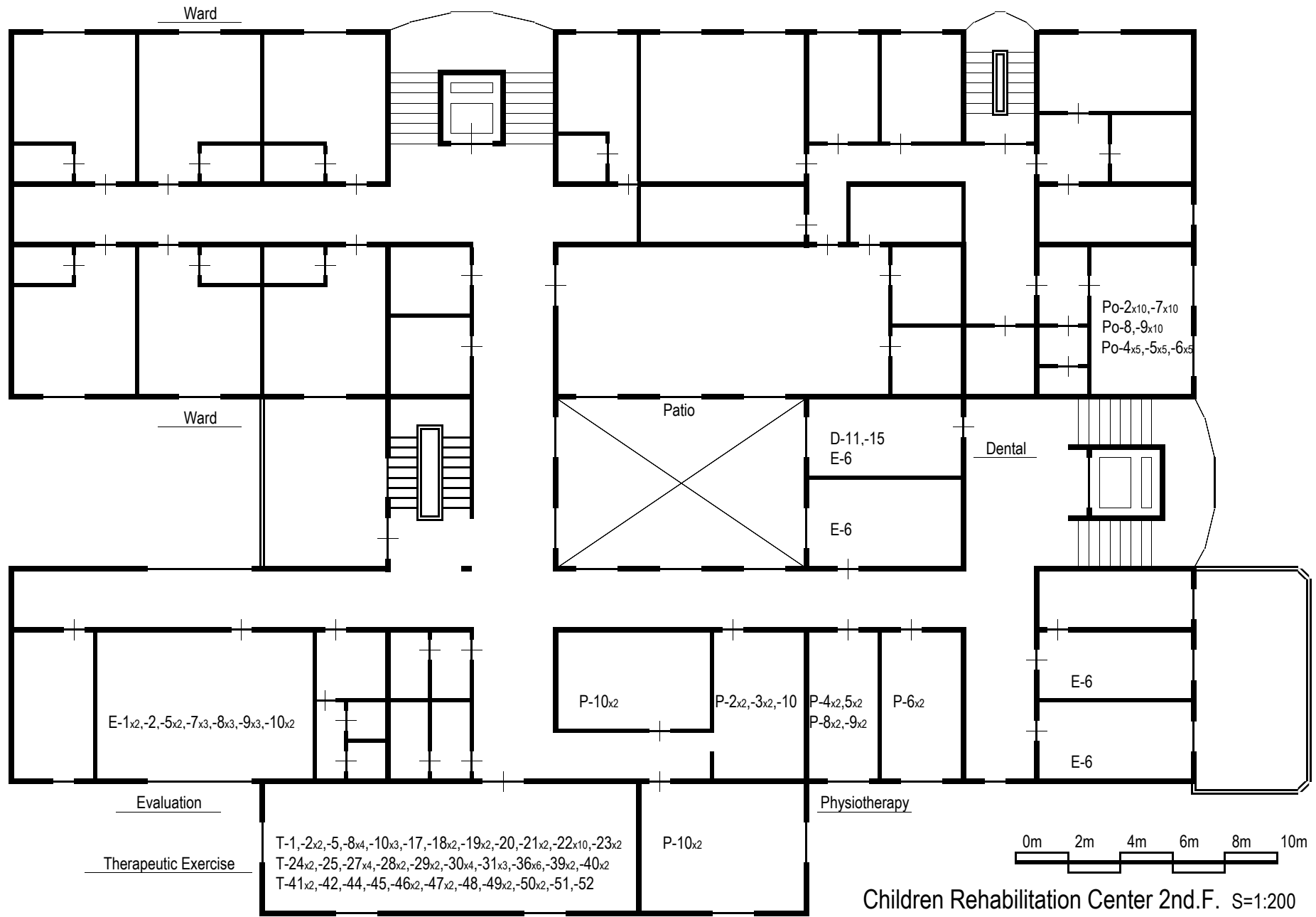
Site Plan

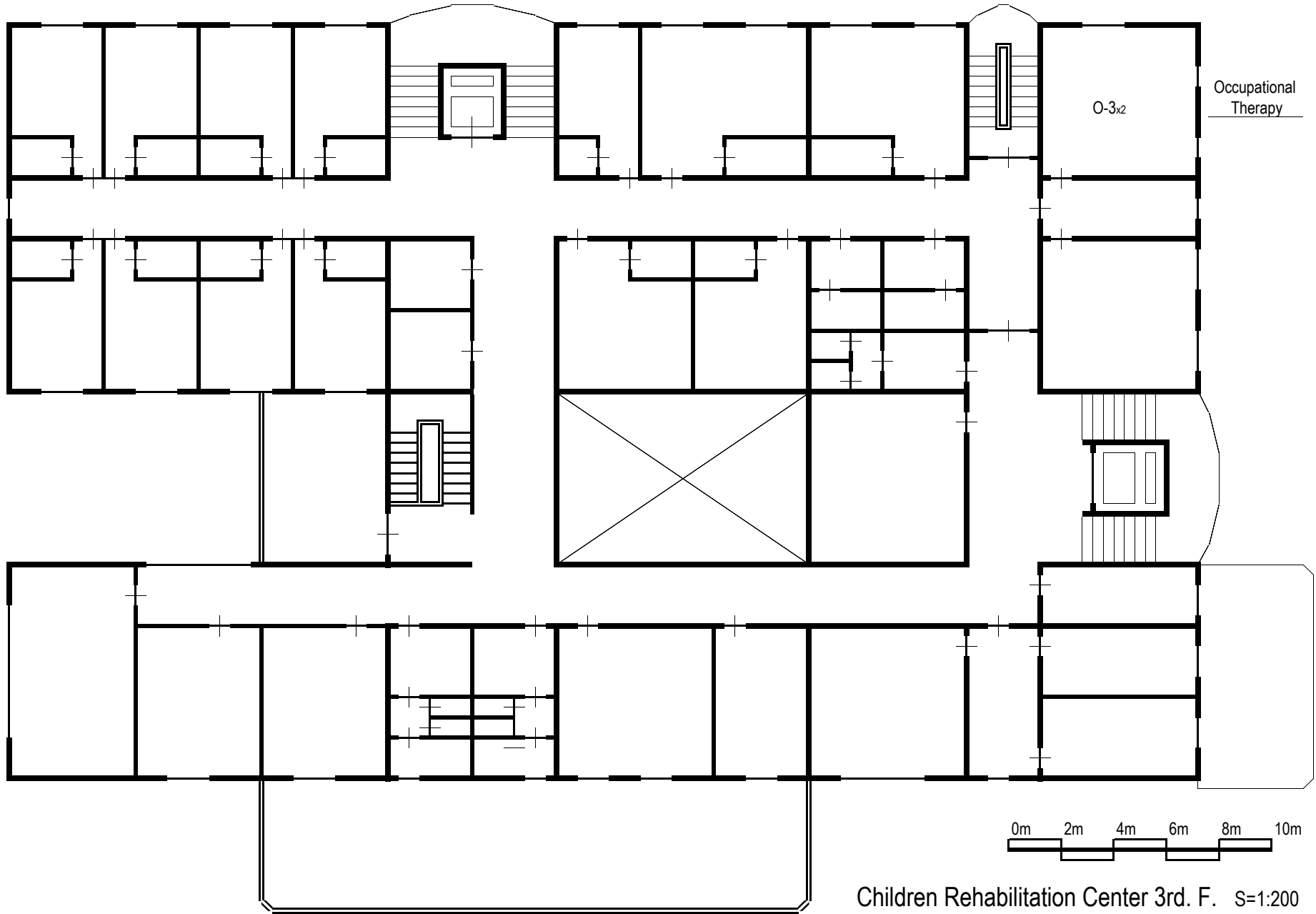
Children Rehabilitation Center

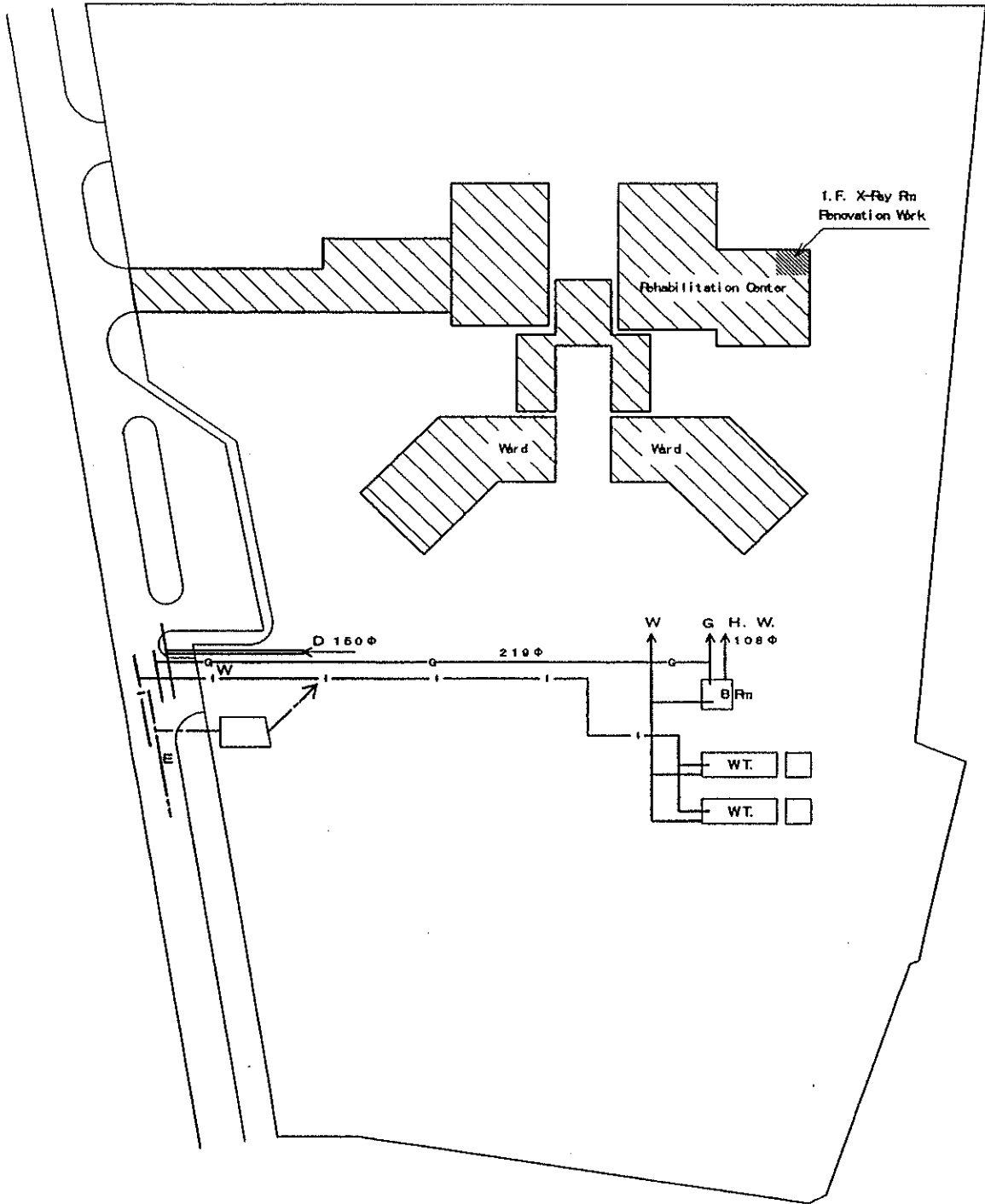
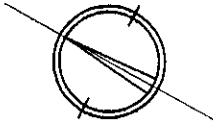
S=1/800



Children Rehabilitation Center 1st.F. S=1:200



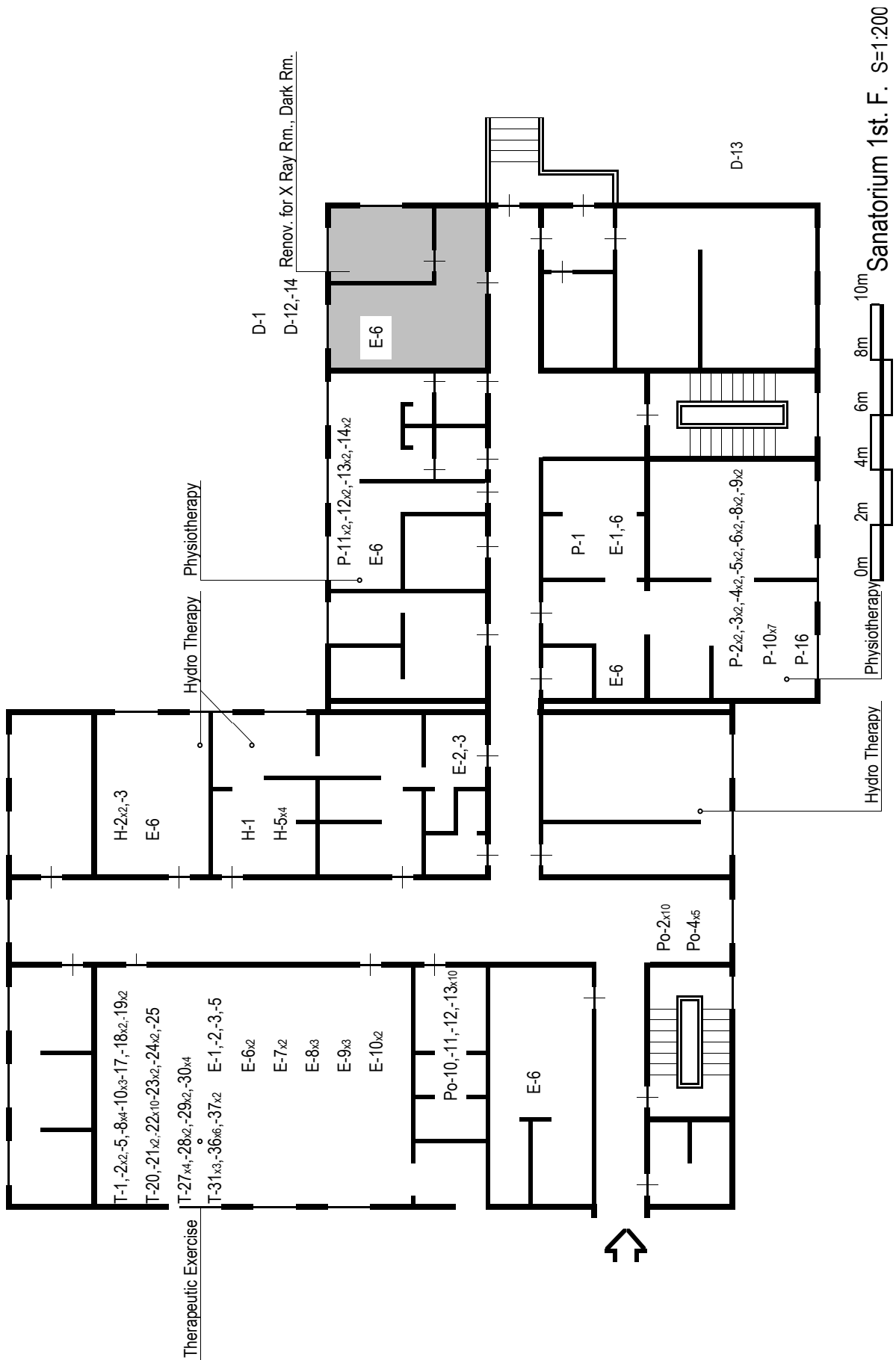


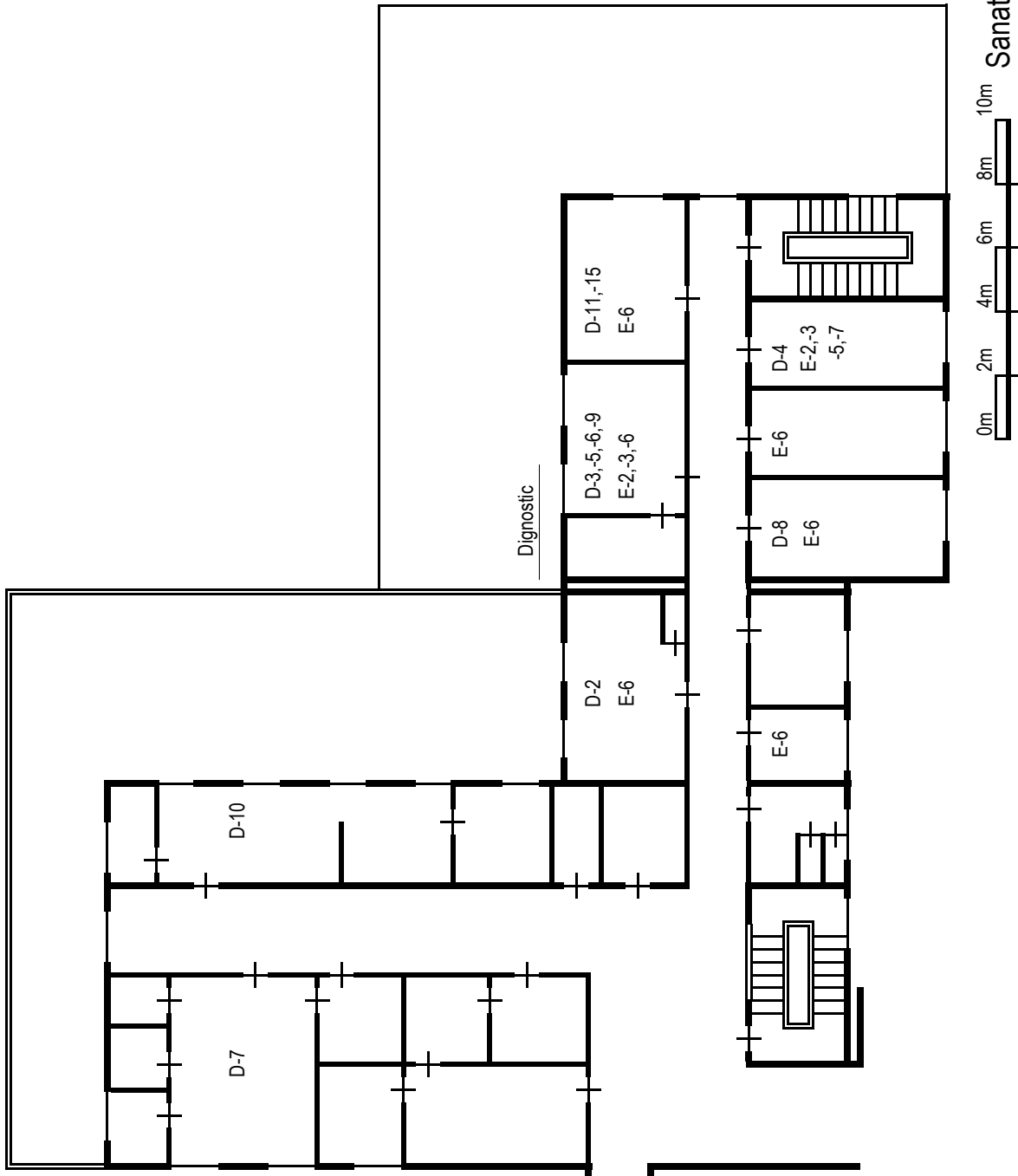


Site Plan

Sanatorium

8=1/1000





Sanatorium 2nd. F. S=1:200

2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

This project shall be implemented officially in accordance with the Grant Aid framework of the Government of Japan after approval of both Japanese and Azerbaijani governments and conclusion of the Exchange of Notes (E/N). Prior to the implementation, a consultant who is a Japanese corporation is selected by the Azerbaijan side, and the company shall commence their work for approval of tender documents for equipment procurement. After completion of the tender documents, tenders are invited. A Japanese trading company, who is selected as a result of the tender, shall implement the actual work of procurement, disposition and installation of equipment. The consultant contract and the supply contract shall come into effect after approval of the Government of Japan.

For the implementation of this project, the implementation plan for this project, which should be carried out in accordance with the framework the Japan's Grant Aid, shall be elaborated with a view to the following items.

- 1) The work schedule should be confirmed by both Japanese and Azerbaijani staff in charge. Both sides should clarify the scope of works and the starting and completion dates of each task in order to avoid confusion in mutual tasks.
- 2) In order to shorten the work period as much as possible, the supplier must investigate the project facilities by two (2) months before installation of the equipment. The supplier also must check the delivery routes, power supply, water supply and drainage, and prepare a bring-in schedule.
- 3) It is assumed to take about two (2) months for installation and hand-over.

- 4) The radiation shielding work for installation of X-ray unit, and the enlargement of the Therapeutic Exercise Room, should be shouldered by the Azerbaijan side. As for those works, the accurate estimate for installation work should be submitted to the Azerbaijan side immediately after the types of equipment are decided, so that the Azerbaijan side can make a budget plan and any delay of the work due to unfixed budget can be avoided.
- 5) The Soft Component Plan shall be implemented for the technical support to the introduction of the therapeutic exercise and occupational therapy which are according to the new rehabilitation concept.
- 6) As for the medical equipment to be procured in a third country (X-ray unit, Ultrasound scanner, EMG, Electroencephalograph, etc.), which requires a special maintenance, a sales engineer of each manufacturer of equipment or its local agent shall install the equipment and give instruction on its operation.
- 7) The responsible agency and the project facilities for this project are as follows.

① Responsible agency

The responsible agency is the Ministry of Labor and Social Protection of Population. The Department of Rehabilitation supervises the rehabilitation facilities. The Department of Medical-Social Protection is in charge of official acknowledgement of handicapped person.

The Department for Foreign Investments and Technical Assistance of the Cabinet of Ministers performs liaison with the Japanese Government about this Grant Aid project.

② Project facilities

The project facilities are the Republican Rehabilitation Center, the Children Rehabilitation Center, and the Sanatorium, which are at the core of the rehabilitative activities in Azerbaijan.

The responsible executing organization(s) in each stage is/are mentioned below.

Content of Work	Responsible Organization
Exchange of Notes (E/N)	Cabinet of Ministers (Department for Foreign Investments and Technical Assistance)
Authorization to Pay (A/P)	Cabinet of Ministers (Department for Foreign Investments and Technical Assistance)
Conclusion of the Consultant Contract	Ministry of Labor and Social Protection of Population
Tender	Ministry of Labor and Social Protection of Population, Project Facilities
Conclusion of the Supply Contract	Ministry of Labor and Social Protection of Population
Work Execution (including Soft Component)	Ministry of Labor and Social Protection of Population, Project Facilities
Hand-over	Ministry of Labor and Social Protection of Population, Project Facilities

2-2-4-2 Implementation Conditions

Among the project facilities, the Republican Rehabilitation Center is a medical facility currently under operation. Taking into account this situation, the implementation schedule should be the one that does not disturb their daily medical activities. Confirmation should be made about the delivery routes and the depository of the equipment in the meeting with the project facility. Especially in case of the renewal of equipment, the time when the existing equipment is removed should be conferred with deliberation, so that their medical activities may not be disturbed.

2-2-4-3 Scope of Works

The scope of responsibility of the Japanese side of this project is in accordance with the Grant Aid Scheme, and which covers procurement and subsequent disposition of the rehabilitative equipment to three (3) facilities (the Republican Rehabilitation Center, the Children Rehabilitation Center, and the Sanatorium). The scope is limited to as described below.

- ① The equipment that is shown in the aforementioned equipment list.
- ② The expenses for ocean transport, land transport and inland transport to the project facilities.
- ③ The expenses for installation of the equipment (expenses for dispatch of engineers, local workers, tools and measuring instruments).
- ④ The expenses for all the procured equipment to make a test-run, and to hold a guidance on the operation, inspection and maintenance.

2-2-4-4 Consultant Supervision

1) Implementation system

This project shall be implemented by the following four (4) parties:

① Project implementing bodies

The responsible agency is the Ministry of Labor and Social Protection of Population. The sites of the project are three (3) rehabilitation facilities (the Republican Rehabilitation Center, the Children Rehabilitation Center, and the Sanatorium).

② Consultant

Since this project is implemented under the Japan's Grant Aid Program, it is stipulated by its rule that a Japanese consultant gives instructions, advises and coordinates from a fair standpoint throughout the tender and implementation, according to the contract with the Ministry of Labor and Social Protection of Population of Azerbaijan. Besides, the consultant performs necessary work for smooth

implementation of the project. The specific tasks are as follows:

- Detailed design
Preparation of tender documents for procurement of the equipment (documents of tender conditions, equipment specifications, and budget report).
- Promotion of tender and supply contract
Decision on supply contract system, preparation of supply contract draft, examination on contents of the report for equipment installation work, and selection of suppliers (public announcement of tender, tender, tender evaluation, contract negotiation, and contract witnessing).
- Inspection and approval of work execution drawings
Inspection and approval of equipment specifications, work execution drawings, and work execution plans submitted by the supplier.
- Report on work progress
Supervision on progress of work execution, and report on the progress to the project implementing bodies and related organizations.
- Cooperation in payment approval procedures
Investigation of bills relating to the remuneration to be paid after the shipment, and cooperation in these procedures.
- Consulting work
Witnessing of various works from the beginning through the completion of the project.

③ Supplier

The procurement of equipment shall be implemented by a Japanese supplier (trading company), who makes a successful bid. The supplier, based upon the contract with the Azerbaijan side, is responsible for manufacturing, supply, delivery and set-up of the equipment, and gives instructions on the equipment operations and maintenance to the

Azerbaijan side before delivery.

④ Japan International Cooperation Agency (JICA)

JICA leads the consultant and the supplier, so that this project may be implemented properly in accordance with the Japan's Grant Aid system. Moreover, JICA consults with the project implementing bodies as required to further the project.

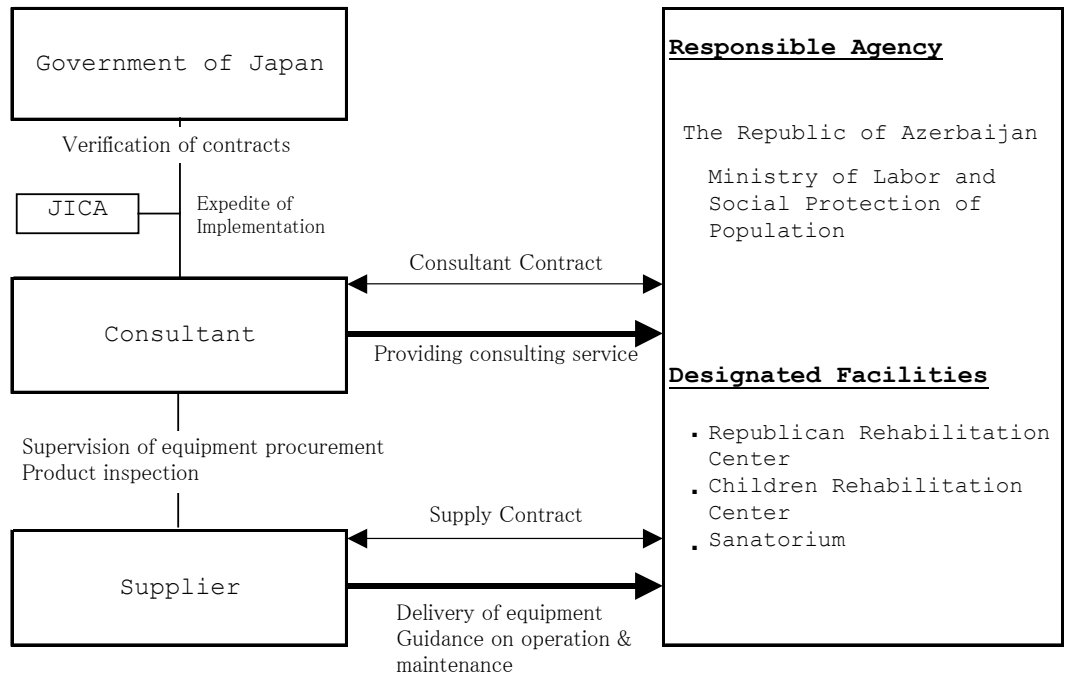


Figure 2-1 Implementation Flow Chart

2) Implementation design and supervision

The consultant, based on the contract with the Azerbaijan side, performs implementation design and supervision for the project. The implementation design is made, in accordance with the Basic Design Study, to determine detailed specifications of the equipment and to prepare the tender documents comprised of such specifications, tender conditions and draft of supply contract, etc.

Supervision is made to assure that the work of supplier is implemented

in accordance with the contract, and to give instructions, advice and coordination from a fair standpoint to promote the project.

① Stage of implementation design

Preparation of implementation design documents, confirmation of tender documents, and preparation for tender and contract documents.

② Stage of tender

Prior screening of applicants for tender, implementation of tender, evaluation of the contents of tender, and conclusion of contract.

③ Stage of work execution

Supervision of work execution (inspection and approval of equipment specifications, supervision of shipment, ocean-transport and inland-transport, instruction and supervision of installation, and supervision of work to be shouldered by the recipient country), report on the work progress, and issuance of certificates. (Upon confirming that the equipment installation is completed and the contract conditions are conformed, the consultant witnesses hand-over of the equipment and completes its duty after obtaining acknowledgement of receipt of the equipment from the Azerbaijan side.)

Besides the above-mentioned work, the consultant reports on the work progress, payment procedures, completion of delivery, etc., to those concerned of the Government of Japan.

2-2-4-5 Procurement Plan

1) Procurement of equipment

The equipment to be procured in this project shall be restricted to those to be procured from Japan or Azerbaijan as a rule. The equipment can be selected considering the reliability of delivery date and the appropriateness of procurement price.

The equipment applied to the following conditions shall be procured from a third country.

- ① The equipment to be procured is not manufactured in Japan.

- ② While the equipment is manufactured in Japan, the competing principle can not be expected in tender and the fairness of tender may not be secured by restricting the procurement of equipment to the Japanese products.
- ③ If the equipment is restricted to the Japanese product, the cost of transportation shall be remarkably expensive and the effect of aid may lessen. Or, the equipment manufacturer and its local agent do not have their own maintenance network and the equipment cannot be maintained properly. It may lessen the effect of this project.
- ④ Or, unavoidable circumstances, such as urgency of procurement, are admitted.

Equipment to be procured from third country

Equipment Name	Origin	Market
X-ray Unit	Netherland	German
Ultrasound Scanner	Netherland	German
Electroencephalograph	USA	Japan
Reograph	Germany	Europe
Spectrophotometer	Ireland	Japan
EMG	USA	Japan
Shortwave Therapy	Germany	German
Wedge	USA	Japan
BubbleBall Bath	USA	Japan
Rolls	USA	Japan
Barrel Roll	USA	Japan
Rocker Balance	USA	Japan
Training Ball	USA	Japan
Maintenance Kit	USA	Japan
Exterior playing kit for child	Sweeden	Japan
Bath with lift	Germany	Europe
Whirlpool bath for full body	Germany	Europe
Pressure hose set	Germany	Japan

2) Transportation of the equipment

Considering the relationship with neighboring countries, the delivery routes below are selected.

* Delivery route of equipment made in Japan

Japan ~<ocean transport>~ Georgia(Poti) ~<land transport>~

Azerbaijan(Baku)

* Delivery route of equipment made in Europe

Netherlands(Antwerp) ~<ocean transport>~ Georgia(Poti) ~<land transport>~ Azerbaijan(Baku)

2-2-4-6 Implementation Schedule

1) Implementing process

When this project is approved in the Cabinet meeting of the Government of Japan and the Exchange of Notes (E/N) is concluded between both countries, the project shall be carried out according to the following procedures:

1. Conclusion of the Exchange of Notes between both relevant governments.
2. Conclusion of agreement between the responsible executing organization(s) and an authorized foreign exchange bank in Japan on payment of the Japan's Grant Aid for implementation of this project (Banking Arrangement; B/A).
3. Conclusion of the consultant contract between the responsible executing organization(s) and the consultant of Japanese nationality.
4. Issuance, by the responsible executing organization(s), of the Authorization to Pay (A/P) according to the consultant contract.
5. Verification of the above contract and assent of payment by the Government of Japan.
6. Preparation of tender documents by the consultant.
7. Approval of tender documents by the responsible executing organization(s) and preparation for tendering by the consultant.
8. Implementation of tendering and evaluation of tenders.
9. Conclusion of supply contract between the responsible executing organization(s) and the supplier of Japanese nationality.
10. Verification of the above contract by the Government of Japan.
11. Issuance, by the responsible executing organization(s), of the

Authorization to Pay (A/P) according to the supply contract.

12. Approval to manufacture of equipment and work execution plan.

(The consultant examines and approves the equipment specifications submitted by the supplier, gives necessary instructions, and coordinates for smooth implementation of the project by making close contacts with the Azerbaijan side.)

13. Witnessing for equipment inspection.

(The consultant witnesses factory inspection before shipment, if necessary, and approves the inspection on behalf of the Azerbaijan side.)

14. Supervision of work execution.

(In accordance with the contract, the consultant, as the proxy of the Azerbaijan side, performs examination and approval of equipment specifications, examination and approval of equipment, supervision and instruction on inland-transport and works covered by the recipient country.)

15. Progress control.

(The consultant supervises work progress and gives necessary instructions to the supplier so that the supply contract may be completed within the period stated in the Exchange of Notes.)

16. Confirmation of work completion

(The consultant performs final inspection and test-run to the procured equipment, confirms that the performance is as described in the specifications, and submits a certificate of completion of inspection to the Ministry of Labor and Social Protection of Population.)

17. Completion and hand-over

2) Period of implementation

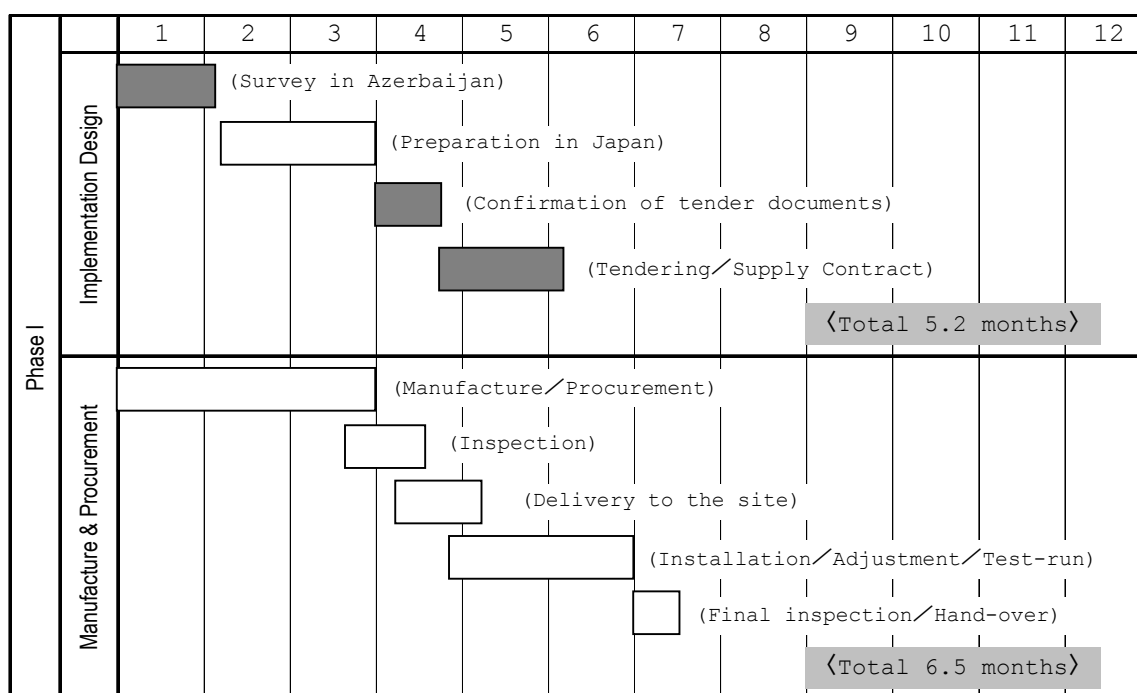
After conclusion of the Exchange of Notes, the period required for each task on the Japanese side is mentioned as follows:

Table 2-2-6 Period of Implementation and Content of Work

Content of Work	Work Period
1. Conclusion of the consultant contract, and deliberation on the detailed design	approx. 1.3
2. Detailed design, and preparation of tender documents	1.8
3. Approval of tender documents	0.8
4. Tendering, conclusion of contract, and approval of supply contract	1.3
5. Manufacture of equipment	3.0
6. Delivery	0.5
7. Installation (including initial test, adjustment, operation guidance, training, guidance on maintenance, verification of completion of hand-over, etc.)	3.0
TOTAL	11.7 months

The work progress chart is as follows:

Figure 2-2 Work Execution Chart



2-3 Obligations of Recipient Country

For the implementation of this project, the Azerbaijan side is required to undertake the following necessary measures:

(1) Items to be covered by the Azerbaijani side

- ① The Children Rehabilitation Center and the Sanatorium are under construction. Therefore, the construction work should be completed, and the necessary personnel should be secured for these newly-established facilities.
- ② The necessary places should be secured for the installation of the equipment to be procured in this project. (The existing equipment should be removed by the Azerbaijan side from places where the new equipment will be installed before the disposition.)
- ③ The necessary budget should be secured for operation and maintenance of the equipment to be procured in this project.
- ④ As for the necessary equipment carried into Azerbaijan for this project, necessary conveniences for customs clearance should be provided, and payments of customs duties and other taxes should be exempted.
- ⑤ In accordance with the Banking Arrangement (B/A), the Azerbaijan side should pay the banking commission and the commission for the issuance of "the Authorization to Pay" (A/P).

(2) The Children Rehabilitation Center and the Sanatorium are under construction. Therefore, the construction work should be completed so as not to disturb implementation of this project.

(3) The equipment to be procured under the Grant Aid should be maintained properly and used effectively. And condition of the equipment should be reported to the Government of Japan on a regular basis.

(4) All the expenses, other than those covered by Japan's Grant Aid within the scope of this project, should be borne.

Expenses borne by the Azerbaijani side

Prior to installation and set-up of the equipment to be procured in this project, some works are necessary to be completed, and all those expenses should be covered by the Azerbaijani side.

Project Facility	Expense (US\$)
Republican Rehabilitation Center	US\$47,000
Children Rehabilitation Center	US\$15,600
Sanatorium	US\$15,900
TOTAL	US\$78,500

2-4 Project Operation Plan

A public corporation, Azmedtechnika, had taken charge of the maintenance control of equipment. A self-supporting accounting system was adapted to the management of the existing organizations due to introduction of the market economy after the independence of Azerbaijan. Therefore, the circumstances obliged privatization on Azmedtechnika. The future of Azmedtechnika is not clear, and the business remains stagnant at present.

On the other hand, local agents of the leading manufactures of the West and Japan have been established along the introduction of the market economy. The two (2) private companies, the Intermed Service Company and the Biomedical Technical Systems Company, have been expanding as an enterprise of maintenance and supply, and have been recruiting the engineers of Azmedtechnika.

The procurement of equipment shall be mostly made by Japanese products, but it is partly made by the products of Europe. The procurement shall be made for the general rehabilitative equipment, which is with no complex directions for its use. The diagnostic equipment, such as X-ray unit, Ultrasound scanner (monochrome), EMG, and electroencephalograph, is currently used in the medical facilities of Azerbaijan. Such equipment can be maintained by a local agent of the private company. Accordingly, no problem is to be occurred from the procurement.

(1) Equipment

The maintenance of the equipment is the important factor in smooth function of the project facilities. The routine checkup, emergency inspection and regular inspection are conducted as for maintenance of the equipment. The emergency inspection and regular inspection are conducted by the engineer, who is a technical expert. The emergency inspection is made in case of

machine trouble, and the regular inspection is made once or twice a year. As for the routine checkup, the assignment is made for each equipment from among the personnel on the inside, and each person in charge conducts the routine checkup on his duty according to the manual and the prescribed frequency of checkup.

Concrete examples of maintenance of the various equipment are shown in the following.

Table 2-2-7 Examples of Maintenance Plan

Equipment	Major Equipment	Maintenance at Facility	Special Maintenance	Durability
ME	Electrocardiograph, Electroencephalograph, EMG, etc.	Cleaning: regularly Inspection: 1 time/month	Annual contract for regular maintenance	7 years
Clinical Examination	Reograph, Spectrophotometer, Hot air sterilizer, etc.	Cleaning: regularly Inspection: 4 times/month	Annual contract for regular maintenance	6 years
X-ray & Ultrasound Diagnosis	X-ray unit, Ultrasound scanner	Cleaning: regularly Inspection: 2 times/month	Annual contract for regular maintenance	10 years
Dental	Dental unit, etc.	Cleaning: regularly Inspection: 1 time/month	Only in case of trouble	7 years
Hydro Therapy	All kind of bathtub for rehabilitation	Cleaning: regularly Inspection: 1 time/month	In case of trouble, 1 time/year	5 years
Others	Ambulance, etc.	Cleaning: regularly Inspection: 1 time/month	In case of trouble, 1 time/year	10 years

(2) Consumables and spare parts

The inventory control of the consumables and spare parts should be made in cooperation between the clinical/laboratory departments and the inventory management department in each project facility. Each of the clinical/laboratory departments confirm the quantity of stock and if these consumables and spare parts are made proper use. The inventory management department makes a smooth provision toward each department. The inventory management department should also place an order to a manufacture or its local agent and make a deliberate procurement of the goods.

2-5 Soft Component Plan

(1) Background

The rehabilitative services in Azerbaijan have been rendered along the concept of the Soviet Union age, where too much importance is laid

on the symptomatic therapy to the handicapped persons. The new rehabilitation concept is to promote the handicapped persons to become autonomous and enable them to return to society. And, it is necessary for the persons concerned in Azerbaijan to understand that the rehabilitative activities are the means to embody the concept.

Therefore, a physical therapist and an occupational therapist are to be dispatched from Japan for implementation of these programs as part of this project. It is expected to implement the Soft Component Plan so that the therapeutic exercise and the occupational therapy take hold among the personnel engaged in the rehabilitative services of Azerbaijan.

(2) Activities (Dispatch Plan)

- 1) Dispatch of Physical therapist (PT), Occupational Therapist (OT), and the general manager from Japan

Period : • Dispatch of PT and OT;
 1.5 months × 2 persons
 • Short-term dispatch of the general manager
 (A seminar is held before or after the training;
 15 days)

Purpose : The lecture is held to help the participants understand the concept of the therapeutic exercise and the occupational therapy of the advanced country with the equipment to be procured under this project, and to teach the concrete therapies.

Method : Lecture and practical training

Participants : The personnel engaged in the rehabilitative services in Azerbaijan, such as physical therapists, occupational therapists, and nurses.

Contents :

Lecture; By using textbooks and videotapes which introduce the rehabilitation centers, and the concept of physiotherapy (therapeutic exercise) and occupational therapy in Japan, it helps the participants to appreciate the significance of the following trainings.

Vestibule Training; Through the practical trainings, the guidance is given in the methods for the range of motion exercise, the development of physical strength, and the muscle enhancement. The guidance is also given in the exercise method for each case.

2) Result (direct effect)

- ① By introduction of the therapeutic exercise and occupational therapy, it promotes the personnel development (physical therapists and occupational therapists) and the attitude reform of the staff toward rehabilitative services.
- ② It helps the handicapped person to return to his daily life after the discharge from hospital.
- ③ It promotes the handicapped person to become autonomous and return to society.