

Air conditioners are not provided.

2) Ventilation

At the ceilings of the class rooms and faculty's quarters , ceiling fans will be installed. Toilets and training galley will be equipped with ventilation fans.

4.4 Machinery and Equipment Plan

The major items of machines and equipment needed for training are as follows. The details are shown in the Appendix.

(1) Life Saving Appliances

Enclosed type motor life boat	No	1
Davit	No	1
Cutter	No	1
Inflatable Liferaft	No	1

(2) Fire Fighting Appliances

Compressor for breath apparatus	No	1
---------------------------------	----	---

(3) First Aids Equipment

Lot	1
-----	---

(4) Compass and Navigation Apparatus

Gyro compass	No	1
Radar	No	1

(5) Meteorology Equipment

Weather fax	No	1
Wind vane	No	1

(6) Equipment for Ship Construction & Stability Training

Model of;

a. Bulk cargo ship	No	1
b. Container ship	No	1
c. Tanker	No	1

(7) Cargo Handling and Stowage Equipment

Model of derrick & hatch way	No	1
Cargo derrick & hatch way	No	1

(8) Equipment for Prevention of Sea Pollution

Lot	1
-----	---

(9) Main & Auxiliary Engine

Diesel generator	Nos	2
Frozen cargo store	No	1
Chilled store	No	1
Rice store	No	1
Cut away model of;		
a. 2-cycle Engine	No	1
b. 4-cycle Engine	No	1
c. Marine steam turbine	No	1
d. Oil hydraulic pump	Nos	2
(10) Electric Equipment	Lot	1
(11) Workshop Equipment		
Universal Machine	No	1
Lathe	Nos	4
(12) Steering gear system simulator	Set	1
(13) Seamanship Workshop Equipment	Lot	1
(14) Galley Equipment & Apparatus	Lot	1
Universal cooking mixer	No	1
Dish washer	No	1
(15) Radio Equipment	Lot	1
SSB	No	1
(16) Library Equipment	Lot	1
Plain photo-copying machine	No	1
(17) Vehicles		
Mini Bus	No	1
Van	No	1

4.5 Basic Design Plan

Plot Plan

Ground & First Floor Plan for Training Building

Second & Roof Plan for Training Building

Upper Roof Plan for Training Building

Section (A-A) for Training Building

Section (B-B) for Training Building

Front Elevation for Training Building

Rear Elevation for Training Building

Side Elevation for Training Building

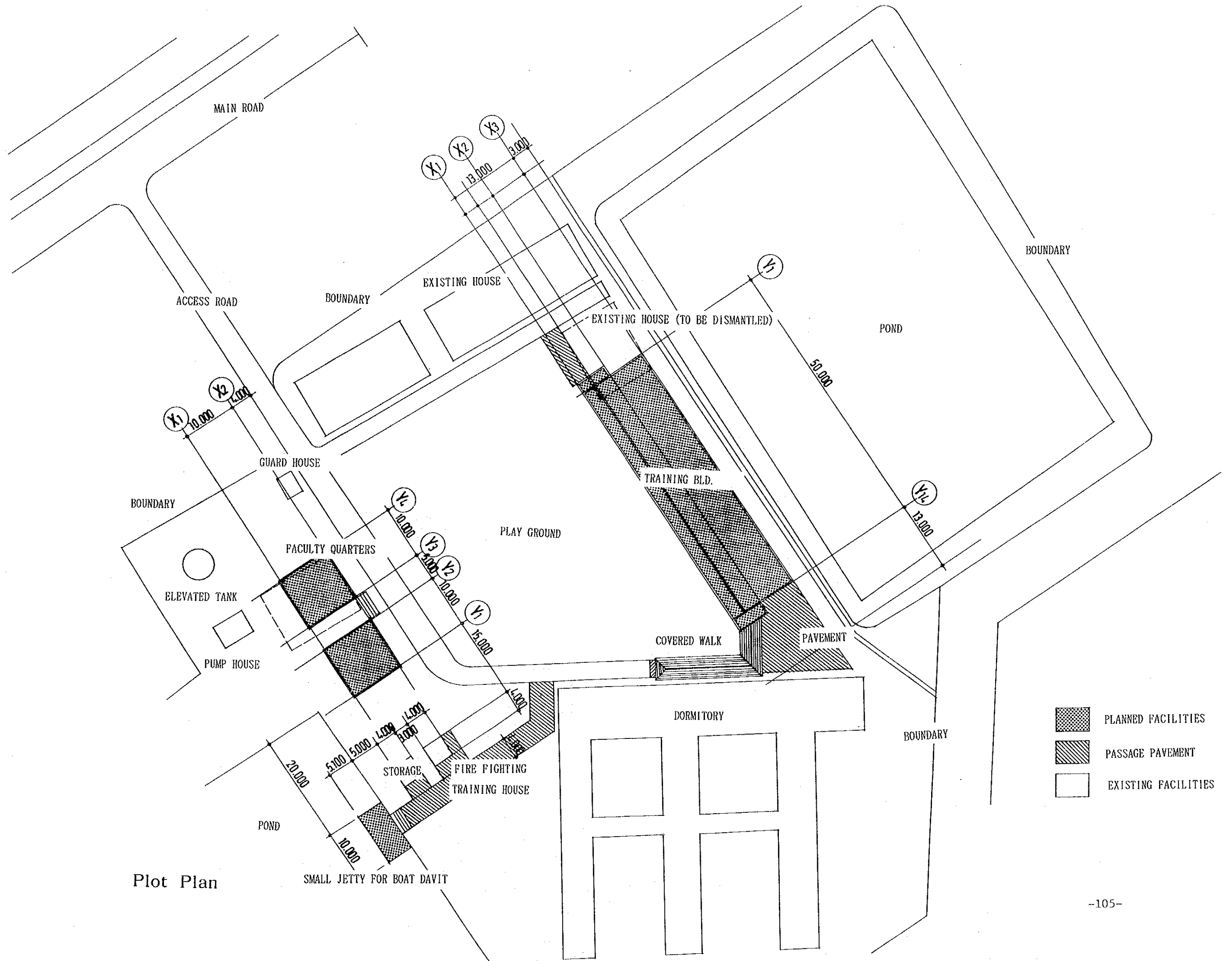
Plan for Faculty Quarters

Elevation & Section for Faculty Quarters




Plan for Fire Fighting Training Facility

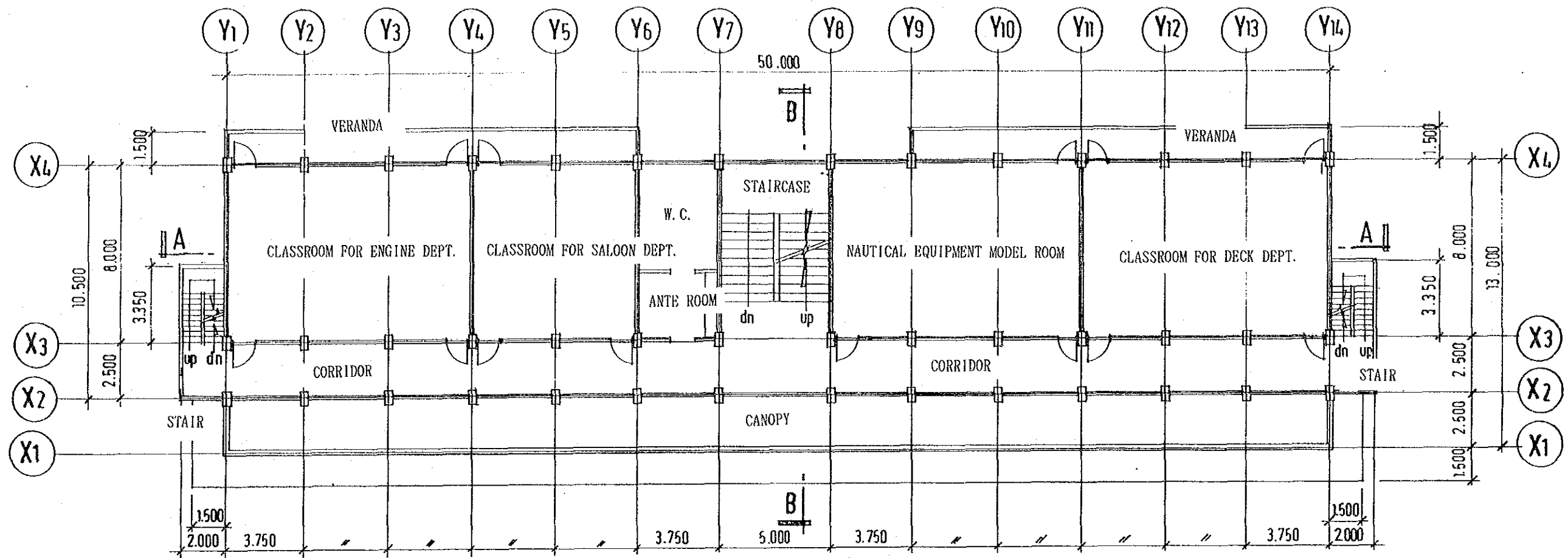
Plan for Boat Davit

Plan for Cargo Handling Training Facility

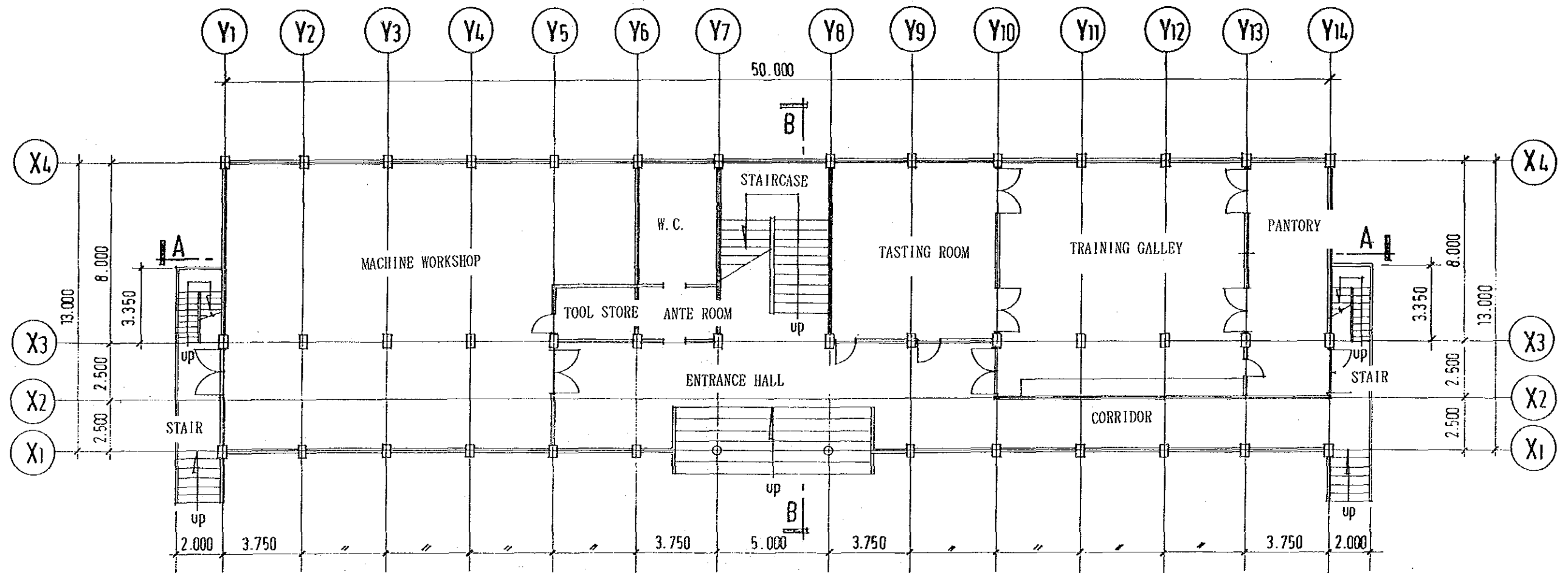


Plot Plan

-  PLANNED FACILITIES
-  PASSAGE PAVEMENT
-  EXISTING FACILITIES

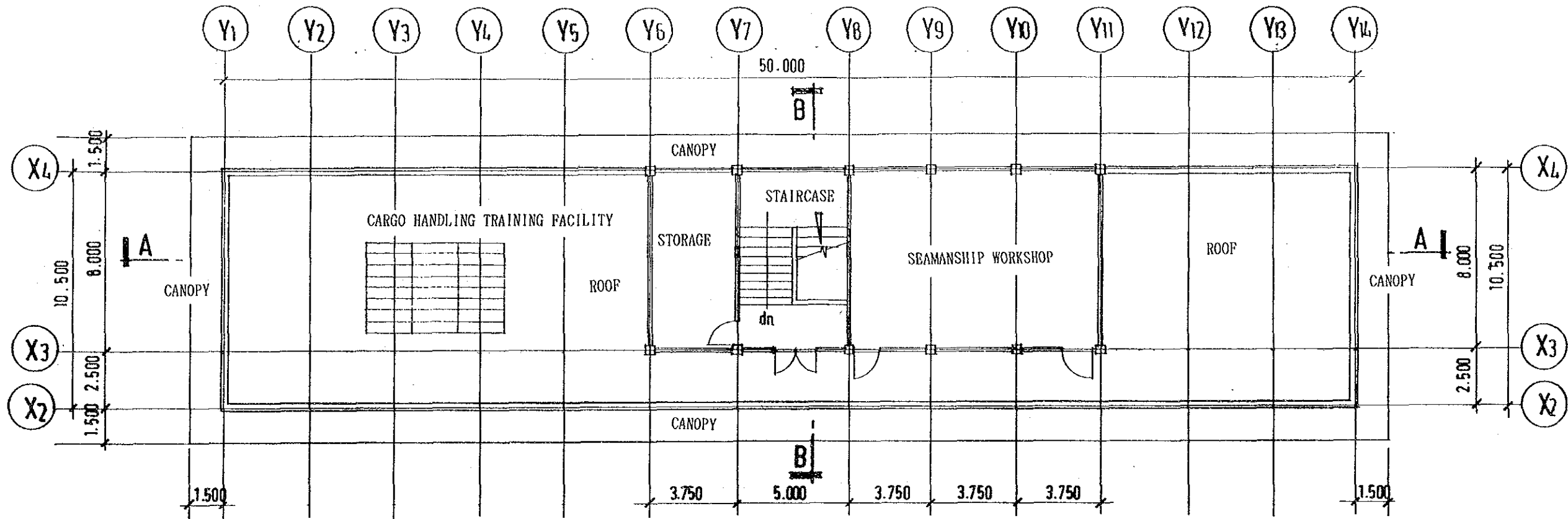


FIRST FLOOR PLAN

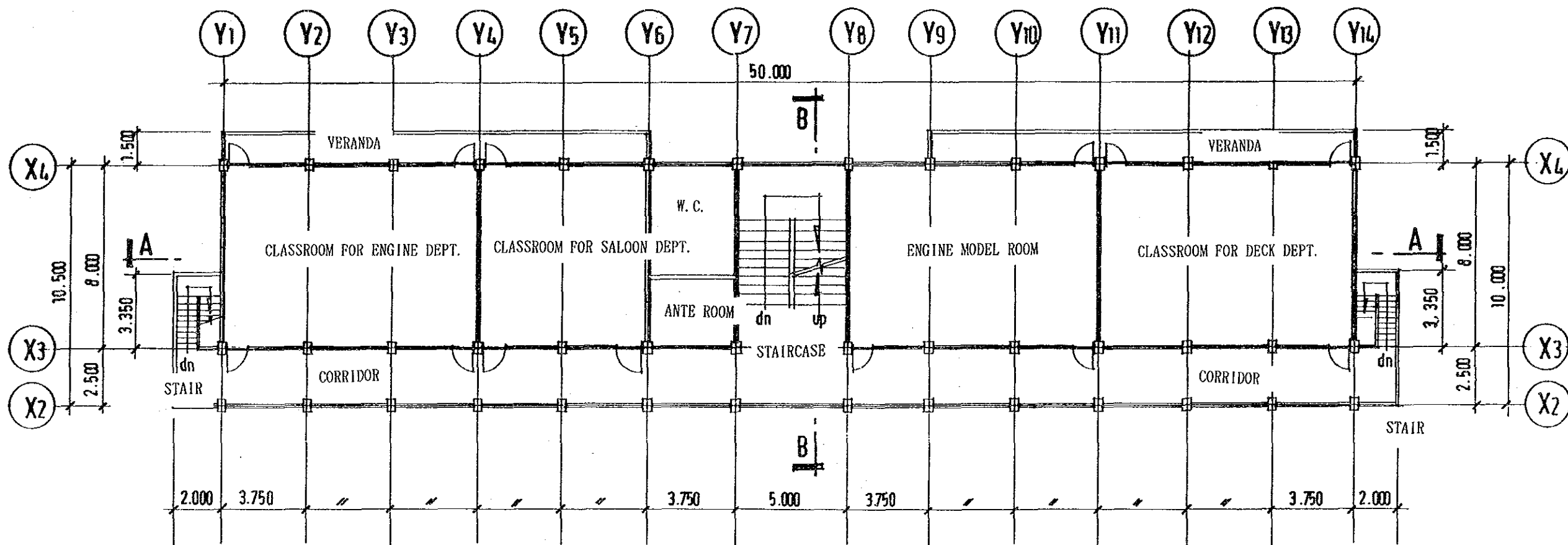


GROUND FLOOR PLAN

訓練棟

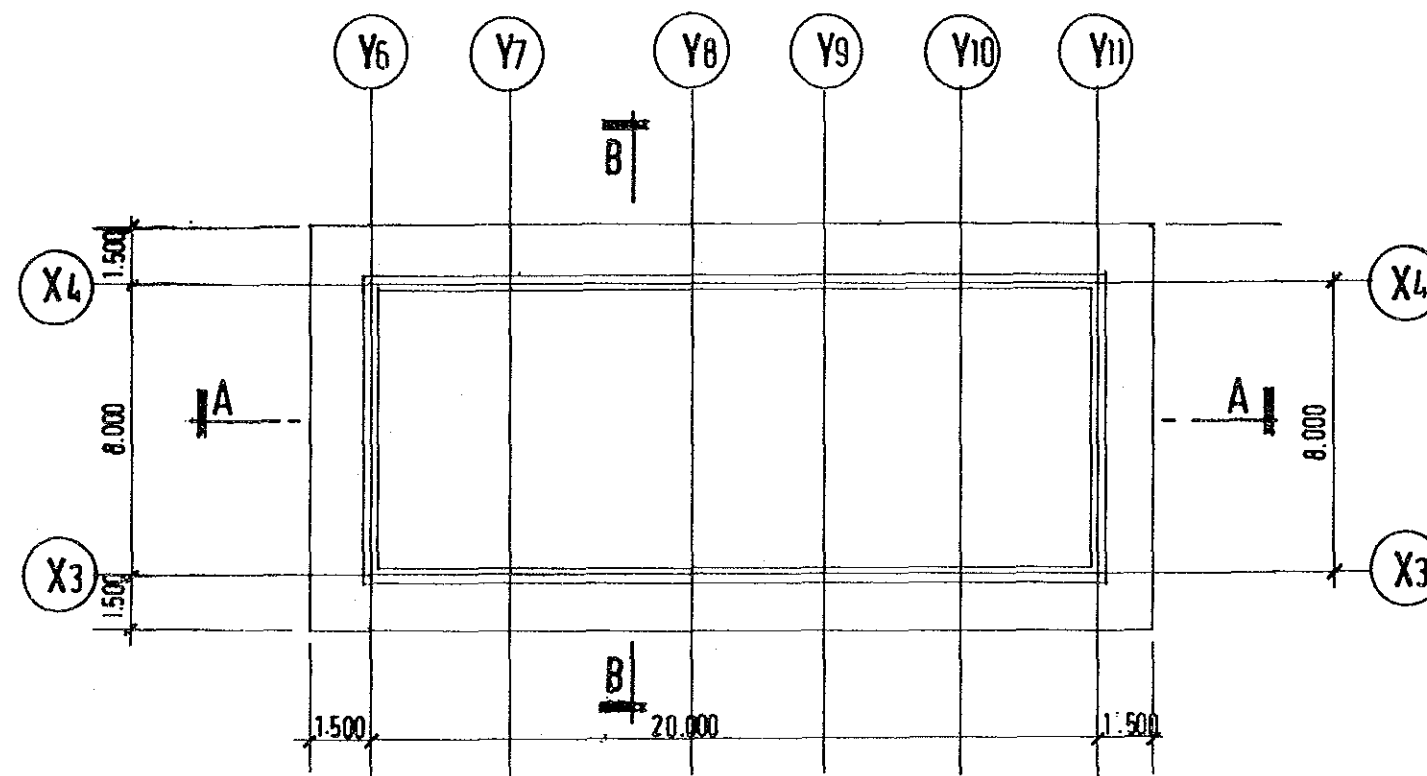


ROOF PLAN



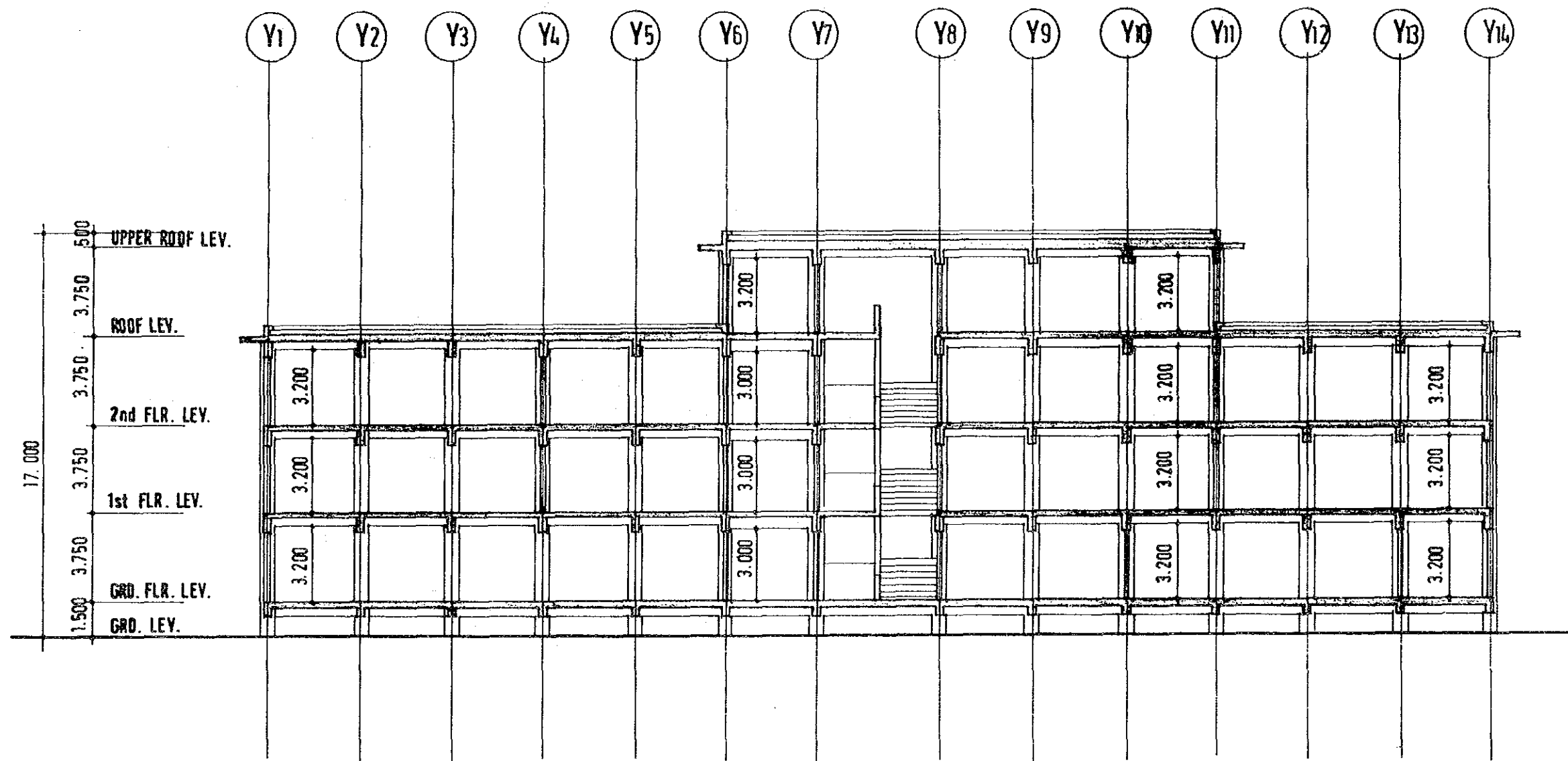
SECOND FLOOR
1:200

Second & Roof Plan for Training Building



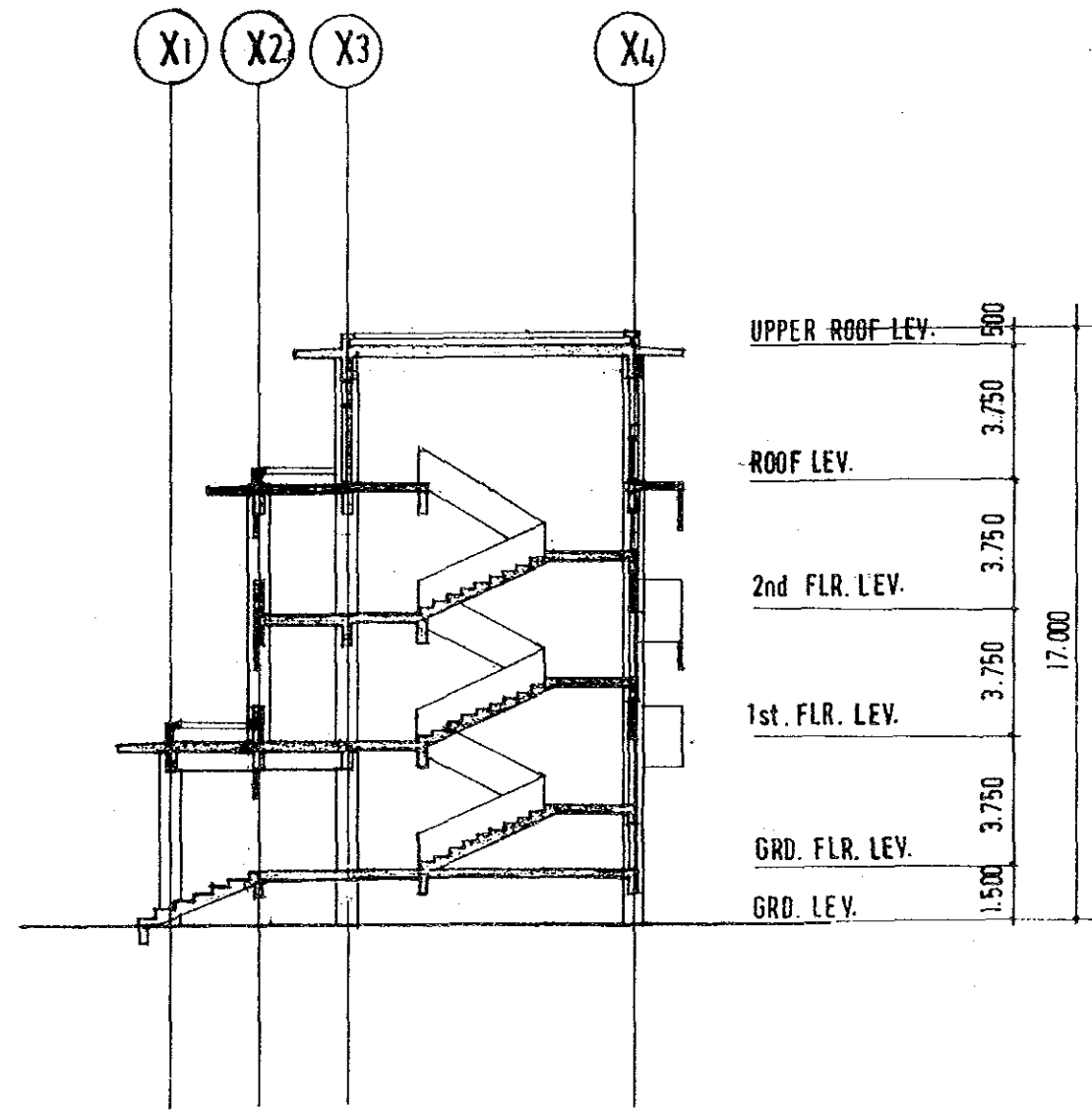
Upper Roof Plan for Training Building

1:200



Section (A-A) for Training Building

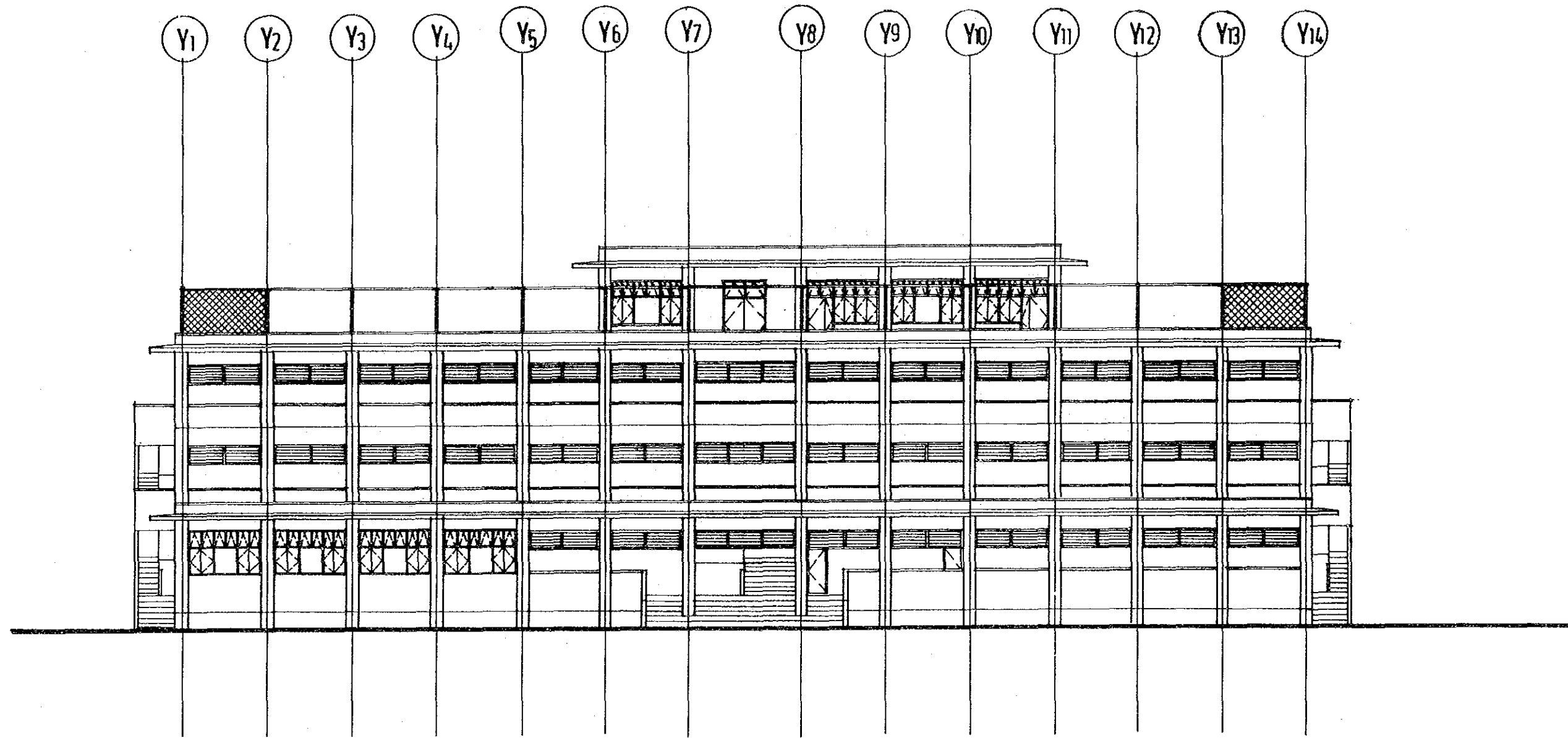
1:200



SECTION B - B

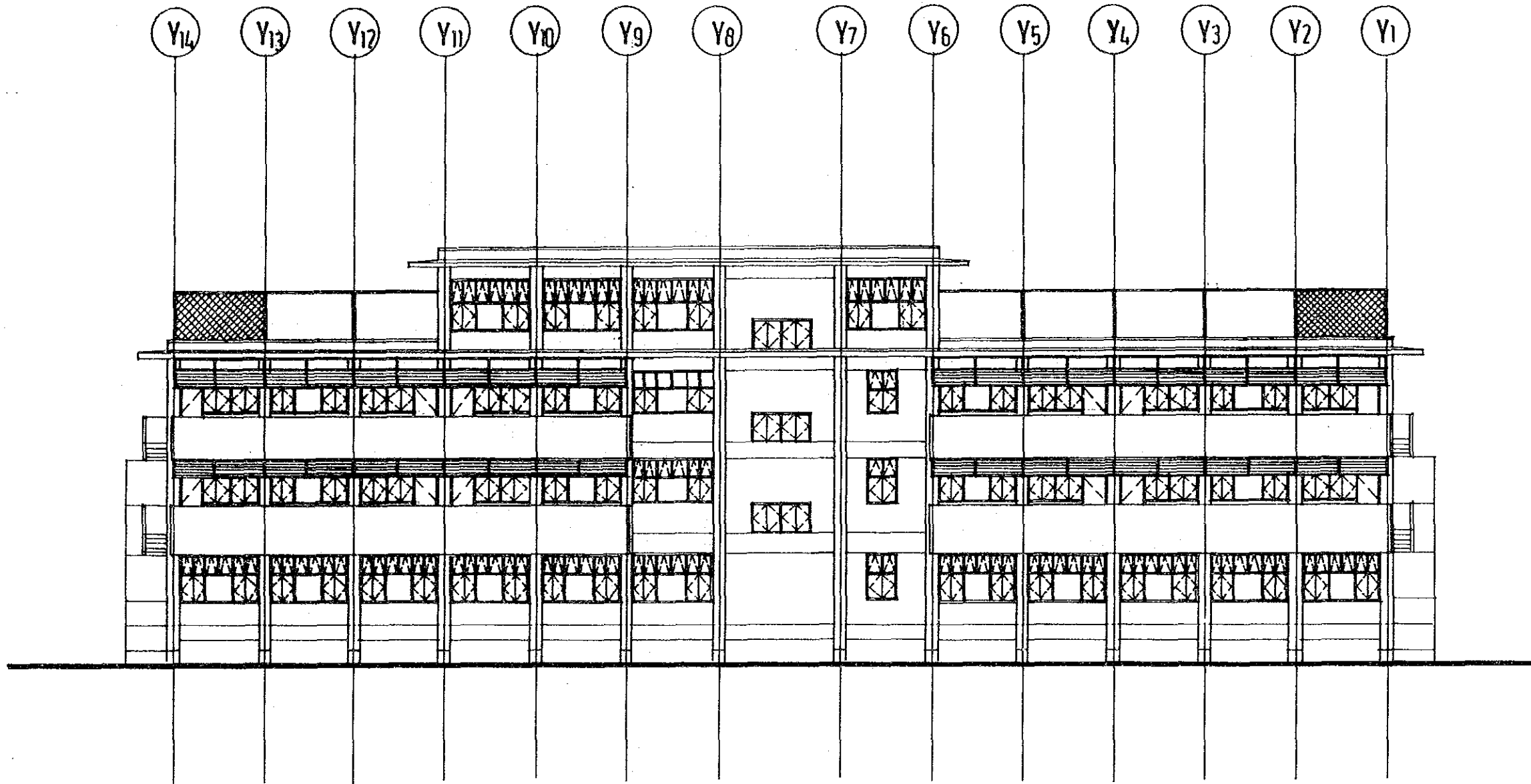
Section (B-B) for Training Building

1:200



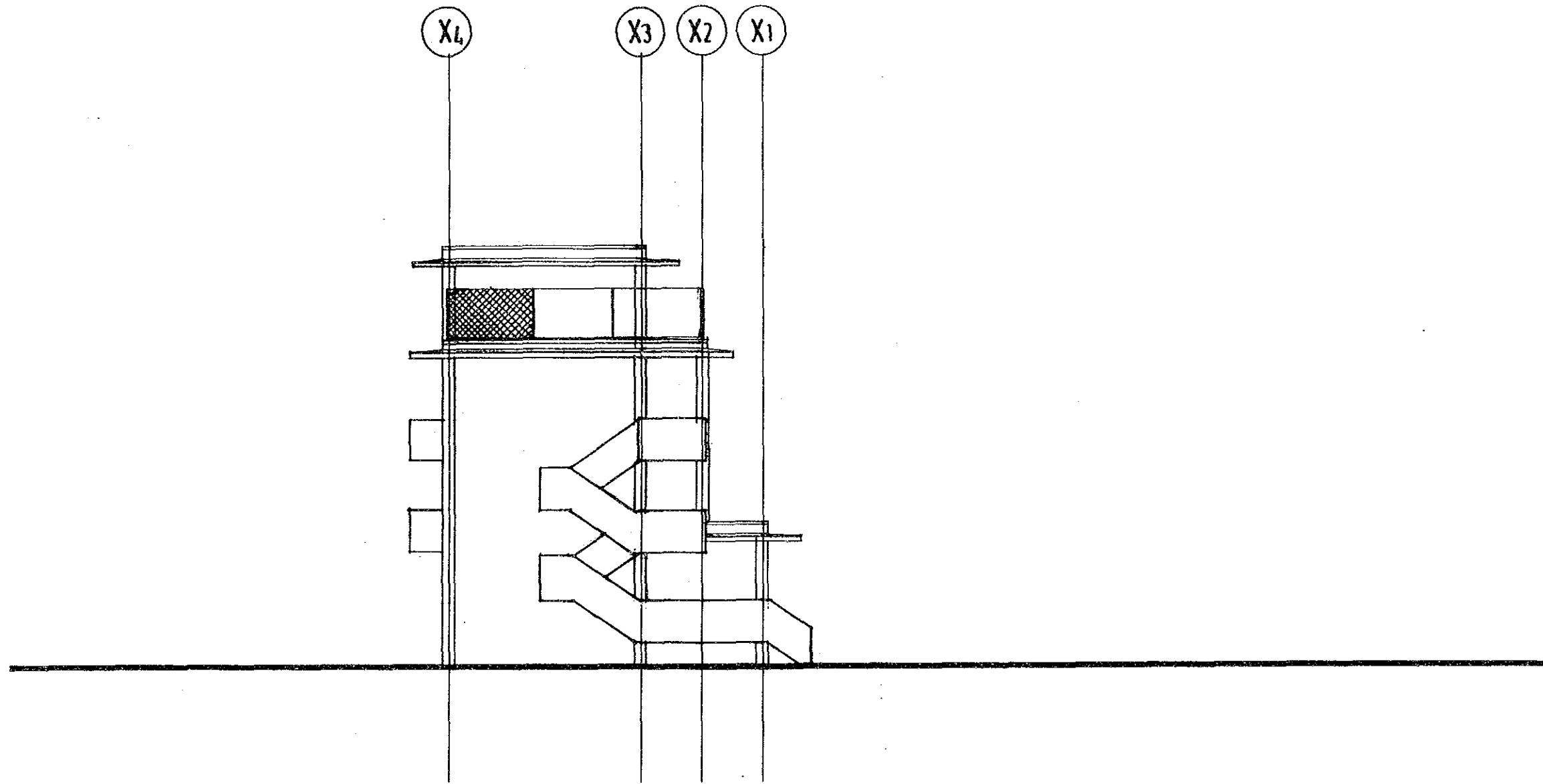
Front Elevation for Training Building

1:200



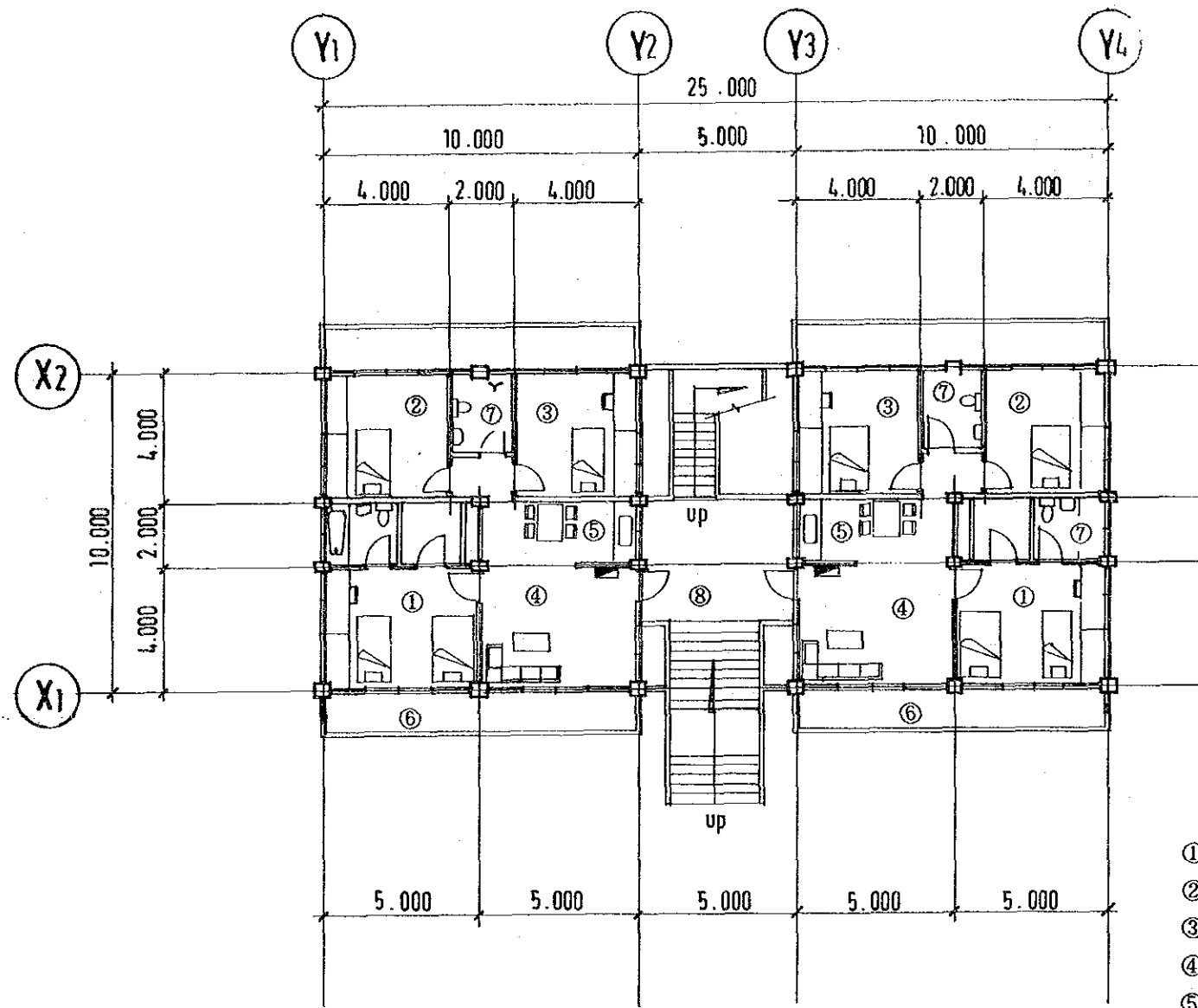
Rear Elevation for Training Building

1:200

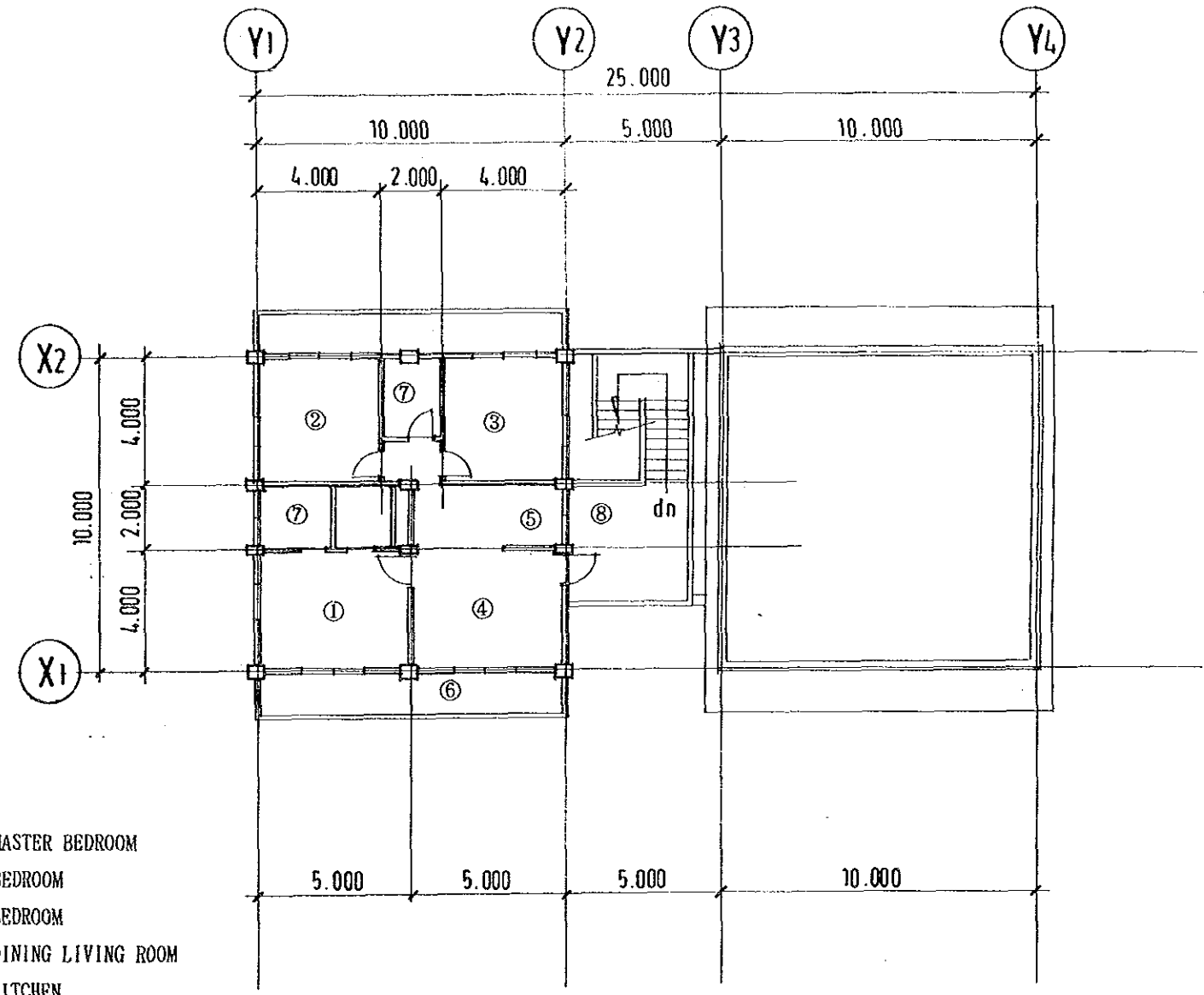


Side Elevation for Training Building

1:200



GROUND FLOOR PLAN

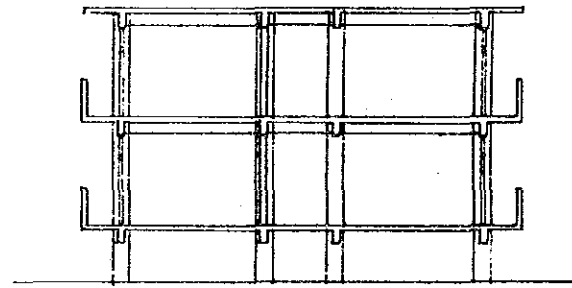


FIRST FLOOR PLAN

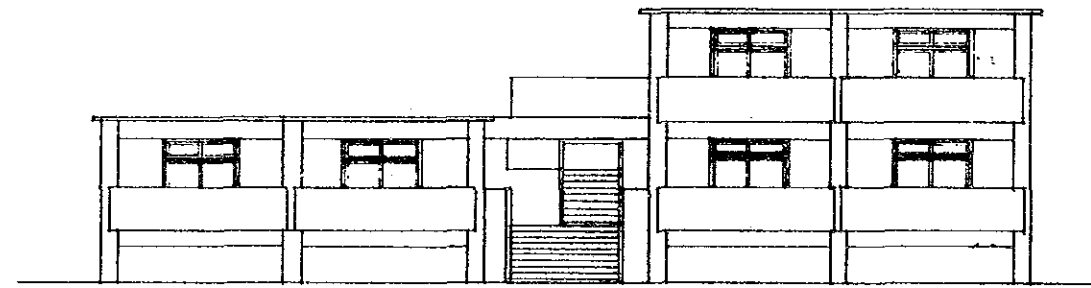
- ① MASTER BEDROOM
- ② BEDROOM
- ③ BEDROOM
- ④ DINING LIVING ROOM
- ⑤ KITCHEN
- ⑥ BALCONY
- ⑦ W. C.
- ⑧ ENTRANCE

Plan for Faculty Quarters

1:200



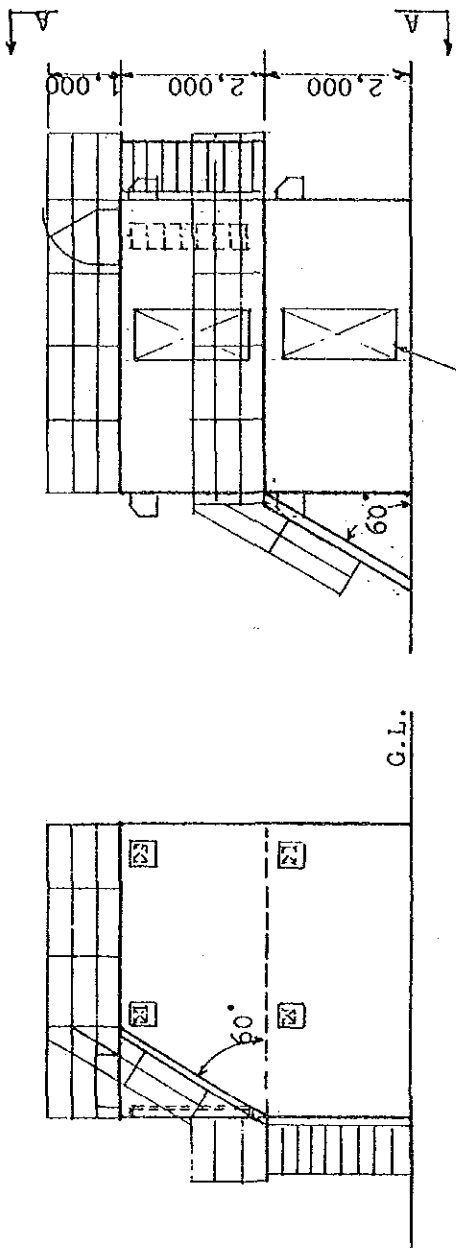
SECTION



ELEVATION

Elevation & Section for Faculty Quarters

1:200

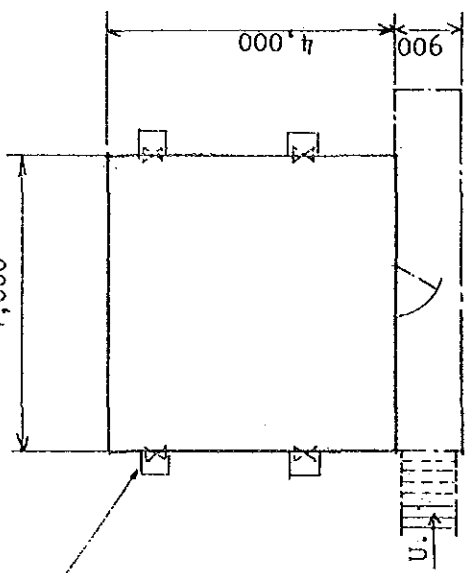


A - A

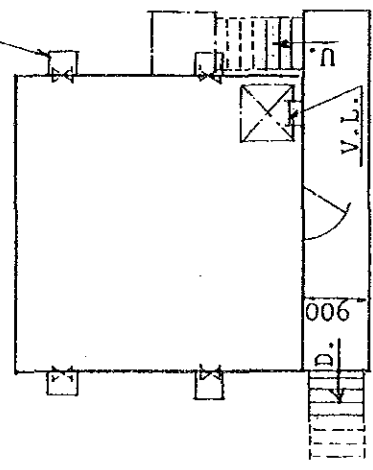
2-1,600x700
STEEL DOORS

4,000

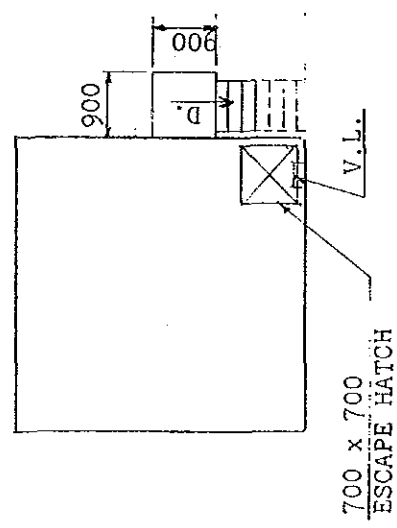
8-300x300 VENTILATORS



GROUND FLOOR PLAN

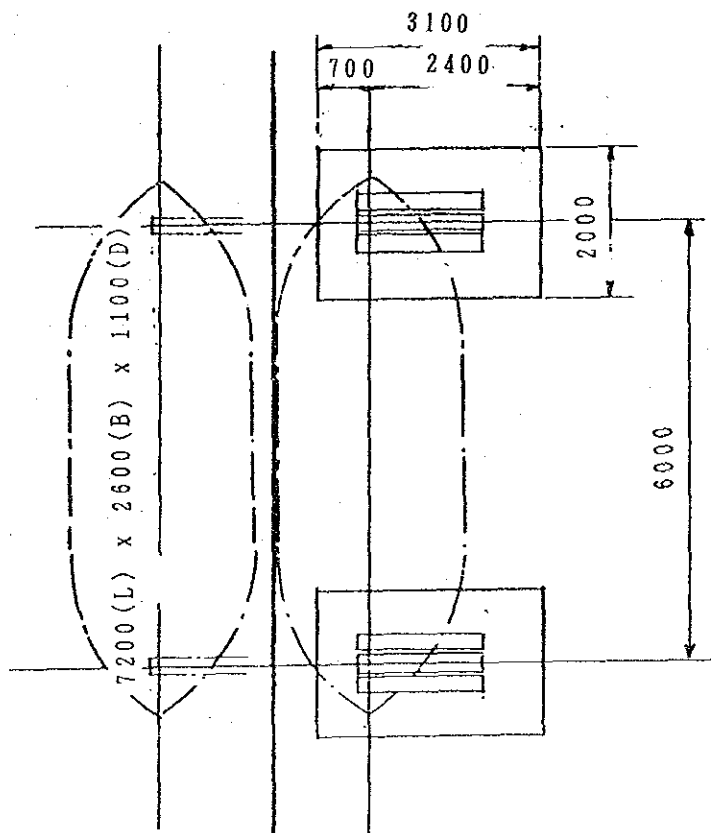
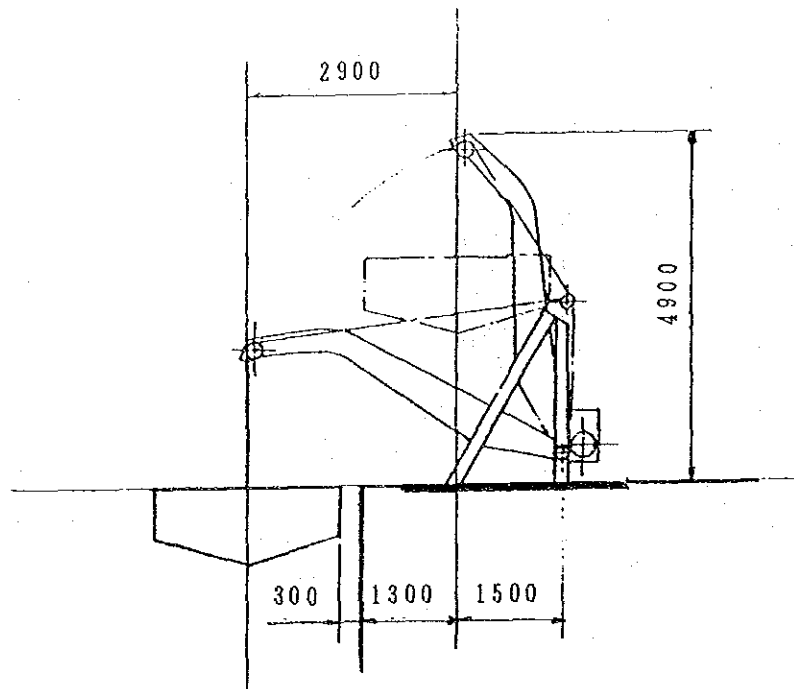


FIRST FLOOR PLAN



ROOF PLAN

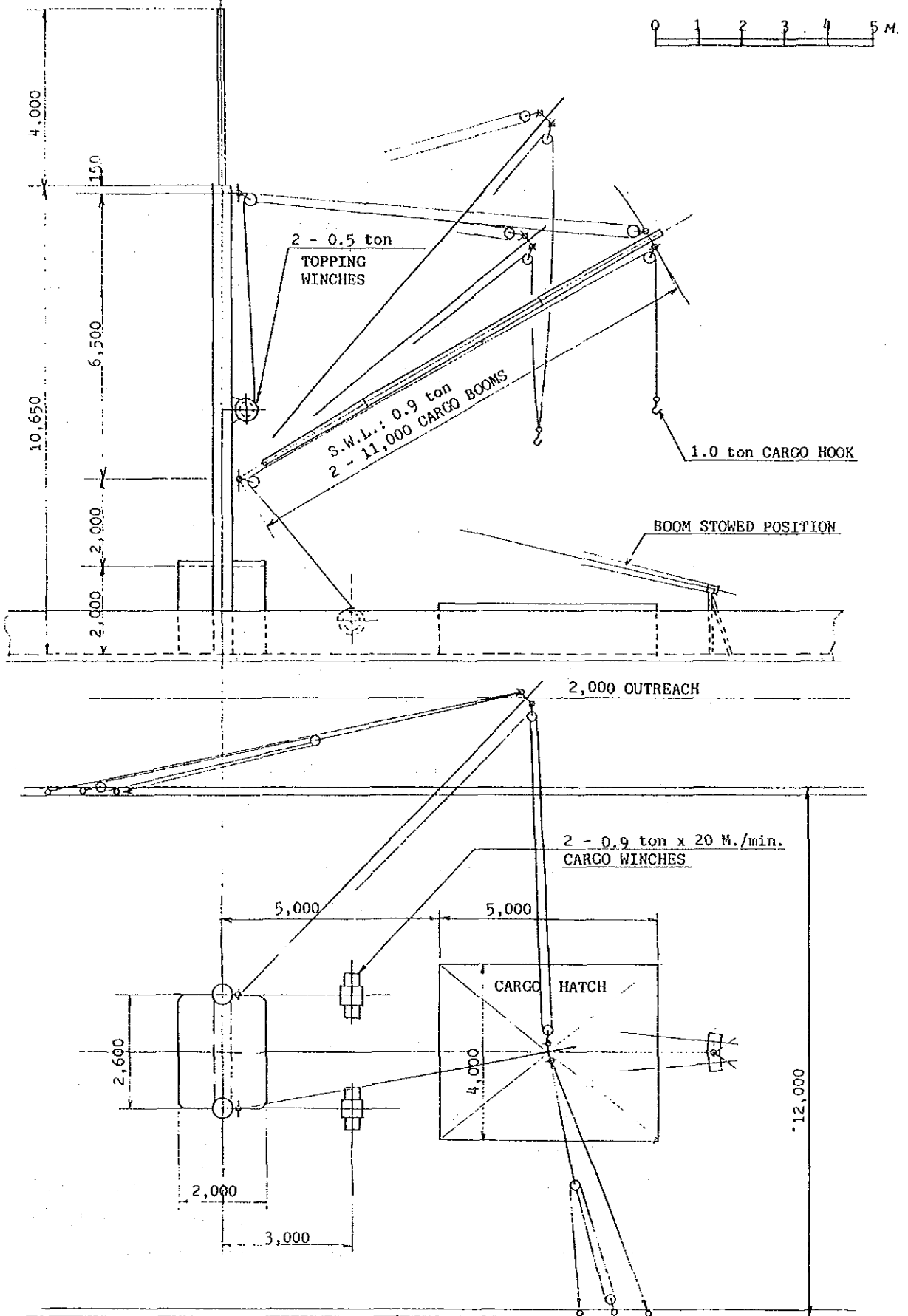
Plan for Fire Fighting Training Facility



Plan for Boat Davit

Plan for Cargo Handling Training Facility

CARGO GEAR ARRANGEMENT



4.6 Construction Plan

4.6.1 Basic Lines of Construction

The ground of the premises is already leveled. There is an access road on the north of the premises, and both electrical and water supply/drainage systems are provided. The local construction method can well cope with the requirements of the project. The construction will proceed from foundation works, concrete works, finishing works to the bringing-in of machines and equipment. In establishing the construction plan, the following matters must be taken into consideration.

- (1) Although unskilled workers are fully available in the region, some arrangements may be needed to secure skilled worker such as workers specializing in utilities or steel-frames.
- (2) Most of construction materials will be locally procured. Main item of the materials (concrete, bricks, utility-related materials, etc.) are manufactured in Bangladesh, so that no serious shortage of materials may happen. Nonetheless, in order to avoid a temporary shortage of supply caused by a bulk order, procurement should be carried out according to a plan.
- (3) Rainfall in the region exceeds 3,000 mm a year. About 80 % of the rainfall concentrates in the period from June to October. In establishing a schedule, weather conditions should be fully taken into account, particularly the foundation works at the beginning and the finishing works at the end.

4.6.2 Construction Plan

The construction will utilize local construction methods. The bulk of the building materials and labor will be locally procured. Since this project will be implemented under the grant-aid program of Japan, the understanding of local contractor will be indispensable with respect to conformance, quality requirements, precision in execution, and construction schedule, and proper liaison and coordination will be required to this end. The organization structure for local supervision will provide for the

dispatch of a project manager, a resident architectural engineer, and the dispatch of mechanical engineers for a short period.

In implementing the subject project, following the Exchange of Notes between the Government of Japan and the Government of Bangladesh, a Consultant Contract will be concluded between the Government of Bangladesh and a consultant of Japanese nationals.

The consultant will prepare a detailed design drawing, specification sheets, cost estimates, tender documents, and a draft of contract documents. The consultant will also select a general contractor and/or supplier, subject to the approval of the Government of Bangladesh, on the basis of a pre-qualifications, tenders, negotiations with a successful tenderer, and other procedures.

Following the verification of the construction and procurement contracts by the Government of Japan, a check will be made in Japan of the shop drawings along with an inspection of equipment assembly, while construction will be carefully supervised in Bangladesh. Engineers of the Consultant will be dispatched to Bangladesh in order to assure smooth progress and accuracy in the construction program.

4.6.3 Construction Responsibility

(1) Area of responsibility of the Government of Japan:

Assuming this project is carried out on the basis of a grant-aid from Japan, the Government of Japan will be responsible for the following phases:

- 1) Provision of machinery, equipment and material for ratings's training
- 2) Construction of the following facilities, as required for ratings's training :

Training building, fire fighting training facilities, faculty quarters and other incidentals.

- 3) Ocean and inland transport of project-related materials and equipment.
 - 4) Consulting services, including implementing design, support on tender, and construction supervision.
- (2) Areas that will be the responsibility of the Government of Bangladesh:
- 1) Procurement of Plan sites, removal of existing facilities or obstructions, if necessary, and any necessary improvements including planting and gardening.
 - 2) Exemption or payment of all customs duties and taxes in Bangladesh in connection with the clearance of imported materials and equipment.
 - 3) Installation of electricity main, water and gas system to the premises, and procedures and costs required for such installation.
 - 4) Works required to convert the Seamen's Hostel into the Administration and Dormitory for trainees, including changing walls, repairing utilities, procurement of furniture and other necessary items.
 - 5) Providing exemptions from all taxes and surcharges levied on equipment and materials required for plan implementation and on Japanese nationals rendering project services in Bangladesh.
 - 6) Obtaining and granting approvals, permits, authorizations, and other privileges, as required for Plan implementation.
 - 7) Effective maintenance and supervision of the facilities and equipment constructed with this grant-aid; preparation of all necessary fittings and fixtures; budgetary appropriations to cover project running costs.

CHAPTER 5: PROJECT EVALUATION AND CONCLUSIONS

5.1 Project Evaluation

The central thrust of successive governmental policies in Bangladesh has revolved around the problems of employment creation and the development of manpower resources, and these areas have been accorded top priority in each Five Year Economic Development Plan, which serves as the National Development Plan.

Manpower development requires both an expansion of primary and secondary education and improvements in vocational training. In the latter area, the most critical need is to narrow the gap between training methods and the technical competence actually required by industry. The training programs being carried out by the STS do indeed nurture the high quality skills demanded by the marine shipping industry. There has been a rapid diffusion and expansion of high-tech automation in marine equipment, and the capabilities and knowledge demanded of ratings have been growing apace.

Since the suspension of new ratings registrations in 1979, no training programs have been offered to recruits. The number of applications for admission to the STS already exceeds 6,000 persons. In this respect, the Project responds not only to the central themes of national policy but also to the development of vocational training as demanded by both the marine shipping industry and the Bangladesh people. As such, there is major significance in the Project implementation.

Number of ratings in Bangladesh has grown in response to the expansion of the country's marine shipping industry but, since 1979, employment has decreased steadily as a result of diminishing job opportunities on foreign vessels. The number of ratings serving aboard foreign vessels as of 1991 has dropped a massive 47% from 1978 levels. Despite this decline, however, current foreign exchange income from Bangladesh nationals working on foreign vessels is estimated at Tk 165,000,000.

The STS grants qualification certificates to existing ratings in accordance with STCW minimum requirements. If employment opportunities on

foreign vessels can be generated in approximately the same ratio as that which currently prevails between foreign and domestic vessels, benefits in the case of existing ratings may be anticipated in the order of TK 70,000,000 in foreign exchange earnings and Tk 15,600,000 in domestic income and, in the case of new recruits, of TK 14,000,000 and Tk 3,120,000 respectively, for a combined total of Tk 102,720,000.

In addition, implementation of the Project will improve vessel safety standards, based on the acquisition of STCW qualifications by refresher ratings, resulting in such indirect benefits as fewer marine accidents and reduced risk to life and vessel in the event of a marine disaster.

Based on the above considerations, the Project implementation will result not only in direct benefits to the ratings trainees but, through an increase in foreign exchange earnings, improved safety in terms of human lives and vessels, and the provision of a qualified labor pool to the marine shipping industry, can also be expected to contribute to the Bangladesh economy, thereby playing a key role in solving the problems specifically addressed by the National Development Plan.

5.2 Conclusions and Recommendations

Reflecting the extensive development of inland water transport in Bangladesh, many of its citizens are familiar with, and emotionally drawn to, travel by water. As a result, many Bangladesh ratings have found employment on foreign vessels, providing a continuing source of precious foreign exchange. However, with the automation and technical upgrading of vessel equipment and the coming into force of the STCW Convention, the number of Bangladesh ratings employed on foreign vessels has been steadily declining from the peak reached in 1979. This situation is due to the effects of both the global recession in the marine shipping industry and deficiencies in ratings training in Bangladesh itself.

Since its establishment, the STS, which has responsibility for the training and development of ratings, has never enjoyed the benefit of a permanent facility, while its present training equipment leaves much to be desired. The school has also suffered from a chronic shortage of suitable instructors. The Bangladesh Government, therefore, attaches considerable

urgency to the program for improving ratings's training at the STS, based on the development of its facilities and equipment and the recruitment of qualified instructors.

Summarizing, the Project for Establishment of the Permanent Seamen's Training School is intended to respond to the two key problems presently confronting ratings's training in Bangladesh: viz., the need to offer training meeting STCW criteria to ratings so as to eliminate unqualified ratings and the requirement for improved facilities and equipment to support the development of ratings with skill levels sufficient for employment in the international marine shipping industry.

The city of Chittagong, home of the STS, is the country's premier port, forming the linchpin in transport connections to other ports and provincial cities. It is also the site of the main organs under the aegis of the Ministry of Shipping. For these reasons, Chittagong has also developed as the center of the recruitment job market for ratings serving on ocean-going vessels and thus offers an ideal environment for ratings's training. The training facilities are planned to be built and installed within the grounds housing the existing facilities, with the present building to be used for administrative offices and trainee accommodations. The Plan site secured for the program is level, and soil conditions present no particular problems.

The refresher retraining courses at the STS will be offered 8 times per year and will be of 1 month's duration, while the fresher training courses will run twice a year and cover a 5 month period. These schedules are considered proper in relation to the course curricula. The refresher program is to accommodate 50 students each in the deck personnel and engine courses and 25 in the saloon course, for a total enrollment of 125 persons. The fresher training program will have 40 students per class in the deck course and 30 each in the engine and saloon courses, for a total of 100 in all. These enrollment targets are considered appropriate from the standpoint of ratings supply and demand.

Operation of the existing Seamen's Hostel is to be transferred to the STS after implementation of the Project, while the STS itself is to be placed under the jurisdiction of the Ministry of Shipping. The operating and

maintenance budget for the various facilities is estimated at about Tk 3,900,000 per year. Training equipment and materials for the Plan will not include any highly sophisticated items requiring technical guidance or specialized training, and so operation and maintenance should be well within the capabilities of school faculty and staff.

With regard to administration and budgets following the Project implementation, the Bangladesh Government is currently making preparations with regard to the completion of documents and procedures required by the Planning Committees and other authorities, and so no particular problems are anticipated in connection with budgets or personnel.

The subject Plan has been adopted as a priority project under the Government's Fourth Five Year Plan and Three Years Rolling Plan, and its implementation will play a major role in the country's manpower development program.

If, based on implementation of this Project, certificates certifying compliance with STCW requirements are given to refresher ratings, while proper training is provided to fresher ratings, opportunities for employment on foreign vessels can be expected to increase, resulting in benefits in terms of both foreign exchange revenue and domestic income. In addition, if, as a result of the Project, vessel safety is enhanced by improved ratings capabilities and the acquisition of proper qualifications, we may expect a marked diminution in the frequency of marine disasters and reduced risk to life and vessel in the event of a mishap.

From the preceding, it has been determined that implementation of the Project will not only bring direct benefits to the ratings receiving training but will also contribute significantly to the Bangladesh economy through an increase in foreign exchange earnings, enhanced safety to life and property, and the provision of an able supply of labor to the marine shipping industry. There is, accordingly, considerable significance to implementing the Project with grant aid from the Government of Japan.

Looking ahead to project implementation, the Basic Design Study Team made the following recommendations to the Department of Shipping of the Ministry of Shipping and the Seamen's Training School:

- 1) The major problem in connection with Plan administration and operation of STS is that of securing suitable personnel. It can, in fact, be said that, since the original establishment of the Seamen's Training Centre, the primary problem has been recruitment of qualified instructors. After the Project is carried out, no problems are anticipated in obtaining general staff and instructors, but securing qualified instructors with merchant ship's experience is not likely to be an easy task, considering the chronic shortage of good instructors, in view of the major gap in earnings levels vis-a-vis service on vessels, particularly those of foreign registry. Unless the teaching posts at STS are made more attractive by according preferential treatment in terms of salaries and other perquisites, it will prove difficult to attract a high-caliber faculty, which, in turn, will present serious problems in providing high-quality instruction to the ratings trainees.

In the Basic Design Study, we have incorporated improvements in faculty accommodations, but the Bangladesh authorities, for their part, should also adopt concrete measures to expedite faculty recruitment. If the current contract-instructor system already in effect at the Marine Academy could be adopted at the STS as well, high remuneration could be paid, thereby facilitating the recruitment of a more qualified faculty. The Team, therefore, strongly recommends that a contract instructor system be inaugurated at the STS.

- (2) For some time now, the STS has not been in a position to conduct full-scale ratings training programs, and this situation, it is felt, has prevented the development of experts in the design of such courses. It will be necessary, therefore, to cultivate a corps of specialists capable of drafting master plans for ratings's training, gauging the target levels for this instruction, and selecting the optimum training methods for achieving these goals. It is desirable that efforts be made to develop such professional planning capability through technical cooperation from international

agencies, such as the IMO, and countries with advanced marine shipping industries.

- (3) As noted earlier, the required expenses for operating and maintaining the facilities have been estimated at about Tk 3,900,000 per annum. In the interest of future financial stability, appropriate measures should be taken to obtain the requisite funding for ongoing operations.

APPENDIX

- I TEAM MEMBERS
 - I-1 Field Study
 - I-2 Consultation on Draft Report
- II SURVEY ITINERARY
 - II-1 Field Study
 - II-2 Consultation on Draft Report
- III DISCUSSANTS
 - III-1 Field Study
 - III-2 Consultation on Draft Report
- IV MINUTES OF DISCUSSIONS
 - IV-1 Field Study
 - IV-2 Consultation on Draft Report
- V ANNEX
 - V-1 Location of Soil Test & Bore Hole Logs
 - V-2 Distribution of Epicenters
 - V-3 Pay Scale of Ratings
 - V-4 List of Planned Equipment & Material
- VI Photographs

I. TEAM MEMBERS

I-1 Field Study

Kazuyuki NOGAWA	Team Leader	Chief, Educational Affairs Division, Shimizu School for Seamen's Training, Ministry of Transport
Satoru WATANABE	Project Coordinator	Second Basic Design Study Division, Grant Aid Study & Design Department, JICA
Kuniaki TAKAHASHI	Planning Specialist for Training	Fisheries Engineering Co.,Ltd.
Kanji YOSHIMI	Machinery & Facilities Specialist	Fisheries Engineering Co.,Ltd.
Hideo ATOMURA	Equipment Specialist	Fisheries Engineering Co.,Ltd.
Yoshiharu MATSUMOTO	Architect	Fisheries Engineering Co.,Ltd.

I-2 Consultation on Draft Report

Kazuyuki NOGAWA	Team Leader	Chief, Educational Affairs Division, Shimizu School for Seamen's Training, Ministry of Transport
Koji NOGUCHI	Grant Aid Program	Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs
Kuniaki TAKAHASHI	Planning Specialist for Training	Fisheries Engineering Co.,Ltd.

II. SURVEY ITERNERARY

II-1 FIELD SURVEY (1/2)

DAY	DATE	DESCRIPTION	
	1991	NOGAWA, WATANABE, TAKAHASHI, YOSHIMI, ATOMURA, MATSUMOTO:	
1	Aug. 29(Thu)	Lv. Tokyo, Ar. Bangkok	
2	Aug. 30(Fri)	Lv. Bangkok, Ar. Dhacca Discussion with Dhacca JICA office	
3	Aug. 31(Sat)	Courtesy call to ERD, Discussion at Ministry of Shipping Discussion with Department of Shipping	
4	Sep. 1(Sun)	Lv. Dhacca, Ar. Chittagong	
5	Sep. 2(Mon)	Visit to Seamen's Training Center(STC), Discussion at STC	
6	Sep. 3(Tue)	Visit to Chittagong Port, Visit to Marine Academy Discussion at STC	
7	Sep. 4(Wed)	Data collection at Shipping Office, Visit to Department of Shipping Data collection data at Bangladesh Shipping Corporation (BSC) Visit to BSC Workshop, Dockyard of Chittagong, Dry Dock Ltd. and BSC Tanker	
8	Sep. 5(Thu)	Discussion at STC	
9	Sep. 6(Fri)	NOGAWA, WATANABE, TAKAHASHI: Lv. Chittagong, Ar. Dhacca Discussion with JICA Office	YOSHIMI, ATOMURA, MATSUMOTO: Survey on facilities of STC Soil exploration
10	Sep. 7(Sat)	Discussion with Ministry of Shipping, Department of Shipping & ERD and Signing of Minutes of Discussion	Collection of construction cost data Survey on Equipment
11	Sep. 8(Sun)	Report to JICA Office & Embassy of Japan NOGAWA, WATANABE: Lv. Dhacca, Ar. Bangkok	Collection of construction cost data Survey on Equipment Sounding of Pond
12	Sep. 9(Mon)	TAKAHASHI: Lv. Dhacca, Ar. Chittagong	Field Survey, Collect construction cost data Survey on local contractor and drilling contractor Visit to Kafco Yen Credit Project
13	Sep. 10(Tue)	MATSUMOTO: Lv. Chittagong Ar. Dhacca	Survey on construction & transportation industries Collection of construction cost data Discussion on Equipment
14	Sep. 11(Wed)	Lv. Dhacca Ar. Bangkok	Visit to Marine Academy again Collection of construction cost data
15	Sep. 12(Thu)	Lv. Bangkok Ar. Tokyo	Discussion on Equipment at STC Data collection Survey on Seamen's union & Equipment mentainance agent

II-1 FIELD SURVEY (2/2)

DAY	DATE	DESCRIPTION
16	Sep. 13(Fri)	Lv. Chittagong, Ar. Dhacca Review data
17	Sep. 14(Sat)	Discussion at Department of Shipping, Collection of construction cost data
18	Sep. 15(Sun)	Review collected data
19	Sep. 16(Mon)	Discussion at Department of Shipping Visit to Hotel & Tourism Training Institute Review collected data
20	Sep. 17(Tue)	Visit to Deck Personnel Training Center (Bangladesh Inland Water Transport Authority) Visit to Institute of Marine Technology (Ministry of Labor & Manpower) Discussion at Department of Shipping
21	Sep. 18(Wed)	Report to JICA Office, Data collection
22	Sep. 19(Thu)	Discussion with PWD, Data collection
		TAKAHASHI: Lv. Dhacca Ar. Chittagong
		YOSHIMI, ATOMURA: Review data
23	Sep. 20(Fri)	Supervise boring survey, Discussion with Ministry of Finance at STC Lv. Chittagong, Ar. Dhacca
		Review data
24	Sep. 21(Sat)	Report to Department of Shipping & Ministry of Shipping Collection of construction data at PWD
25	Sep. 22(Sun)	Lv. Dhacca, Ar. Bangkok
26	Sep. 23(mon)	Lv. Bangkok, Ar. Tokyo

II - 2 CONSULTATION ON DRAFT REPORT

DAY	DATE	DESCRIPTION
	1991	
1	Nov. 16 (Sat)	Lv. Tokyo, Ar. Bangkok
2	Nov. 17 (Sun)	Lv. Bangkok, Ar. Dhacca Discussion with JICA Dhacca Office & Embassy of Japan
3	Nov. 18 (Mon)	Courtesy call to ERD, Discussion at Ministry of Shipping Discussion with Department of Shipping
4	Nov. 19 (Tue)	Discussion with Department of Shipping Courtesy call to Planning Commission
5	Nov. 20 (Wed)	Discussion with Department of Shipping Mr. Nogawa: Visit to DPTC, N. Gonji
6	Nov. 21 (Thu)	Lv. Dhacca Ar. Chittagong Discussion at Seamen's Training Center (STC)
7	Nov. 22 (Sat)	Lv. Chittagong Ar. Dhacca
8	Nov. 23 (Sat)	Inter-Ministry Meeting at Ministry of Shipping Signing of Minutes of Discussions
9	Nov. 24 (Sun)	Report to JICA Office & Embassy of Japan Lv. Dhacca Ar. Bangkok
10	Nov. 25 (Mon)	Lv. Bangkok, Ar. Tokyo

III. DISCUSSANTS

III-1 Field Study

N A M E	T I T L E
Mr. Md. Azizul Haq	Secretary, Ministry of Shipping
Mr. A.K.M. Salamatullah	Joint Secretary, M. of Shipping
Mr. Md. Restadul Islam	Senior Assistant Secretary, M. of Shipping
Mr. Md. Anowar Hosain	Joint Chief, M. of Shipping
Mr. K.C. Das	Deputy Chief (Planning), M. of Shipping
Mr. Md. Nuruddin	Assistant Chief, M. of Shipping
Engr. Dewan Zahurul Islam	Research Officer, M. of Shipping
Mr. Md. Mozharul Huq	Director General, Department of Shipping
Mr. Muhammad Ahsan Ali	Deputy Director, D. of Shipping
Capt. Hedayetullah Bhuiyan	Chief Nautical Surveyor, D. of Shipping
Mr. M.A. Malek	Chief Engineer & Ship Surveyor, D.O.S.
Capt. M. Forkanul Quader	Principal, Seamen's Training School
Mr. Habibur Rahman Bhuyia	Deputy Secretary (Development), Ministry of Finance
Mr. A. Shahriar Chowdhury	Deputy Secretary, E.R.D.
Mr. Md. Lafique Islam	Assist. Chief, E.R.D.
Mr. Mahmudul Hasan	Deputy Chief (Rail, Transport Wing), Planning Commission, Ministry of Planning
Capt. M. Azizul Hoque	Commandant, Marine Academy
Mr. Jashimuddin Ahmad	Senior Engineer Instructor, Marine Academy
Capt. Asm Fatehlohani	Chief Nautical Studies, Marine Academy
Mr. A.M. Ziauddin	Chief Engineer, Marine Academy
Mr. Abdul Haq	Principal Officer, Mercantile Marine Department
Mr. Shamsul Huda	Shipping Master, Government Shipping Office Department of Shipping
Mr. Abul Hasnat	Director, Directorate of Seamen & Emigration Welfare Department of Shipping
Mr. Md. Taiyab Ali	Chief Inspector, Department of Shipping
Mr. N.W. Khandakal	Manager Director, Bangladesh Shipping Corporation
Mr. F.T. Rahman	Technical Director, B.S.C.
Capt. Raza Ahmed	General Manager, B.S.C.
Engr. K.H. Nazmul Ahsan	General Manager (Acting), Marine & Grain Conveyor Workshop, B.S.C.
Mr. Md. Mazhar Iqbal	Deputy General Manager, Marine & Grain Conveyor Workshop, B.S.C.
Capt. Md. Alauddin	Master, M.T. "Banglar Shourabh", B.S.C.
Mr. A.H.M. Taiyab	Chief Engineer, M.T. "Banglar Shourabh", B.S.C.
Mr. S. Muzibur Rahman	Superintendent Engineer, Public Works Department

N A M E	T I T L E
Mr. Abdul Malek Sikder	Sub divisional Engineer, Division III Public Works Department
Mr. J.M. Akbar	General Manager, Chittagong Dry Dock Ltd. Bangladesh Steel & Engineering Cororation
Engr. S.K. Ball	General Manager (Design & Planning), Chittagong Dry Dock Ltd., B.S.E.C.
Mr. H. Bahar	Additional Chief Engineer, Dry Dock Ltd., B.S.E.C.
Mr. G. Masoom Chowdhury	Principal, Hotel & Tourism Training Institute Bangladesh Parjatan Corporation
Mr. Md. Ibrahim Hossain	Sr. Deputy Director (Consevancy & Pilotage), Bangladesh Inland Transport Authority
Mr. M. Yakubali	Acting Principal, Deck Personnel Training Center B.I.W.T.A.
Mr. Md. Ahasan Habib	Principal, Bangladesh Institute of Marine Technology, Ministry of Labor & Manpower
Mr. Md. Nazrul Islam	Sr. Instructor & Head Diesel Dept., B.I.M.T.
Mr. Mohammad Shahjhan	President, Bangladesh Seafares Union
Mr. Md. Nurul Islam	Honorary Consul of Japan

III-2 Consultation on Draft Report

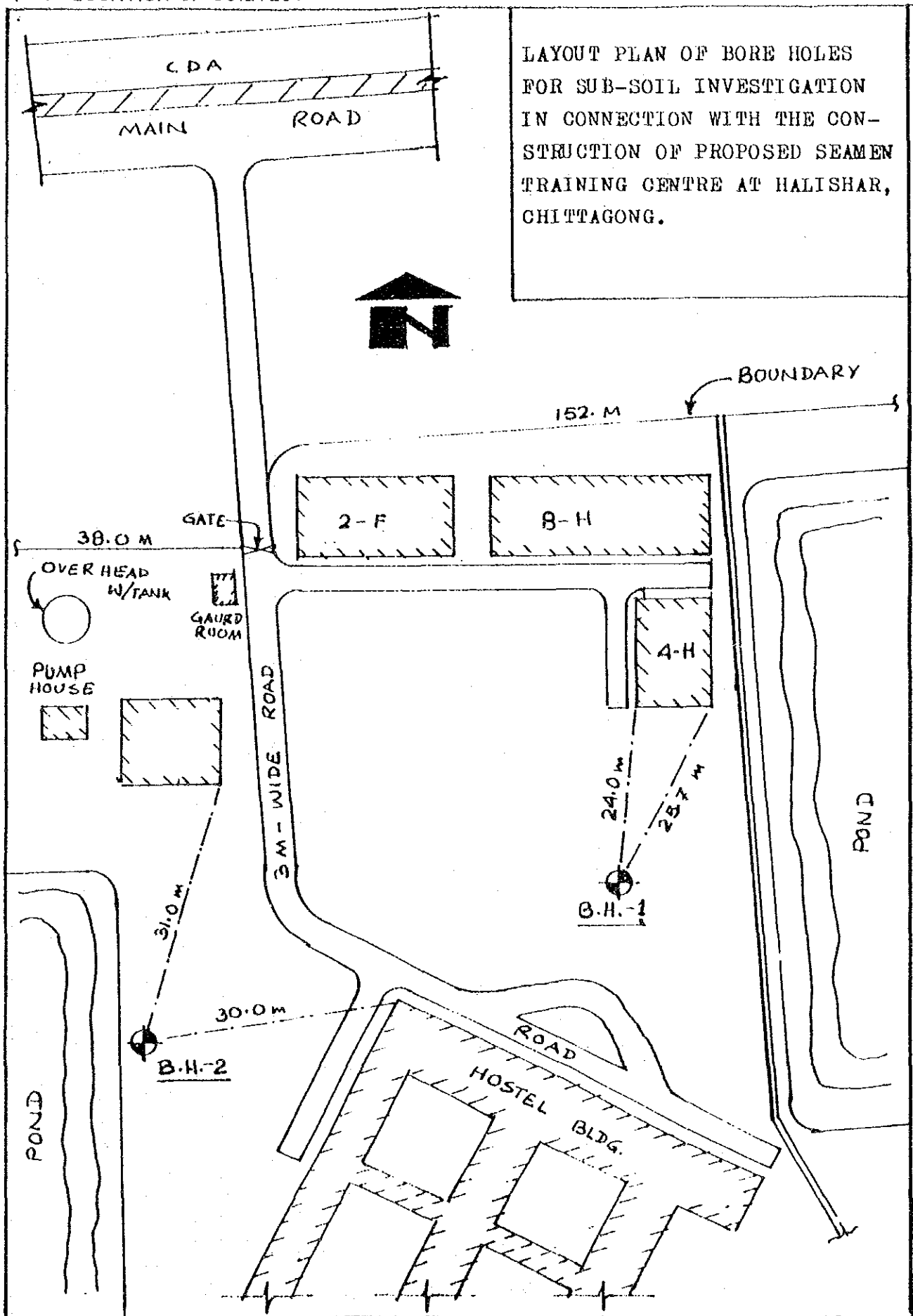
N A M E	T I T L E
Mr. A.K.M. Salamatullah	Joint Secretary, M. of Shipping
Mr. K.C. Das	Deputy Chief (Planning), M. of Shipping
Mr. Md. Mozharul Huq	Director General, Department of Shipping
Mr. Muhammad Ahsan Ali	Deputy Director, D. of Shipping
Mr. Mohsin Ali Khandoker	Research Officer, Ministry of Shipping
Capt. M. Forkanul Quader	Principal, Seamen's Training School
Mr. A. Shahriar Chowdhury	Deputy Secretary, E.R.D.
Mr. Omar Hadi	Division Chief, Planning Commission Ministry of Planning
Mr. Mahmudul Hasan	Deputy Chief (Rail, Transport Wing), Planning Commission, Ministry of Planning
Mr. Enaget Hossain	2nd Secretary, National Board of Revenue Ministry of Finance
Mrs. Rezia Ahmed	Deputy Director Information, Monitoring and Evaluation Department
Mr. Abdul Haq	Principal Officer, Mercantile Marine Department
Mr. Abul Hasnat	Director, Directorate of Seamen & Emigration Welfare Department of Shipping

V

ANNEX

- V-1 Location of Soil Test & Bore Hole Logs
- V-2 Distribution of Epicenters
- V-3 Pay Scale of Ratings
- V-4 List of Planned Equipment & Material

V-1 LOCATION OF SOILTEST



LAYOUT PLAN OF BORE HOLES FOR SUB-SOIL INVESTIGATION IN CONNECTION WITH THE CONSTRUCTION OF PROPOSED SEAMEN TRAINING CENTRE AT HALISHAR, CHITTAGONG.

MRITTIKA PROKAUSHALI
SOIL MECHANICS & MATERIALS TESTING
LABORATORY, CHITTAGONG.

Client — FISHERIES ENGINEERING CO., LTD.
Site — SEAMEN TRAINING CENTRE, CTG.
Bore Chart of Bore Hole No - 1

DATE	REDUCED ELEVATION	DEPTH (m)	THICKNESS (m)	STRATA ENCOUNTERED	LOG DIA OF BORING	STANDARD PENETRATION TEST				REMARKS (GWT) SOIL SAMPLE
						No. of blows / 30 cm.				
						14	23	42	56	VANE SHEAR TEST (kg/cm ²)

Continued from previous page.
REDUCED ELEV.

13-9-191	78.7	20.5	7.0	Grey dense fine to medium silty sand trace clay.		4	7	16.0	
14-9-191						5	4	17.0	
						5	6	18.0	
						3	7	19.0	
						3	7	20.0	

DISTURBED SAMPLE UNDISTURBED SAMPLE

MRITTIKA PROKAUSHALI
SOIL MECHANICS & MATERIALS TESTING
LABORATORY, CHITTAGONG.

Client — FISHERIES ENGINEERING CO. LTD.
Site SEAMEN TRAINING CENTRE, CTG.
Bore Chart of Bore Hole No 2

DATE	REDUCED ELEVATION	DEPTH (m)	THICKNESS (m)	STRATA ENCOUNTERED	LOG DIA OF BORING	STANDARD PENETRATION TEST				REMARKS	
						No. of blows / 30 cm. 14 28 42 56				(GWT)	SOIL SAMPLE

100.00 REDUCED ELEV.

15-9-1991			3.0	Light Grey stiff silty clay.	115mm dia. Rotary method.						9	1.0		
		97.0	3.0									10	2.0	
		96.0	4.0	1.0		Light Grey soft silty clay.						4	3.0	
				2.5		Grey very soft silty clay.							1	4.0
		93.5	6.5										1	5.0
14-9-1991			2.0	Grey loose sand with clay-silt.								1	6.0	
		91.5	8.5									3	7.0	
				3.0		Grey medium dense sand with clay-silt.							6	8.0
		88.5	11.5										9	9.0
				5.0		Grey medium dense fine sand clay-silt.							12	10.0
												14	11.0	
												17	12.0	
												29	13.0	
												35	14.0	
												28	15.0	

Continued to next page.

DISTURBED SAMPLE  UNDISTURBED SAMPLE 

MRITTIKA PROKAUSHALI
SOIL MECHANICS & MATERIALS TESTING
LABORATORY, CHITTAGONG

Client — FISHERIES ENGINEERING CO. LTD.
Site SEAMEN TRAINING CENTRE, CTG.
Bore Chart of Bore Hole No 2

DATE	REDUCED ELEVATION	DEPTH (m)	THICKNESS (cm)	STRAATA ENCOUNTERED	LOG DIA OF BORING	STANDARD PENETRATION TEST				REMARKS (GWT) SOIL SAMPLE	
						No. of blows / 30 cm.				VANE SHEAR TEST (kg/cm ²)	
						14	28	42	56		

Continued from previous page.
REDUCED ELEV.

DATE	REDUCED ELEVATION	DEPTH (m)	THICKNESS (cm)	STRAATA ENCOUNTERED	LOG DIA OF BORING	STANDARD PENETRATION TEST				REMARKS (GWT) SOIL SAMPLE				
						No. of blows / 30 cm.				VANE SHEAR TEST (kg/cm ²)				
14-9-1991 - 15-9-1991	83.5	16.5		Grey dense fine to medium silty sand trace clay.	115mm dia. Rotary method.					3	0	16.0		
												2	9	17.0
												3	1	18.0
												4	5	19.0
	79.5	20.5										5	6	20.0

DISTURBED SAMPLE  UNDISTURBED SAMPLE 

V-3 PAYSACLE OF RATINGS

Figures in () show that of Tanker
(U.S.Dollars)

Deck Ratings

Classification	Basic Scale (Monthly)	Overtime (per hour)
1. CARPENTER	230.00@ (235.00)	0.90 (1.00)
2. CARPENTER MATE	220.00 (225.00)	0.80 (0.90)
3. SERANG	220.00 (225.00)	0.90 (1.00)
4. DECK MAINTENANCE HAND	- (205.00)	- (0.90)
5. TINDAL/CASSAB	- (210.00)	- (0.90)
6. TINDAL	- (205.00)	- (0.90)
7. ABLE SEAMAN	195.00 (200.00)	0.80 (0.90)
8. SEAMAN/HELMSMAN	190.00 (195.00)	0.80 (0.90)
9. CASSAB	- (195.00)	- (0.90)
10. SEAMAN-I	185.00 (190.00)	0.80 (0.90)
11. SEAMAN-II	180.00 (185.00)	0.80 (0.90)
12. SEAMAN-III	170.00 (180.00)	0.80 (0.90)
13. BHANDARY	185.00 (195.00)	0.80 (0.90)
14. BHANDARY MATE	175.00 (180.00)	0.80 (0.90)
15. GENERAL UTILITY HAND	170.00 (180.00)	0.80 (0.90)

Engine Ratings

Classification	Basic Scale (Monthly)	Overtime (per hour)
1. FITTER	230.00 (235.00)	0.90 (1.00)
2. ASSISTANT FITTER	220.00 (225.00)	0.80 (0.90)
3. SERANG	220.00 (225.00)	0.80 (0.90)
4. PUMP MAN	220.00 (225.00)	0.80 (0.90)
5. ASSISTANT PUMPMAN	195.00 (200.00)	0.80 (0.90)
6. TINDAL	210.00 (200.00)	0.80 (0.90)
7. WINCH MAN	190.00 (185.00)	0.80 (0.90)
8. CASSAB	190.00 (195.00)	0.80 (0.90)
9. DONKEY/GREASER	190.00 (195.00)	0.80 (0.90)
10. DONKEYMAN	185.00 (190.00)	0.80 (0.90)
11. ENGINE RATING-I	185.00 (190.00)	0.80 (0.90)
12. ENGINE RATING-II	180.00 (190.00)	0.80 (0.90)
13. ENGINE RATING-III	170.00 (180.00)	0.80 (0.90)

Saloon Ratings

Classification	Basic Scale (Monthly)		Overtime (per hour)	
1. BUTLER/CHIEF STEWARD	230.00	(235.00)	0.90	(1.00)
2. CHIEF COOK/BAKER	220.00	(235.00)	0.90	(1.00)
3. 2ND COOK	195.00	(200.00)	0.80	(0.90)
4. CHIEF COOK	215.00	(225.00)	0.80	(0.90)
5. CREW COOK	185.00	(200.00)	0.80	(0.90)
6. 3RD COOK	175.00	(200.00)	0.80	(0.90)
7. BAKER	215.00	(225.00)	0.80	(0.90)
8. 2ND BAKER	195.00	(200.00)	0.80	(0.90)
9. BAKER MATE	185.00	(190.00)	0.80	(0.90)
10. PANTRYMAN (PASS)	185.00	(200.00)	0.80	(0.90)
11. STORE KEEPER	220.00	(225.00)	0.80	(0.90)
12. NIGHT WATCHMAN	-	(205.00)	-	(0.90)
13. NIGHT STEWARD	-	(200.00)	-	(0.90)
14. GENERAL STEWARD/MESSBOY	185.00	(195.00)	0.80	(0.90)
15. SCHALLION STEWARD	180.00	(195.00)	0.80	(0.90)
16. UTILITY STEWARD	-	(185.00)	-	(0.90)
17. SCHALLION	-	(185.00)	-	(0.90)

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
1.1	LIFE SAVING APPLIANCES		
1.1-a	LIFE BOAT Rule applied: 1983 Amendments to the SOLAS 1974 for tanker version Equipment and accessories: Fully equipped according to the requirements of the above rules including a radio and a search- light	No	1
1.1-b	LIFE BOAT DAVIT Type: Gravity hinged type Rule applied: Same as for life boat Location installed: To be installed on the small jetty Kind of boat winch: Electric motor driven Power supply: 440V. A. C., 50Hz, 3ph Length of boat fall: 70m approx. Equipment and accessories: Necessary blocks, sheaves and boat lashing gear to be provided	Set	1
1.2	ROWING CUTTER LENGTH, overall: 7.0 m. approx. Material: F. R. P. Equipment and accessories: 1 - Anchor 1 - Anchor rope, 6 m. long 1 - Boat hook 1 - Boat cover 1 - Scoop for bilge water 1 - Rudder with tiller 2 - Mooring rope 2 - Cork fender 1 - Sail	No	1
1.3	INFLATABLE LIFE RAFT IN G. R. P. CONTAINER Type and Rule applied: 1983 Amendments to the SOLAS 1974 Complement: 15 persons Equipment and accessories: As per above mentioned rules and regulations	No	1
1.4	LIFE JACKETS Type and Rule applied: 1983 Amendments to the SOLAS 1974 Equipment: Dry cell lamp Hard type: Inflatable type:	Nos Nos	50 50
1.5	BUOYANT APPARATUS a. Self igniting light b. Smoke signal	No No	1 1

EQUIPMENT LIST 1

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
	c. Parachute signal, 4pcs/pack	No	1
	d. Rocket signal, 2pcs/pack	No	1
1.6	EMBARKATION LADDER, 10 METERS LONG (JIS F 2617, ISO 5489-1979)	No	1
1.7	LIFEBUOY WITH SELF-IGNITING LIGHT	Nos	6
1.8	LIFE LINE THROWING APPLIANCES	Nos	2
1.9	SAFE BELT	Nos	5
1.10	SAFETY HELMET	Nos	250
1.11	SAFETY SHOES	Nos	250
	Size No. 6:		
	Size No. 7:		
	Size No. 8:		
	Size No. 9:		
	Size No. 10:		
	Total : 250		
1.12	SAFETY HARNESS	Nos	10
2	FIRE PREVENTION & FIRE FIGHTING APPLIANCES		
2.1	EXPLANATORY CHARTS OF:		
	a. Fixed gas fire-extinguishing systems CO 2, Halogenated hydrocarbons, Halon 1301 etc.	Set	1
	b. Fixed low and high-expansion foam fire-extinguishing systems in machinery spaces	Set	1
	c. Fixed pressure water-machinery spaces system in machinery spaces	No	1
	d. Automatic sprinkler, fire detecting and fire extinguishing systems	Set	1
	e. Fixed fire detecting and fire alarm system	No	1
2.2	FIRE FIGHTING EQUIPMENT FOR PRACTICAL TRAINING		
	a. Portable fire pump	No	1
	Capacity: 30 M ³ /hr		
	Total head: 40 M		
	Prime mover: 10 ps diesel engine		
	Accessories:		
	4 - 65 mm. dia. x 15 m. long water hose		
	2 - Nozzle of dual purpose type a shut-off		
2.3	PORTABLE FIRE EXTINGUISHER		
	a. Foam type, 9.0 litres	Nos	10
	b. Co 2 type, 9.0 litres	Nos	10
	c. Dry powder type, 9.0 litres	Nos	10

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
2.4	FIXED FIRE DETECTION AND FIRE ALARM SYSTEMS Location to be installed: 2 detectors: in the fire fighting training house Control panel and alarm: in the store	Set	1
2.5	FIREMAN'S OUTFITS	Sets	10
2.6	AIR COMPRESSOR FOR BREATHING APPARATUSES Type: Electric motor driven Pressure: 150 kg/cm ² Power supply: 440 V.AC, 50 Hz, 3 ph.	Set	1
3	COMPASS AND NAVIGATION APPARATUS		
3.1	GYRO COMPASS Type: Compact size installed in the steering Accessories: Power supply panel, transformer and gyro compass pilot system (C.C.P.) Power supply: 220 V.AC, 50 Hz, single ph.	Set	1
3.2	MAGNETIC COMPASS Type: Stand type Card dia.: 165 mm. Accessories: Azimuth circle and mirror Power supply: 220 V.AC, 50 Hz, single ph.	Set	1
3.3	CHART TABLE TOP Size: 900 mm. x 1,200 mm. approx. Type: can be used as drawing table top	Nos	20
3.4	CHART CABINET Type: With 5 drawers for charts	No	1
3.5	CHARTS	Nos	40
3.6	SQUARE RULES Type: 45deg. x 45deg. & 60deg x 30deg., 350 mm. approx.	Sets	20
3.7	COMPASS SET Type: 120 mm. approx.	Sets	20
3.8	CHARTS AND HYDROGRAPHIC PUBLICATIONS	No	1
3.9	RADAR WITH VTR Output: 10 Kw CRT: 14" monochrom Range: 48 n.miles Scanner length: 6 feet Power supply: 220 V.AC, 50 Hz, single ph.	Set	1
3.10	EXPLANATORY CHARTS a. Gyro auto pilot system b. Electro-magnetic speed log	No	1

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
	c. Magnetic compass	No	1
	d. Gyro compass	No	1
	e. Echo sounder	No	1
	f. Doppler log	No	1
	g. Radar	No	1
	h. Loran	No	1
	i. Global positioning system (G.P.S.)	No	1
	j. Radio direction finder	No	1
	k. Navigation aids	No	1
	l. Sailing	No	1
3.11	NAVTEX RECEIVER Power supply: 220 V.AC, 50 Hz, singleph.	No	1
3.12	TIDE TABLE	No	1
3.13	SIGHT-REDUCTION TABLE	No	1
3.14	CONSTELLATIONS	No	1
3.15	BINOCULAR	No	5
3.16	SEXTANT	Nos	5
3.17	PARALLEL RULER	Nos	20
3.18	CHART WEIGHT	Nos	80
3.19	MAGNIFYING GLASS	Nos	20
3.20	DIVIDER	Nos	20
3.21	CHART BRUSH	Nos	20
3.22	CHRONOMETER, QUARTZ	No	1
3.23	BLACK SHAPES	Set	1
3.24	FISHING SHAPES	Set	1
3.25	SHIP'S BELL	No	1
3.26	MEGAPHONE	No	1
4	SIGNALLING BY INTERNATIONAL SIGNALS		
4.1	INTERNATIONAL SIGNAL FLAG	Sets	5
4.2	HAND SIGNAL FLAG	Sets	5
5	METEOROLOGY		
5.1	Marine aneroid barometer, 150 mm. dia	Nos	2
5.2	Thermometer, -5 deg. C to +35 deg. C	Nos	10
5.3	Hydrometer	Nos	3
5.4	Water temperature meter	No	1
5.5	Observation facility	No	1

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q' TY
5.6	Weather facsimile receiver Recording paper: Thermosensitive, 305 mm. width Effective recording width: 296 mm. Power supply: 220 V.AC, 50Hz, single ph.	No	1
5.7	Ocean current distribution chart	No	1
5.8	Chart of Cloud & Meteorological Symbols	No	1
5.9	Wind vane anemometer Location installed: Wind vane: Top of the derrick post Anemometer: In the deck part lecture room	No	1
6	DISTRESS SIGNAL & SIGNAL LIGHTS		
6.1	Rocket parachute flare	Nos	5
6.2	Hand flare	Nos	5
6.3	Buoyant smoke signal	Nos	5
6.4	Portable daylight signal Electric light: 60 W, 12 V.DC Accessory: Automatic battery charger Input power: 220 V.AC	Set	1
6.5	Lantern a. Mast head light, two lights type b. Side light two lights type, red and green c. Stern light, two lights type d. Anchor light e. Red light	No Set No No No	1 1 1 1 1
6.6	EPIRB (EMERGENCY POSITION INDICATING RADIO BEACON)	No	1
6.7	Direction finder Type: automatic/manual Display: Digital Power supply: 220 V.AC, 50 Hz, single ph.	Set	1
6.8	Radar transponder	No	1
7	MODEL AND EXPLANATORY CHARTS		
7.1	Models of; a. Bulk carrier b. Container carrier c. Crude oil tanker	No No No	1 1 1
7.2	Explanatory charts of; a. RO-RO ship	No	1

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
	b. LNG carrier	No	1
	c. Flags of nations	No	1
	d. Hull construction, midship section (typical cargo ship)	No	1
	e. Hull construction, bow construction (typical cargo ship)	No	1
	f. Hull construction, stern construction (typical cargo ship)	No	1
8	CARGO HANDLING & STOWAGE		
8.1	Model of Cargo gear & hatch way with cover Type & scale: Cargo gear: K-7 SHIPCRANE, 60 tons cap. Hatch cover: Folding type steel cover Power supply: 220 V.AC, 50 Hz single ph.	Set	1
8.2	Explanatory chart of gas detector system	No	1
8.3	Explanatory chart of tank cleaning system	No	1
8.4	Explanatory chart of cargo pump & stripping pump	No	1
8.5	Explanatory chart of inert gas system	No	1
8.6	Explanatory chart of cargo oil discharging monitor system	No	1
9	PREVENTION OF SEA POLLUTION		
9.1	Explanatory chart of oily water separator Type: Water separator with alarm system	No	1
9.2	Explosimeter		
	a. Hydro Carbon Gas Meter (Portable type)	No	1
	b. Oxygen Meter (Portable type)	No	1
10	MAIN & AUX. PRIME MOVERS, BOILER & PRESSURE VESSELS, PUMPING AND PIPING SYSTEMS		
10.1	Ships service electric generating plant		
	a. Diesel generating engine Continuous rated output: 38 ps Continuous rated engine speed: 1,500 rpm Starting system: Electrical, 24 V.DC. 3.7 Kw Cooling system: Fresh water Parallel running system shall be provided	Set	1
	b. Electric generator Capacity: 30 KVA x 225 V.AC. Frequency: 50 Hz	Set	1

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
	Phase: 3		
	c. Electric switchboard	Set	1
	Type: Dead-front		
	d. Spare parts	Lot	1
10.2	Actual sample of:		
	a. Cut model of pumps		
	1. Reciprocating pump, 4 M ³ /hr x 31 Kg/cm	No	1
	2. Centrifugal pump, 12 M ³ /hr x 2 Kg/cm	No	1
	3. Gear pump, 3 M ³ /hr x 3 Kg/cm	No	1
	4. Swash flow pump, 300 M ³ /hr x 1 Kg/cm	No	1
	5. Vane pump,	No	1
	6. Diaphragm pump,	No	1
	7. Janney pump,	No	1
	8. Hele shaw pump,	No	1
	b. Explanatory chart of heat exchanger	No	1
	1. Lub. oil cooler		
10.3	Explanatory chart of:		
	a. Steam boiler	No	1
	b. Fresh water generator	No	1
	c. Waste oil incinerator	No	1
	d. Fresh water hydro-phore system	No	1
	e. Air & elec. type process controller (Leve., Temp., Flow)	No	1
10.4	Cut away model of:		
	a. 2-Cycle engine	No	1
	b. 4-Cycle engine	No	1
	c. Marine steam turbine	No	1
10.5	Map of:		
	a. 2-Cycle engine	No	1
	b. 4-Cycle engine	No	1
	c. Marine steam turbine	No	1
11	ELECTRIC INSTALLATIONS		
11.1	Horizontal type motors		
	a. 2.2 KW, 440 V. AC, 50 Hz, 3 ph.	No	1
	b. 7.5 KW, 440 V. AC, 50 Hz, 3 ph.	No	1
12	WORKSHOP MACHINERY		

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
12.1.a	Universal machine tools Type: Combined lathe, shaper, drill & milling machine Main particulars: Lathe: Center distance, 580 mm. Drilling: Max. drilling capacity, 38 mm. Milling: Dia. of cutter arbor, 25.4 mm. Shaper: Max. stroke of ram, 280 mm. Electric motor: 2.2 KW, 440 V.AC, 50 Hz, 3 ph.	Set	1
12.1.b	Cutting tools for the above	Lot	1
12.2.a	Lathe Center distance: 800 mm. Electric motor: 2.2 KW, 440 V.AC, 50 Hz, 3 ph.	Sets	4
12.2.b	Cutting tools for the above	Lot	1
12.3	Electric welder Rating: 300 A. Welding rod: 2 - 6 mm. dia. Power supply: 440 V.AC	Sets	5
12.4	Gas welder/cutter with appurtenance	Sets	5
12.5	Electric solding set Power supply: 220 V.AC	Sets	5
12.6	Drilling machine		
	a. Fixed type Max. drilling capacity: 13 mm. dia. Electric motor: 200 W, 440 V.AC, 50 Hz, 3 ph.	Sets	2
	b. Portable type Max. drilling capacity: 13 mm. dia. Electric motor: 620 W, 220 V.AC, 50 Hz, single ph.	Sets	3
12.7	Electric grinder Type: Double head, fixed Dia.: 205 mm. Electric motor: 620 W, 440 V.AC, 50 Hz, 3 ph.	Sets	5
12.8	Electric sawing machine Saw length: 250 mm. approx. Electric motor: 440 V/AC. 50 Hz. 3 ph	No	1
12.9	Disc sander Disc dia.: 125 mm. Electric motor: 590 W, 220 V.AC, 50 Hz, single ph.	Nos	5
12.10	Blower Discharging quantity: 1.5 cu.m/min. Electric motor: 1.5 kW., 440 V.AC, 50 Hz, 3 ph	Set	1
12.11	Portable screens for welding works 1000w x 2000h	Nos	16
12.12	Welder's outfit	Sets	20

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
	consisting of ; helmet, gloves, aprons, leg guard & etc.		
12.13	Earth device for electric welding 500mm x 500 mm x 10 mm steel plate	No	1
13	TESTING & MEASURING EQUIPMENT (MACHINERY PART)		
13.1	Fuel injection valve tester	Set	1
13.2	Portable Engraver(Assorted) Power supply: 220 V.AC. 50 Hz, single ph.	Sets	5
13.3	Pressure Gauge for air, oil & hydraulic	Nos	5
13.4	Dial Gauge		
	a. Dial gauge with magnetic holder	Nos	3
	b. Dial gauge with holder	Nos	10
13.5	Micrometer	Nos	10
13.6	Block gauge (Assorted)	Nos	3
14	TESTING & MEASURING EQUIPMENT (ELECTRIC PART)		
14.1	Circuit tester	Nos	10
14.2	Volt & ammeter	Nos	10
14.3	Megger	Nos	5
14.4	Hand tachometer	Nos	5
14.5	Knives	Nos	5
14.6	Screw Driver, plus Large, middle, small	Each	5
14.7	Screw driver, minus Large, middle & small	Each	5
14.8	Pincers	Nos	5
14.9	Nippers	Nos	5
14.10	Adjustable wrench	Nos	5
14.11	Test lamp, 220 V.	Nos	5
14.12	Flash light	Nos	5
14.13	Electrician's Rubber gloves	Nos	10
14.14	Vinyl tape Red, white & black	Each	10
14.15	Hand lamp with 10 M. cabtire cable	Sets	5
14.16	Hydrometer	Nos	5
14.17	Spouts	Nos	5
14.18	Funnel	Nos	5
14.19	Jar	Nos	5
14.20	Sample of electric cable, assorted	Set	1

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
15	TOOLS(MACHINERY PART)		
15.1	Vernier caliper, 200 mm.	Nos	10
15.2	Marking scribe, 200 mm.	Nos	10
15.3	Surface gauge	Nos	3
15.4	Straight edge, 1,000 mm.	Nos	3
15.5	" " 500 mm.	Nos	3
15.6	Square, 300 mm.	Nos	3
15.7	Feeler gauge, 75 mm. x 12 leaves	Nos	3
15.8	Inside calipers, 300 mm.	Nos	3
15.9	" " 200 mm.	Nos	3
15.10	Outside calipers, 300 mm.	Nos	3
15.11	" " 200 mm.	Nos	3
15.12	Compass, 200 mm.	Nos	3
15.13	" 150 mm.	Nos	3
15.14	Steel scale, 1,000 mm.	Nos	3
15.15	" " 300 mm.	Nos	3
15.16	Steel tape measure, 20 m. long	Nos	3
15.17	Thermometer		
	a. With holder	Nos	3
	b. Bar type. 100 deg.C alcohol	Nos	3
	c. " " 500 deg.C mercury	Nos	3
15.18	Spring balance, 50 Kg.	Nos	3
15.19	Scaling bar, 1,000 m. long	Nos	3
15.20	Tool locker	Nos	5
15.21	Surface plate, 600 x 600	Nos	5
15.22	Vice with mouth protector, 150 mm.	Nos	10
15.23	Wire cutter, for 20 mm. dia. W.R.	Nos	5
15.24	Anvil, 600 x 600	Nos	5
15.25	Working table, wood, 900 x 1,800	Nos	5
15.26	Surface plte for sheet metal, 600 x 600	Nos	2
15.27	Black board, 1,200 x 900	No	1
15.28	Trolley	Nos	2
15.29	Straight shank drill, 3, 4, 5, 6, 7, 9 mm. dia.	Each	5
15.30	Spanner, single ended, 17, 21, 26, 32, 35, 41, 46, 50, 54, 58, 63, 67 mm.	Each	5
15.31	Spanner, double ended, 17 x 21, 26 x 32, 35 x 41, 46 x 50, 54 x 58 mm.	Each	5
15.32	Box spanner, 12, 16, 20, 22, 24 mm.	Each	5
15.33	Adjustable wrench, 200 mm. & 300 mm.	Each	5
15.34	Pipe wrench, 300 mm. & 600 mm.	Each	5

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	QTY
15.35	Hand hammer, 1 Kg. & 2 Kg.	Each	10
15.36	Cutting pliers, 150 mm. & 200 mm.	Each	5
15.37	File		
	Flat, round, half round & triangle each 250 mm. & 350 mm. long	Each	10
15.38	File holder	Nos	10
15.39	File brush	Nos	5
15.40	Copper hammer, 450 gr.	Nos	5
15.41	Wooden hammer, 280 mm. long	Nos	5
15.42	Chipping hammer, 350 mm. long	Nos	5
15.43	Scraper		
	Flat & bamboo leaf, 300 mm.	Each	5
15.44	Paint scraper, 200 mm. & 900 mm.	Each	5
15.45	Center punch, 3 mm. dia. x 125 mm. long	Nos	5
15.46	Strike punch, 11, 14, 18 & 22 mm. dia.	Each	5
15.47	Washing can	Nos	5
15.48	Chisel (oil groove cut), 150 L. x 22 B. x 5 mm.	Nos	5
15.49	" " " " , 130 L. x 19 B. x 3 mm.	Nos	5
15.50	Scissors for packing	Nos	5
15.51	" " " " , metal, flat	Nos	5
15.52	" " " " , " , round	Nos	5
15.53	Hacksaw frame & hacksaw, 300 mm. long	Sets	5
15.54	Packing tool, hook & stick type	Sets	5
15.55	Oil funnel, 150 mm. & 350 mm. dia.	Each	5
15.56	Oil stone with wooden bed, 50 mm. B x 150 mm. L	Nos	10
15.57	Torch lamp, kerosene	Nos	5
15.58	Flash light	Nos	5
15.59	Oil measure, 1.0 & 2.0 litres	Each	5
15.60	Oil feeder	Nos	5
15.61	Oil feeder, syringe, 30 mm. dia. & 250 mm. dia.	Each	5
15.62	Grease gun	Nos	5
15.63	Tap & dice set with case	Sets	5
	Tap: M10, 12, 16, 20, 22, 24		
	Dice: M10, 12, 16, 20, 22, 24		
15.64	Chain block, 2 tons capacity	Nos	2
15.65	Tripod for 2 tons capacity	Nos	2
16	STEERING GEAR SYSTEM SIMULATOR		
16.1	Steering stand	Set	1
	Type: Electric control system (Gyro master compass and G.C.P. unit shall be installed)		

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
	Installation: On the turning table Power supply: 440 V.AC, 50 Hz. 3 ph.		
16.2	Steering gear Type: Electro-hydraulic type Max. torque: 1.5 t-m Rudder turning angle: 70< Rudder turning speed: 70</15' Electric motor: 1.5 KW Power supply: 440 V.AC, 50 Hz, 3 ph. Completed with rudder carrier and installed on the common base.	Set	1
17	PILOT LADDER & BULWARK LADDER		
17.1	Pilot ladder, 7.0 m. long, JIS F 2615	No	1
17.2	Bulwark ladder, 1,000 mm. high, 600 mm. width	No	1
18	SEAMENSHIP (TOOLS & EQUIPMENT)		
18.1	Bosun's Chair 620 mm. x 160 mm. x 25 xmm. with 18 mm. dia. fiber rope	No	1
18.2	Painting stage 4,000 mm. x 300 mm. x 40 mm. with 18 mm. dia. x 30 m. fiber rope	Nos	2
18.3	Shackle a. Bow Shackle: 14, 16, 18, 20, 22, 24, 26, 30 (JIS B2801-BC) b. 'D' shackle: 14, 16, 18, 20, 22, 24, 26, 30 (JIS B2801-SC)	Each	1 (total 8) Each 1 (total 8)
18.4	Thimble, 12, 14, 16, 18, 20, 22, 24 mm. (JIS B2802-A, B, C & D)	Each	1 (total 8)
18.5	Eye bolt & NUT, 12, 16, 20, 22, 24 mm.	Each	1
18.6	Wedge, wood, 200 mm., 250 mm. & 300 mm. (JIS F 2303)	Each	1
18.7	Bolt & nut. M12, 14, 16, 20, 24 mm	Each	10
18.8	Steel washer, 12, 14, 16, 20, 24 mm.	Each	10
18.9	Steel spring washer, 12, 14, 16, 20, 24 mm.	Each	10
18.10	Split pin, steel, 2, 3, 4, 5, 6 mm. dia.	Each	10
18.11	Lead Hammer, 1.8 Kg.	Nos	5
18.12	Siege hammer, 7 Kg	Nos	5

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q' TY
18.13	Oil pan with strainer, 600 x 400 x 100	Nos	5
18.14	" " " " , 400 x 300 x 100	Nos	5
18.15	Water bucket, sheet metal, 18 litres	Nos	10
18.16	Paint pot	Nos	10
18.17	Swivel, 9, 16, 22, 30 mm. dia.	Each	1
18.18	Cargo net, steel wire rope & fiber rope		
	a. 1.5 m. x 1.5 m. x 100 mm. mesh	Each	1
	b. 2.1 m. x 2.1 m. x 180 mm. mesh	Each	1
	c. 2.7 m. x 2.7 m. x 220 mm. mesh	Each	1
18.19	Hatch beam sling		
	16 mm. dia. x 4,000 m. long (JIS F 3441 B 2.0	Nos	2
18.20	Wire rope sling		
	20 mm. dia. x 6 m. long. both ends eye-splice	Nos	2
18.21	Cargo hook		
	a. 1 ton & 3 tons with swivel (JIS F 2105 A-1 & 3	Each	1
	b. 1 ton & 3 tons with shackle (JIS F 2105 B-1 &	Each	1
18.22	Delta plate for union purchasing system	No	1
	220 mm. x 220 mm. x 18 mm.		
18.23	Spreader, steel pipe, Sch. No. 40		
	65A x 3,000 m. & 100A. x 4,000 mm. long		
	both ends finished with eye-plate	Each	1
18.24	Trolley		
	Carrying capacity: 300 Kg.	Nos	2
18.25	Steel cargo block		
	a. Single without becket, 340 (JIS F 3421 1A)	No	1
	b. Single with becket, 340 (JIS F 3421 1B)	No	1
	c. Double without becket, 340 (JIS F 3421 2A)	No	1
	d. Double with becket, 340 (JIS F 3421 2B)	No	1
	e. Single with roller bearing, 340 (JIS F 3428 1	No	1
	f. Single with roller bearing, 340 (JIS F 3429 1	No	1
18.26	Snatch block		
	a. For steel wire rope, 200 (JIS F 3422 SW 200)	No	1
	b. For fiber rope, 200 with hook (JIS F 3422 SMH	No	1
	c. For steel wire rope, 200 with hook (JIS F 342	No	1
18.27	External-bound block		
	a. For 18 mm. dia. fiber rope. 180 (JIS F 3423 W	No	1
18.28	Internal-bound block		
	a. For 18 mm. dia. fiber rope with hook		
	180 (JIS F 3426 W1AH-180)	No	1
	b. For 18 mm. dia. fiber rope with shackle		
	180 (JIS F 3426 W1AS-180)	No	1
18.29	Steel block for fiber rope guy		
	a. For 24 mm. fiber rope. 160 (JIS F 3424 M1A-16	No	1

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
18.30	Marine turnbuckle with eye bolts		
	a. 12 mm. dia (JIS F 7020-12)	No	1
	b. 16 mm. dia. (JIS F 7020-16)	No	1
	c. 20 mm. dia. (JIS F 7020-20)	No	1
18.31	Turnbuckle for lumber lashing (JIS F 2101)	No	1
18.32	Rigging screw		
	a. For 14 mm. dia. wire rope (JIS F 3403-14)	No	1
	b. For 22 mm. dia. wire rope (JIS F 3403-22)	No	1
18.33	Spike		
	a. Wood, 75 mm. dia. x 500 mm.	Nos	20
	b. Steel, 200 mm., 350 mm. & 500 mm. long	Each	20
18.34	Hack saw		
	a. Hand type	Nos	10
	b. Motor driven type, 220 V. AC	Nos	5
18.35	Carpenter's standard tool box	Sets	3
18.36	Plumber's standard tool box	Sets	3
18.37	Steel cement	Kgs	10
18.38	Chipping hammer, 350 mm.	Nos	50
18.39	Goggle	Nos	100
18.40	Scraper		
	a. Straight type	Nos	50
	b. Horse-shoe type	Nos	50
18.41	Wire brush	Nos	50
18.42	Paint brush, 30, 40, 50, 60 & 70 mm.	Each	20
18.43	Nylon rope		
	24 & 34 mm. dia. x 200 m. long	Each	1
18.44	Wire rope		
	12 & 20 mm. dia. (6x24) x 200 m. long	Each	1
18.45	Needle		
	For canvas, NO. 10, 12, 14, 15 & 16	Each	20
18.46	Threads for canvas sewing	Roll	1
18.47	Valve turning wrench	Nos	5
18.48	Clinometer	No	1
18.49	Sand lead	Nos	2
18.50	Hand lead	Nos	2
18.51	Deep sea lead	Nos	2
18.52	Sounding rod for F.W.T.	Nos	2
18.53	Cork fender with fiber rope	Nos	2
18.54	Tire fender with small link chain	Nos	2
18.55	Rat guard	Nos	2
18.56	Anchor buoy (JIS F 3308 B)	No	1
18.57	Hand hammer	Nos	5
18.58	Claw hammer	Nos	5

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
18.59	Sledge hammer	Nos	5
18.60	Chisel	Nos	5
18.61	Bench plane	Nos	5
18.62	Gimlet, large and small	Sets	5
18.63	Fire axe (JIS F 3610)	Nos	5
18.64	Maul	Nos	5
18.65	Tinner's scissors	Nos	5
18.66	Whet stone	Nos	5
18.67	Tape measure	Nos	3
18.68	Wooden work vice	Nos	5
18.69	Claw bar, 500 mm & 1,000 mm	Each	5
18.70	Deck brush	Nos	5
18.71	Tar brush	Nos	50
18.72	Vernish brush	Nos	20
18.73	Shovel	Nos	5
18.74	Palm	Nos	5
18.75	Serving board	Nos	5
18.76	Oil can	Nos	5
18.77	Oil funnel	Nos	5
18.78	Grease gun	Nos	5
18.79	Serving mallet	Nos	5
18.80	Coir broom	Nos	5
18.81	Mop with handle	Nos	5
18.82	Squeezer	Nos	5
18.83	Anchor		
	a. Stockless anchor, 180 kg.	No	1
	b. Common anchor with stock, 60 kg.	No	1
18.84	Anchor chain cable, 14mm. dia. Grade 1, one (1) consisting of:	Set	1
	a. 1-Anchor shackle		
	b. 1-End link		
	c. 1-Swivel		
	d. 1-Enlarged link		
	e. 1-Length of common links (24.0 m. long approx.)		
	f. 1-Joining shackle		
	g. 1-Kenter shackle		
18.85	Bar for practicing rope work consisting of: Steel pipe of 65 mm. dia. x 5.5 m. x 4 with 1 meter high stanchions installed in the deck part work shop	Set	1
18.86	Model of rope knots, assorted	Set	1

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
19	FIRST AIDS		
19.1	Instrument cabinet Stainless steel, 1,220W x 450D x 1,720H mm	No	1
19.2	Medicine cabinet Steel, 900W x 600D x 1,650H mm	No	1
19.3	Neil Robertson stretcher	Sets	3
19.4	Basket stretcher	Sets	2
19.5	Medicine for vessel recommended by WHO	Set	1
19.6	Surgical apparatus for vessel recommended by WHO	Set	1
19.7	Brook airway for hygienic resuscitation	Nos	5
19.8	Plastic dummy for:		
	a. Resuscitation and cardiac massage	Sets	5
	b. Injury models, assorted	Set	1
	c. Arm model for intravenous injection and transfusion	Set	1
19.9	First Aid bag	Nos	5
20	GALLEY EQUIPMENT & COOKING APPARTUS FOR TRAINING		
20.1	Coking board (chopping board) 800 X 400 X 30	Sets	11
20.2	Water boiler, electric, 20 litres capacity Power supply: 220 V. AC.	Set	1
20.3	Rice cooker, electric, 3.6 litres capacity	Sets	2
20.4	Chinese pan	Nos	9
20.5	Pot	Nos	9
20.6	Sauce pan with cover	Nos	9
20.7	Stew pan	Nos	9
20.8	Milk pot	Nos	9
20.9	Saute pan	Nos	1
20.10	Frying pan	Nos	9
20.11	Sinoa	Nos	9
20.12	Toaster, 220 V. AC, 1.2 KW	Nos	2
20.13	Juicer, 220 V AC, 1.2 KW	Nos	5
20.14	Blender, 1.8 litres, 220 V. AC. 0.75 KW.	No	1
20.15	Microwave oven, 220 V. AC	No	1
20.16	Ice cream freezer. 10 litres cap., 220 V. AC,	No	1
20.17	Electric roast oven, 500 x 500 x 600, 200 V. AC.	No	1
20.18	Mixing bowl, vat	Nos	9
20.19	Steaming basket	Nos	9
20.20	Knives	Nos	18
20.21	Earthenware mortar	Nos	9
20.22	Rolling pin	Nos	9

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
20.23	Strainer	Nos	9
20.24	Grater	Nos	9
20.25	Steel ladle	Nos	9
20.26	Steel basting brush	Nos	9
20.27	Mesh ladle	Nos	9
20.28	Tweezers	Nos	9
20.29	Scale	Nos	9
20.30	Can opener	Nos	5
20.31	Basket	Nos	9
20.32	Skewer	Nos	50
20.33	Pastry brush	Nos	9
20.34	Wooden ladle	Nos	9
20.35	Rubber basting brush	Nos	9
20.36	Egg beater	Nos	9
20.37	Ladle	Nos	9
20.38	Punched ladle	Nos	9
20.39	Horizontal ladle	Nos	9
20.40	Spatula	Nos	9
20.41	Oil strainer	Nos	9
20.42	Dishes for western food	Nos	9
20.43	Dishes for chinese food	Nos	9
20.44	Measuring cup	Nos	18
20.45	Measuring spoon	Nos	18
20.46	Stop watch	Nos	2
20.47	Scale, 1 Kg.	Nos	5
20.48	Scale, 4 Kg.	Nos	2
20.49	Scale, 500 g.	Nos	2
20.50	Beam balance	No	1
20.51	Rack (cup board), 1,500 w. x 400 d. x 640 h. stainless steel	No	1
20.52	Dish rack, 1,100 w. x 300 d. x 450 h. stainless steel	No	1
20.53	Food rack (side board), 1,500 w. x 650 d. x 1,800 stainless steel	No	1
20.54	Pan rack, 1,700 w. x 800 d. x 600 h., stainless steel	No	1
20.55	Black board	No	1
20.56	Whet stone	Nos	9
20.57	Food processor	No	1
20.58	Rice chest, wood, 500 w x 500 d. x 1,000 h	No	1
20.59	Rice washer, 220 V. AC	No	1
20.60	Electric fryer, oil capacity 5 to 7 litres, 220 V. AC, 1.8 KW	No	1
20.61	Rotary cooker, 220 V. AC	No	1
20.62	Dish washer, 600 w. x 600 d. x 1,350 h.		

V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q' TY
	440 V. AC, 0.4 KW, 50 Hz, 3 ph.	No	1
20.63	Sanitary dish case (electric sterilizer cabinet) 50 p. dishes, 616 w. x 550 d. x 1,800 h.	No	1
	220 V. AC, 2 KW		
20.64	Large pot with lid	Nos	2
20.65	Sink with strainer, 1,200 w. x 550 d. x 850 h. Stainless steel	No	1
20.66	Trolly, carrying capacity: 100 kg.	No	1
20.67	Knife sharpener	Nos	2
20.68	Table with shelf	Nos	8
20.69	Cooking table 1,500 x 750	Nos	2
20.70	Sink 1,500 x 750	No	1
20.71	Refrigeator	No	1
20.72	Gas table	No	2
21	LIBRARY EQUIPMENT & OTHERS		
21.1	Plain paper photocopying machine, 220 V. AC, 50 H	Set	1
21.2	Cyclostyline Machine	Set	1
21.3	P.A. system with 2 radio-microphone	Sets	4
21.4	VHS International radio telephone, 220 V. AC., 25	Set	1
21.5	VHS two-way radio telephone, 7.2 V. DC., with battery charger	Sets	3
21.6	SSB radio telephone, 150 W. MIF/HF synthesized 220 V. AC., 50 Hz.	Sets	1
21.7	Audio-Visual instruction aids		
	a. Television (VHS), 21", 220 V.AC., 50 Hz.	Set	1
	b. V.C.R. (VHS), 220 V. AC., 50 Hz.	Set	1
	c. Video programs	Set	1
	d. Light projector for lecture sheet, Projction lens: f3.5/100 mm. Power source: 220 V. AC	No	1
	e. Blank sheet	Nos	100
	f. Slide projector, 220 V. AC	No	1
21.8	Typewriter		
	a. English	Nos	3
	b. Bengali ordinary	Nos	6
21.9	Calculators, solar type	Nos	10

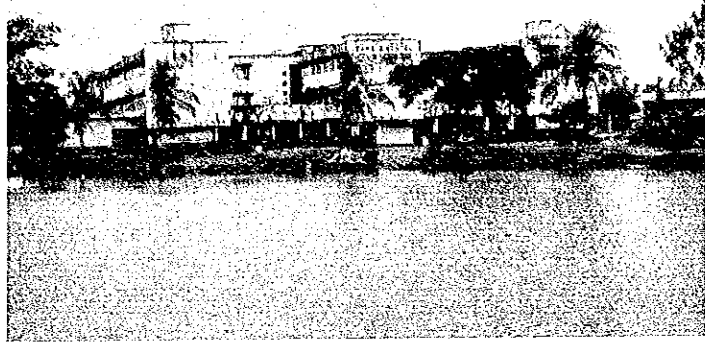
V-4 LIST OF PLANNED EQUIPMENT & MATERIAL

ITEM NO.	DESCRIPTION	UNIT	Q'TY
22	VEHICLES		
22. 1. a	Micro bus	No	1
22. 1. b	Spare Parts for the above	Set	1
22. 2. a	Van	No	1
22. 2. b	Spare Parts for the above	Set	1

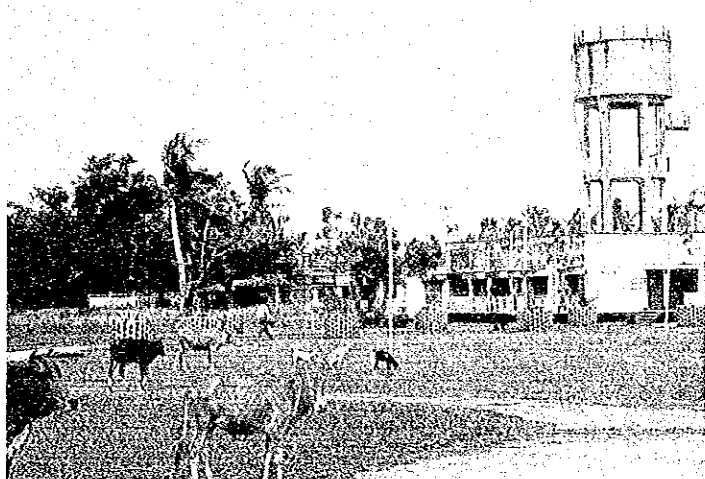
VI PHOTOGRAPHS

PERMANENT SEAMEN'S TRAINING SCHOOL (STS)

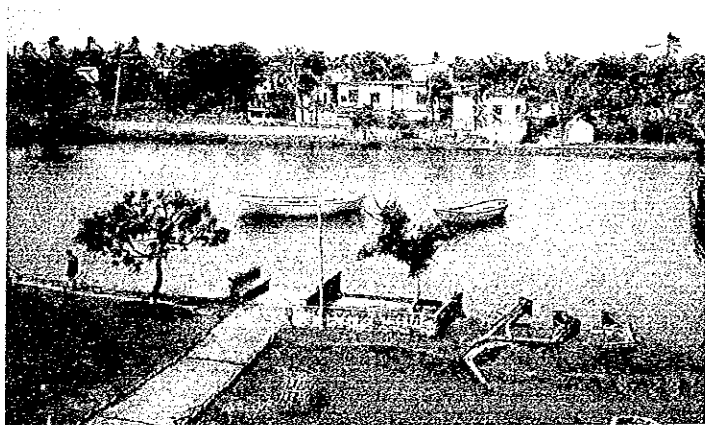
Existing Bldg. &
Training Bldg.
Site (View from
the North Pond)



Staff Quarters
& Elevated Tank

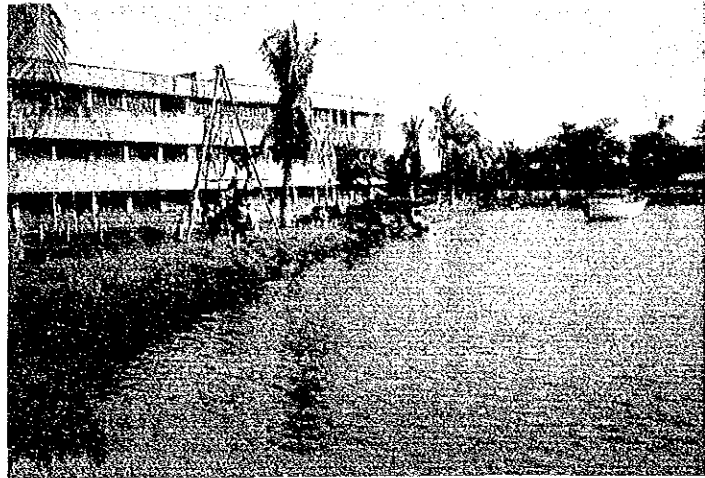


The west pond
& Boat Davit
point



PERMANENT SEAMEN'S
TRAINING SCHOOL
(STS)

Boring Survey
at the Boat Davit
point



Left :Principal's
office
Right:Instructors'
office



Seamen's Hostel

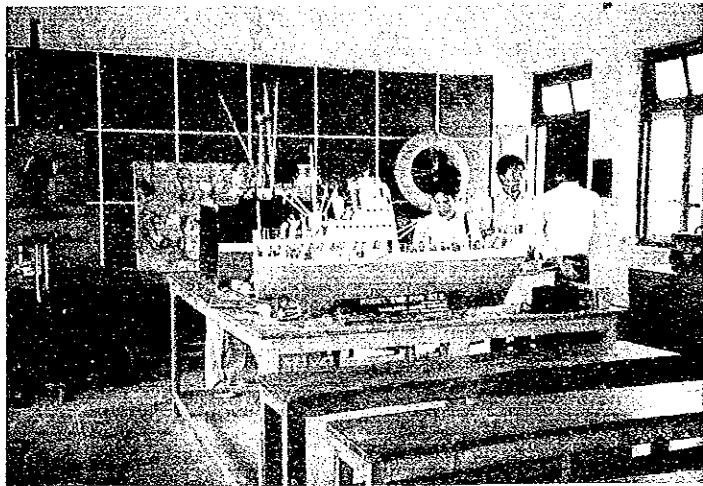


PERMANENT SEAMEN'S
TRAINING SCHOOL
(STS)

Classroom,
Life-raft & Rope
samples



Models

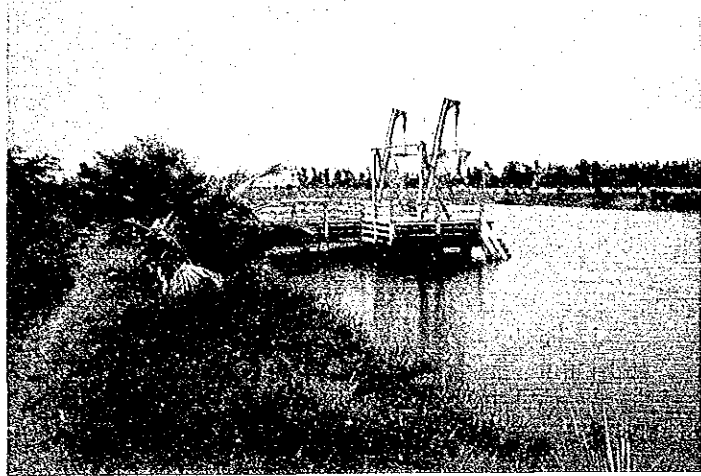


Fire-fighting
training

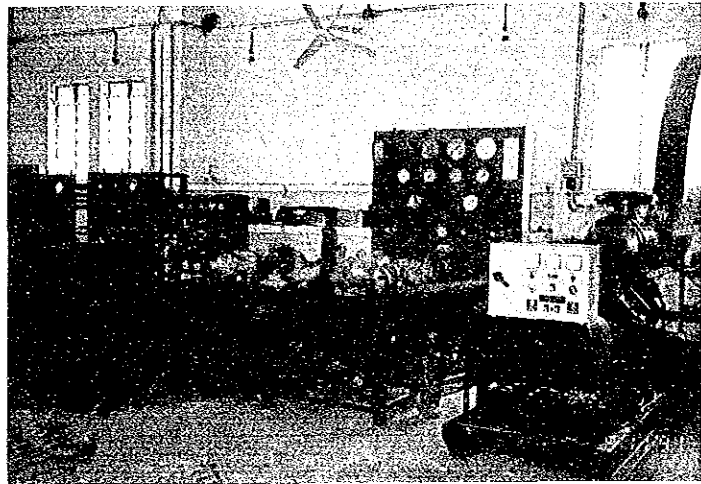


SIMILAR FACILITIES
FOR SEAMEN'S
TRAINING

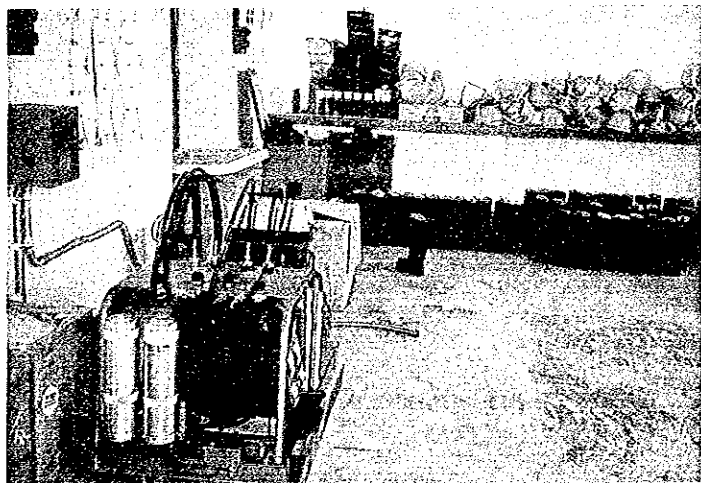
Life Boat Davit,
Marine Academy



Engine Workshop,
Marine Academy

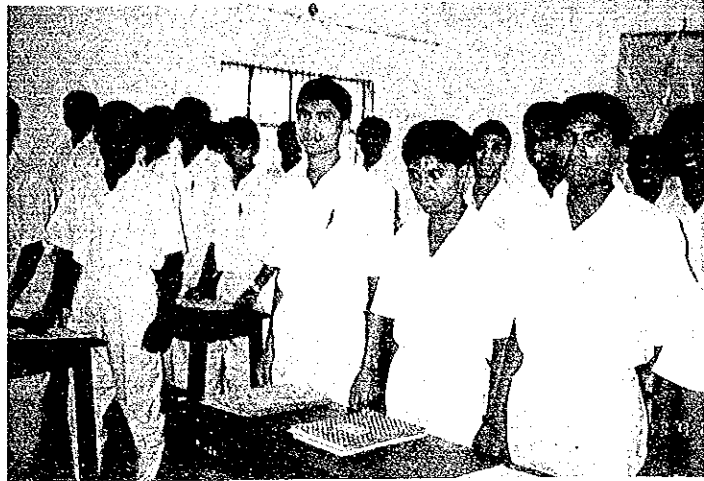


Fire Fighting
Equipment,
Marine Academy

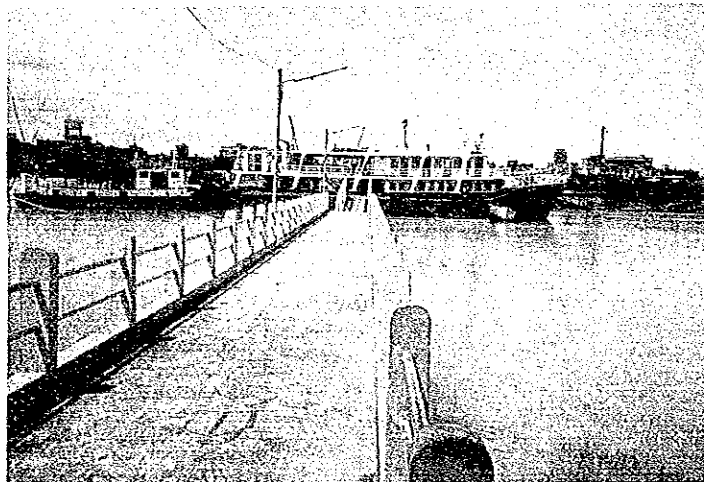


SIMILAR FACILITIES
FOR SEAMEN'S
TRAINING

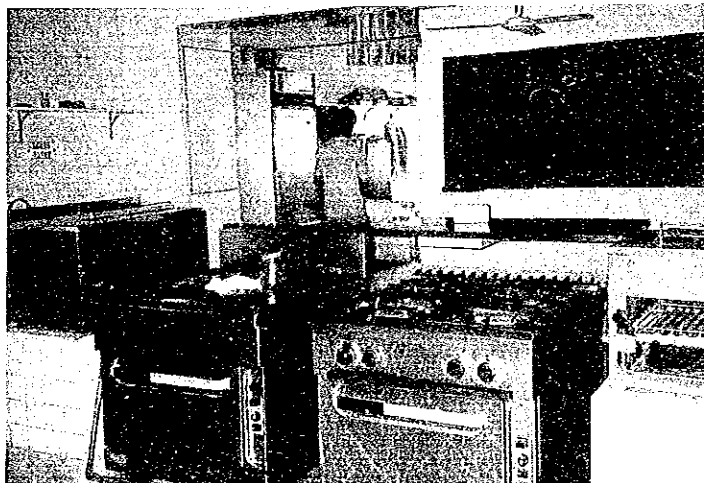
Trainees at the
Deck Personnel
Training Centre,
I.W.T.A.



Training Vessel,
D.P.T.C.,
I.W.T.A.



Training Galley,
National Hotel
& Tourism
Training Institute,
Bangladesh Parjatan
Corporation



JICA