maintain the equipment in the best condition.

(2) With regard to such facilities as the practical training workshop and the jetty, damage caused by salt to the exterior of the practical training workshop due to sea breezes and damage to the jetty due to sind and waves may occur in view of the fact that the School is located on the coast. It will, therefore, be necessary to carry out maintenance and repair work when the occasion arises to maintain these facilities in the best operatioal condition.

4-4-4 Equipment Procurement Plan

(1) Equipment

In principle, the equipment required for the Project will be procured in Japan. However, priority will be given to local procurement if the quality of the local product is similar to that of the Japanese product. The equipment to be procured locally is as follows.

Drafting Equipment ..... 1 set
Audio Visual Education Equipment ..... 1 set
* Video Cassette Recorder
* Monitor TVs
* Portable Video Camera
* Overhead Projector

In addition, as the import of the vehicles (4 buses) appears difficult due to Indonesian import restrictions, they will be procured locally in view of the fact that their quality is deemed to be similar to that of the Japanese product.

(2) Construction Equipment and Materials Procurement Plan

Construction Equipment and Mateirals - List of Main Items Procurable Locally

Cement	: Produced near Ujung Pandang.
Aggregate	: Sand and gravel is easily obtainable.
Steel Rods	: Produced in Indonesia. The size required for the training workshop is available.
Bricks	: Sun-dried bricks are commonly used for local construction work.
Precast Terrazo Tiles	: 300 mm x 300 mm. Available in a variety of colours and materials. Common floor material.
PC Tiles	: 200 mm x 200 mm x 20 mm. Also common floor material.
Waterproofing	: "Robust Coat" urethane waterproofing material produced by Yotsuya Bosui Co., Ltd. is easily obtainable.
Plywood	: Mitsui Gohan Co., Ltd. (KTC) produces plywood locally. (4' x 8') 3 mm - 12 mm
Paint	: Nihon Paint Co., Ltd. products are widely used. The British-made paint (ICI) has good quality but is rather expensive.
Windows and Doors	: YKK locally produced aluminium window frames. Louvre windows with wood frames are the most common.
Glass	: Asahi Glass Co., Ltd. is engaged in local production as a joint venture and thicknesses of upto around 5 mm are commonly available.
Locks	: Although cheap Chinese, Taiwanese and Hong Kong locks are widely available, Japanese products are also marketed. The German (DOM) and British (Ere) products have good quality.
Asbestos Board	: Available in 3 sizes, i.e. 2 m x 1 m, 2.4 m x 1.2 m and 1 m x 1 m.
Roof Drain	: Not manufactured in Indonesia and, therefore, should be either imported or made

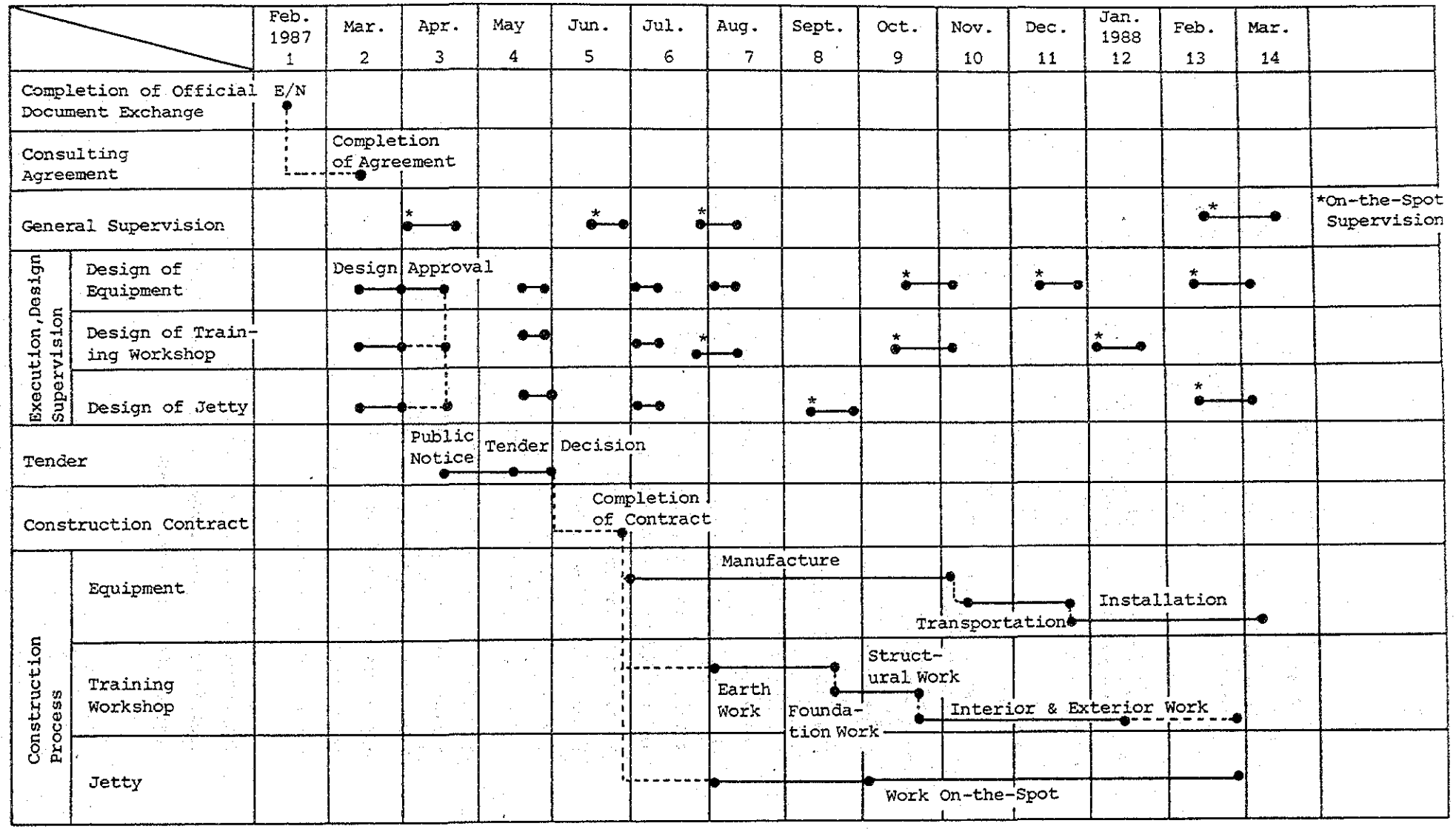
		on-the-spot.
Timber	:	Domestic products for construction use are available (Bayan, Jatty and Melanty).
Timber for Jetty	:	Standard ironwood product which is available in the following sizes: 100 mm x 100 mm, 150 mm x 150 mm, 80 mm x 120 mm and 200 mm x 200 mm. Largely produced on Kalimantan Island.
Electrical Equipment	:	Standard wires are available locally. Lighting appliances, power points and switches, etc. are also on the market. Common electrical light appliances are also available but it is uncertain whether or not equipment corresponding to the existing equipment is available.
Water Supply and Drainage Equipment	:	Vinyl pipes for water piping are easily obtainable.

4-5 Construction Schedule

The planned construction schedule is as shown in the table on the following page. The detailed design will commence after the exchange of the official documents (E/N) and the completion of the consulting agreement. The detailed design period is approximately 2 months upto the public tender period. With the completion of the construction contract (procurement contract), the procurement and manufacture of the required items will immediately commence. The respective periods for equipment manufacture, its transportation by sea and installation are set at roughly 4 1/2 months, 1 month and 2 1/2 months. With regard to the construction of the training workshop, the design construction periods are approximately 1 1/2 months for the earth and foundation work, approximately 1 month for the structural work and approximately 3 months for the interior and exterior work. The jetty will be completed some 5 months after the commencement of the on-the-spot work.

The completion of the entire work and the handing over of the facilities and equipment to the Ujung Pandang Rating School is planned for mid-March, 1988.

Construction Schedule for Ujung Pandang Rating School in Republic of Indonesia



4-6 Maintenance and Management Cost

The cost of the maintenance and management of the additional facilities will be borne by the Indonesian Government, as in the case of the existing buildings.

The cost of the maintenance and management of the facilities and equipment is, in fact, divided into the property management costs and the operation costs. In view of the size of the additional facilities vis-a-vis the total facilities of the School, the annual property management cost of the new facilities are assumed to be approximately 6% of the present costs. Based on the assumption that the additional personnel and administrative costs relating to the management of the new educational equipment, which are classified as the operation costs, are nil due to the fact that the current teachers and staff carry out the necessary work, only the direct maintenance costs are calculated, i.e. the cost of electricity, fuel and expendables. The cost of the expendables is calculated on the basis of the number of teaching units, the course contents and the number of classes.

Average Monthly Electricity Costs	abt. 18,000 Rp
Average Monthly Fuel Costs	28,000 Rp

CHAPTER 5

PROJECT EVALUATION

CHAPTER 5. PROJECT EVALUATION

The Republic of Indonesia specifically stresses the furtherance and consolidation of sea communications development programme with the related fields as the core of its 3rd and 4th 5 Year Economic Development Plans. According to this political priority, expansion of seamen training institutions in the maritime sector of Indonesia has been steadily promoted based on such plans as the Integrated Sea Communications Manpower Development and Training Master Plan and the Maritime Sector Development Programme.

The Present Project is designed to improve the educational and training equipment and machinery and facilities of the Ujung Pandang Rating School, one of the seamen training institutions in Indonesia. The Project aims at fostering high quality manpower, which will act as a driving force to the development of Indonesian sea communications, through the modernization of educational and training methods.

Although the School, opened in 1980, is recognized to have a high standard as a rating school in terms of its organization and contents of its current education system, some of its equipment and machinery are showing signs of deterioration or wear due to 6 years of use, necessitating renewal or replacement.

In addition, it is now desired that advanced educational and training equipment and machinery, including a radar simulating trainer, a boiler plant and automatic control devices be provided to improve the content of education and training and accordingly meet the requirements of the STCW Convention which was enforced in 1984.

With regard to the School's facilities, the entrance and some other part of the groyne, which is necessary for cutter training, have been filled with drifting sand. The School, therefore, has been forced to dredge this sand using a power pump to carry out cutter training but the groyne will be further effected by drifting sand. Therefore jetty and cutter launching system are planned in the Project.

With the implementation of the Project, the School will be drastically improved for substantial education by completion of the jetty for cutter training in place of the groyne as well as the provision of the said equipment and machinery.

5-1 Educational Effects

Through this Project, the educational and training equipment, machinery and facilities required of a rating school will be firmly established and, accordingly, the educational contents will be improved and expanded. For example, the introduction of radar simulating trainer, boiler plant and automatic control devices will enable the students to expect the relevant training and therefore to obtain the advanced capabilities required to execute their future assignments as seamen. The educational impact of the Project for those students wishing to work in the sea communications sector upon graduation are, therefore, immense.

5-2 Social Effects

The improvement and expansion of seamen education is an urgent task in the sense that it will serve to save human lives from sea accidents (sea collisions and accidents resulting in injury or death, etc.) and thus to establish the development base for the sea communications sector due to immature skills of seamen.

The expected upgrading of the educational and training equipment, machinery and facilities through the Project will provide persons with advanced education and training for the sea communications sector. Coupled with the national "Manpower Development Policy" the Project can be expected to have numerous effects in terms of the contribution to the development of Indonesia's sea communications sector.

The "Third Country Training Session" for Asian and Pacific countries, held at the school from October to December, 1986 was aimed at training leaders in the future for the sea communications sectors of these countries. The session further enhanced the

School's international reputation as the central seamen education and training institute in this region of the world and was expected to have impacts on the sea communications development plans and seamen training programmes in other countries.

Furthermore, the School is expected to contribute to the spread of seamen training in Indonesia by assuming the role of a model school, since the Japanese and Dutch Governments and the IBRD have planned to extend financial cooperation respectively for the construction of new rating schools in several areas of Indonesia.

In conclusion, the Project could be evaluated as a grant aid project by the Government of Japan with the expectation of the said educational and social effects.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATION

CHAPTER 6. CONCLUSIONS AND RECOMMENDATION

6-1 Conclusions

For the preparation of the basic design for the Project, the Study Team firstly confirmed the contents of the request by the Government of Indonesia and then examined the background of the Project, collected and analyzed the materials and information necessary for the basic design. Based on the results of this analysis, the contents of the request were examined, the basic plan for the improvement of the Ujung Pandang Rating School was prepared to best satisfy the current requirements of Indonesia and the basic design relating to the procurement of the educational and training equipment and machinery and the construction of the facilities necessary as well as suitable for the accomplishment of the Project objectives was prepared.

The equipment and machinery to be introduced are those which are required to maintain the level of the School on a par with other rating schools in the world, including the renewal of deteriorated items, the supplement of those items in short supply and the procurement of new items in accordance with the requirements of the STCW Convention.

The planned facilities include a practical training building to house the newly introduced equipment and machinery and a jetty to replace the existing groyne for cutter training which is likely to be disused due to the deposit of drifting sand.

The Project aims at the improvement and expansion of a seamen training institution in the maritime sector based on such plans as the Maritime Sector Development Programme and the Integrated Sea Communications Manpower Development and Training Master Plan of the Indonesian Government. These plans are part of the national "Manpower Development Plan" aiming at fostering highly qualified seamen, of which the Ujung Pandang Rating School is expected to play a central role.

In the above context, as the implementation of the Project is expected to achieve the improvement of the educational and training equipment, machinery and facilities at the School and to satisfy the Indonesian requirements, the Project's suitability as a grant aid project is clear. Coupled with the efforts of the Indonesian Government itself, the significance of the Project and the impacts of the cooperation can be regarded as substantial. Therefore, the smooth implementation of grant aid for the Project by the Japanese Government is highly desirable.

6-2 Recommendation

In order to facilitate the implementation of the Project, the Indonesian Government should urgently establish the followings.

(1) Establishment of Project Implementation System

A project implementation system which integrates the related organizations should be urgently established to facilitate the procurement and construction work and to secure the smooth functioning of the coordination between the related ministries and agencies through this system during the project period.

(2) Budgetary Appropriation

The Indonesian Government should secure the necessary budgetary appropriations to cover the procurement and construction cost and the management expenses to be borne by the Indonesian Government.

The securing of the necessary budgetary appropriations at the appropriate time by the Indonesian Government will be indispensable for the successful achievement of the Project objectives.

(3) Establishment of Maintenance and Management System for Equipment, Machinery and Facilities

While the staffs of the School shall be responsible for the maintenance and management of the equipment, machinery and facilities to be provided by the Project, a permanent maintenance and management system should be established for the smooth implementation of the daily work and prompt and proper steps in response to varying.

(4) Establishment of Effective Operation System for Equipment, Machinery and Facilities

As the effective and full utilization of the equipment, machinery and facilities is the key to achieving higher results in the School's seamen education, an operation system should be established by the School staffs to ensure the proper functioning of the School.

In addition, well-trained instructors who can provide a high standard of education and training for the students should be secured.

Carefully developed curricula and high level educational methods should be introduced for the effective and efficient implementation of seamen education in the School. It is preferable, therefore, that the dispatch of Japanese specialists and the technical training of Indonesian instructors in Japan should be linked with the development of the curricula and the consolidation of the above mentioned educational methods.

DRAWINGS OF BASIC DESIGN

I. SITE PLAN

II. FLOOR PLAN OF TRAINING WORKSHOP - I

III. FLOOR PLAN OF TRAINING WORKSHOP - II

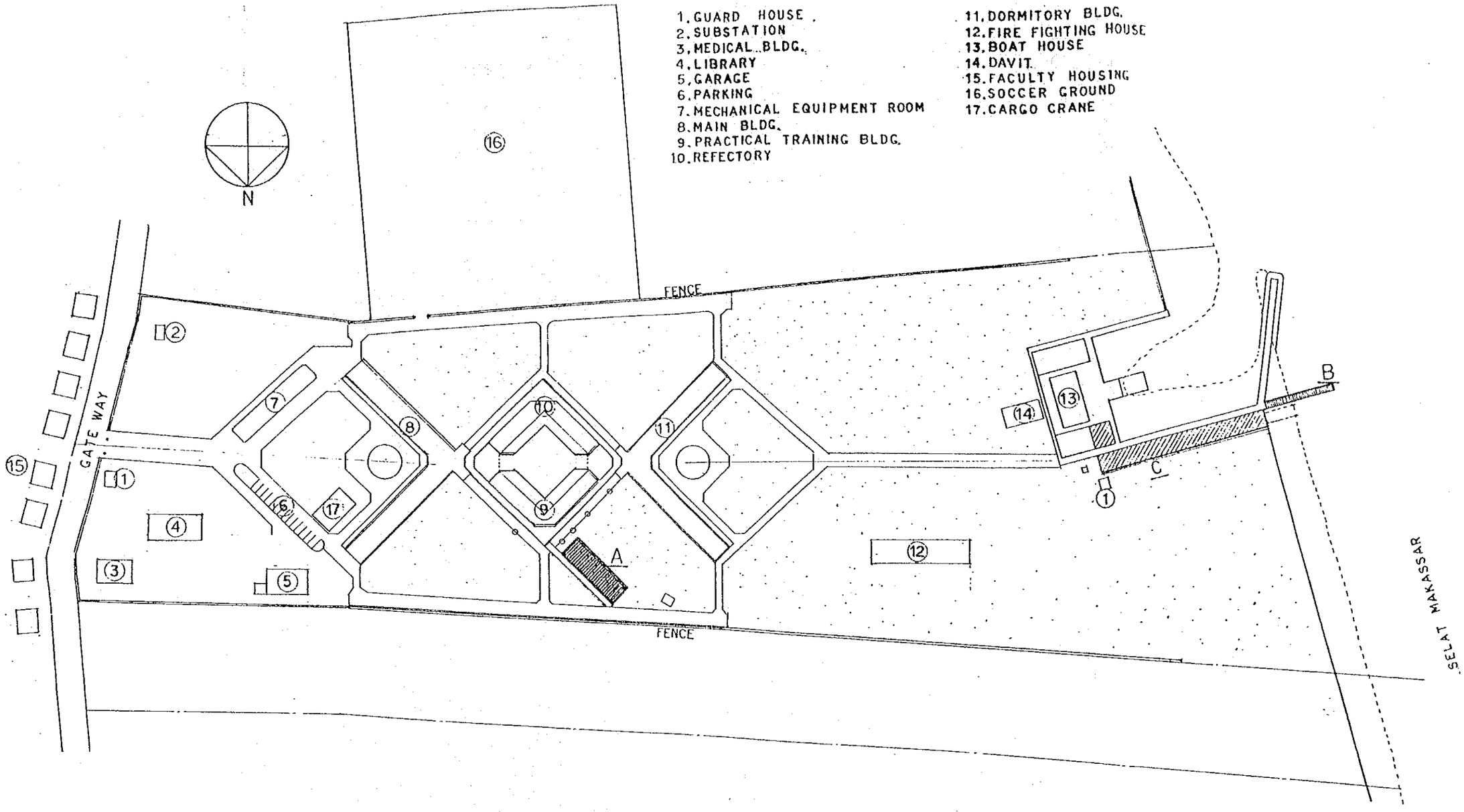
IV. CROSS SECTION OF TRAINING WORKSHOP

V. ELEVATION OF TRAINING WORKSHOP - I

VI. ELEVATION OF TRAINING WORKSHOP - II

VII. GENERAL PLAN OF JETTY & ROAD

VIII. JETTY PLAN & ELEVATION



A : TRAINING WORKSHOP
B : JETTY
C : ASPHALT ROAD

OVERALL LAYOUT S - 1:1600

I. SITE PLAN

BOILER PLANT

1. Package Boiler
2. Chemical Injection Pump
3. Hot Well Tank (Cascad Tank)
4. Water Softner
5. Feed Water Booster Pump
6. Fresh Water Generator
7. Ejector Pump
8. Cooling Water Pump
9. F.W. Make Up Pump
10. Cooling W. Storage Tank
11. Distilled Water Tank
12. F.O. Tank
13. Drain Cooler
14. Cooling Tower

AUTOMATIC CONTROL APPARATUS

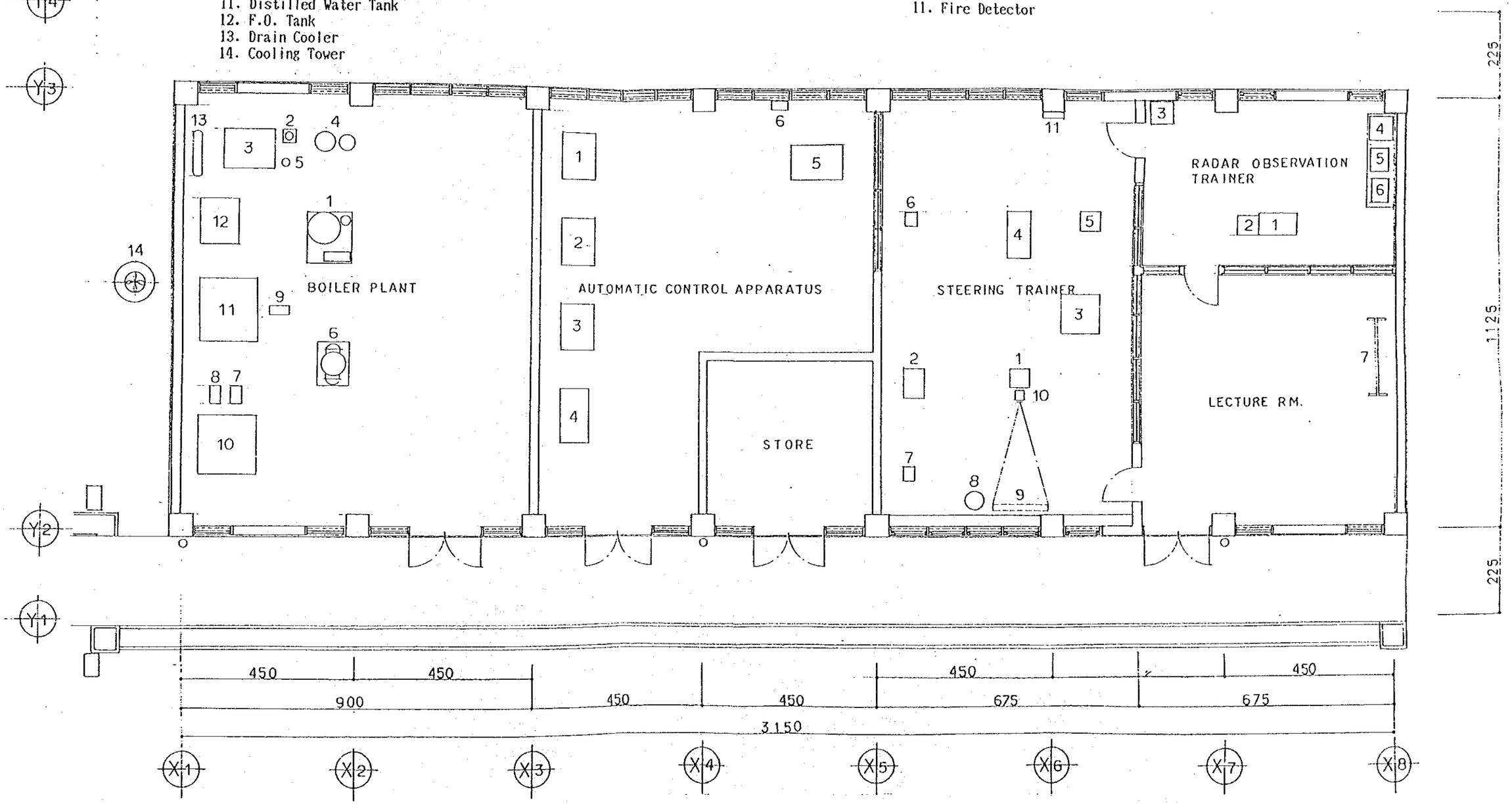
1. Temperature Control Apparatus
2. Hydraulic Control Apparatus
3. Level Control Apparatus
4. Pressure Control Apparatus
5. Engine Room Consol
6. Engine Telegraph

STEERING TRAINER

1. Steering Stand
2. Bridge Consol
3. Instractor Consol
4. steering Gear
5. Magnet Compass
6. Gyro Compass
7. Engine Telegraph
8. Gyro Repeater
9. Indicator Panel & Screen
10. Projector
11. Fire Detector

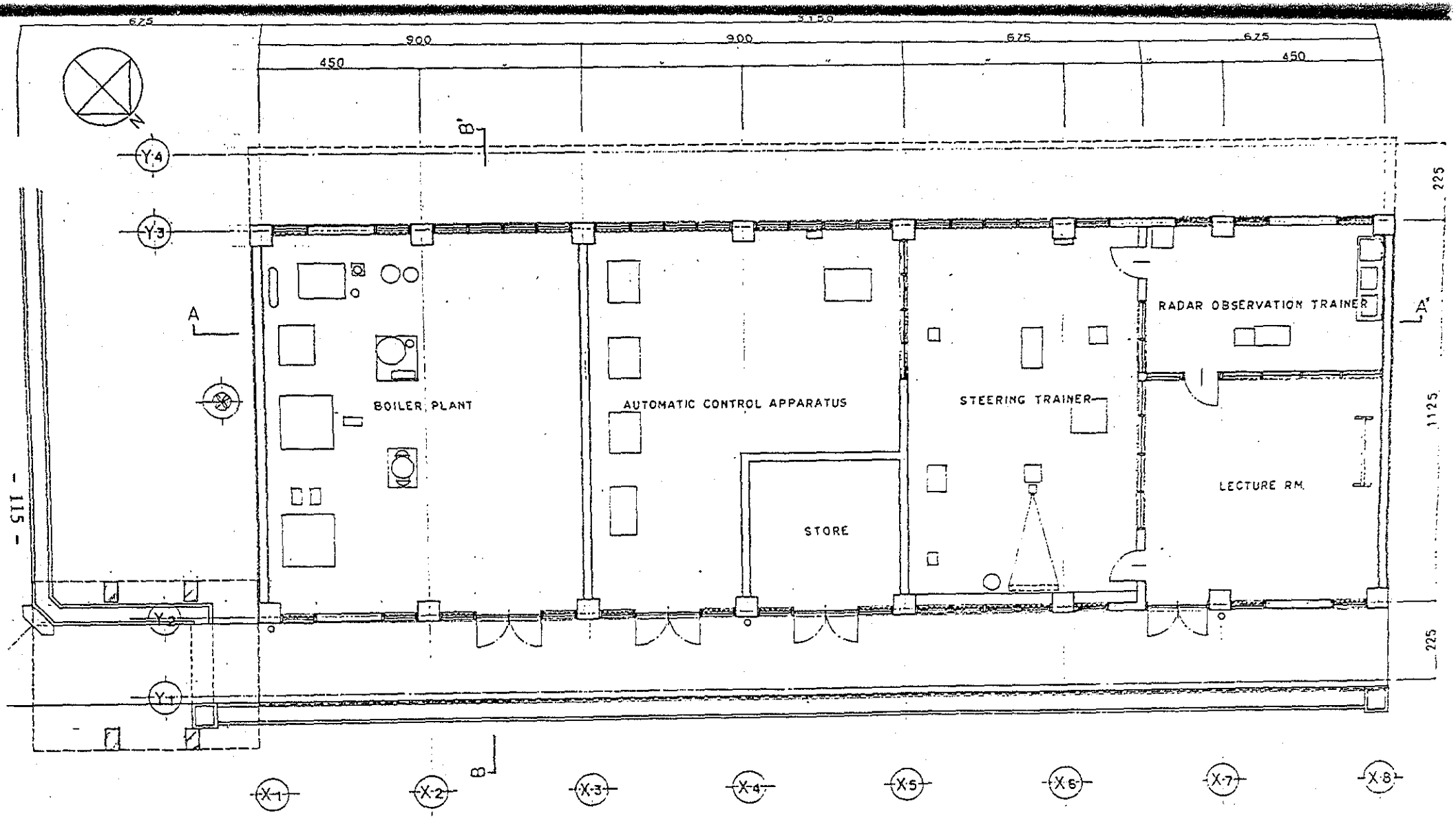
RADAR OBSERVATION TRAINER

1. Radar Control Consol
2. Radar Display
3. System Cabinet
4. Inspector's Consol
5. X-Y Proter
6. Printer
7. Radar Ploting Board



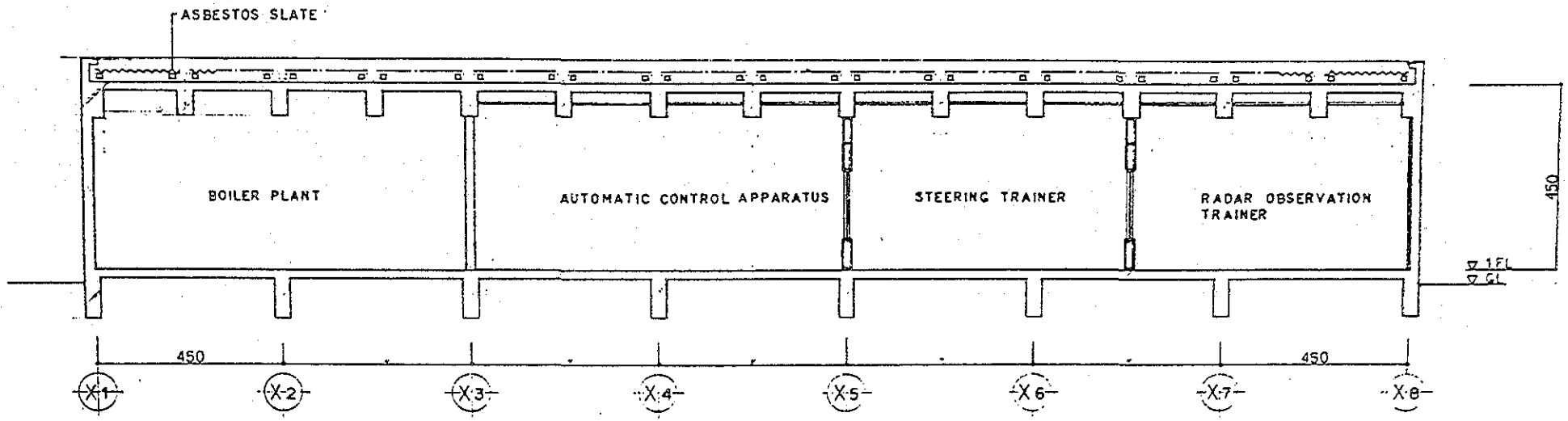
EQUIPMENT LAYOUT S-1:100

II. FLOOR PLAN OF TRAINING WORKSHOP I

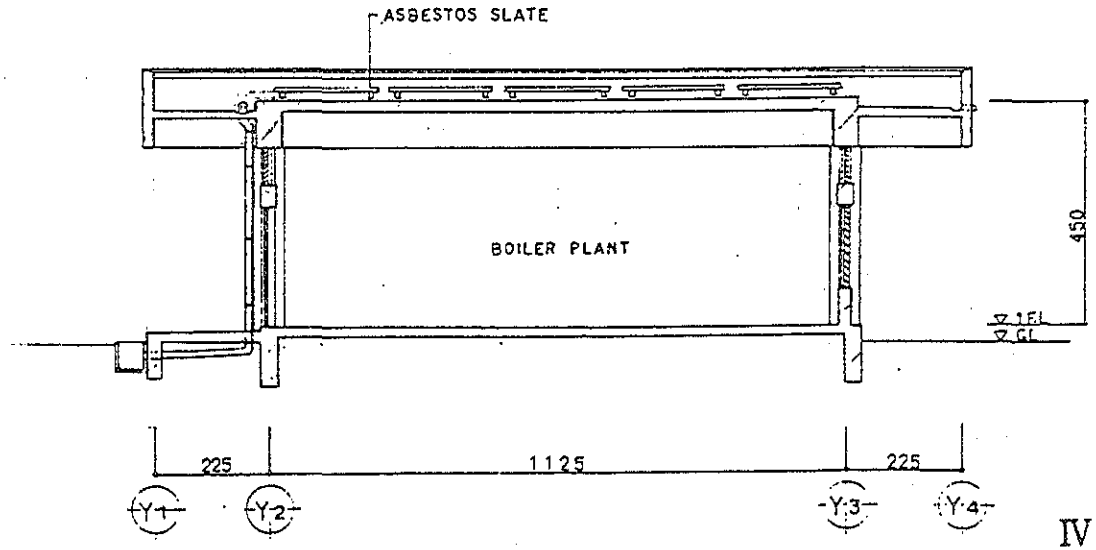


FLOOR PLAN S-1:140

III. FLOOR PLAN OF TRAINING WORKSHOP II

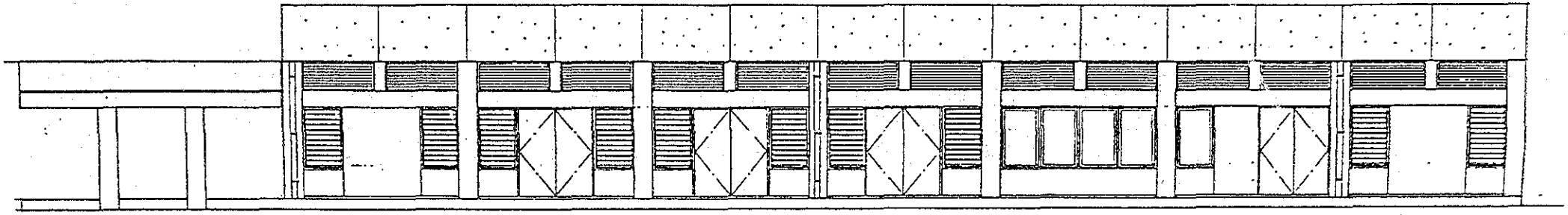


A-A' SECTION S-1 : 140

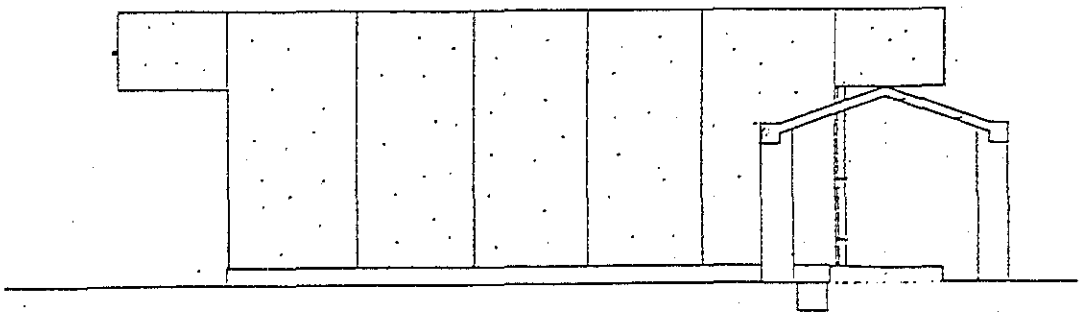


B-B' SECTION S-1 : 140

IV. CROSS SECTION OF TRAINING WORKSHOP

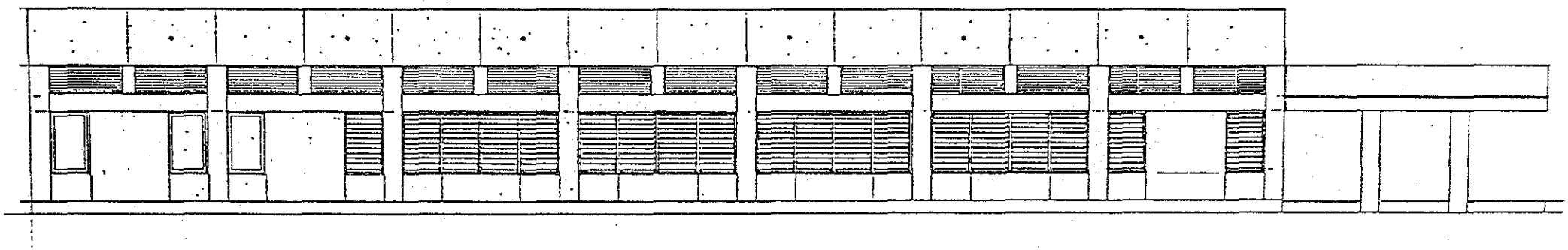


NORTH-EAST ELEVATION S-1:140

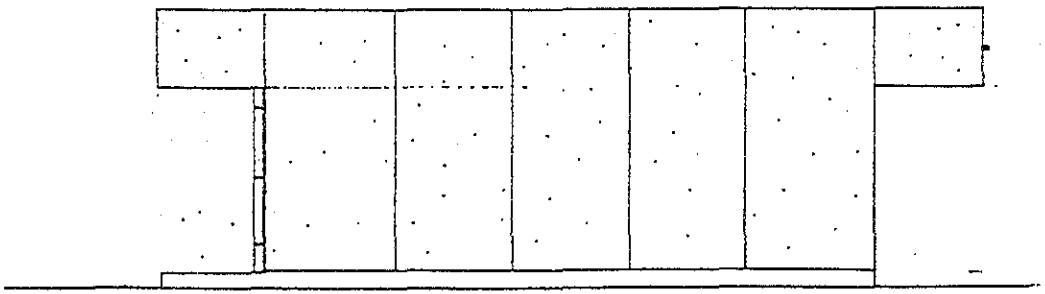


SOUTH-EAST ELEVATION S-1:140

V. ELEVATION OF TRAINING WORKSHOP I

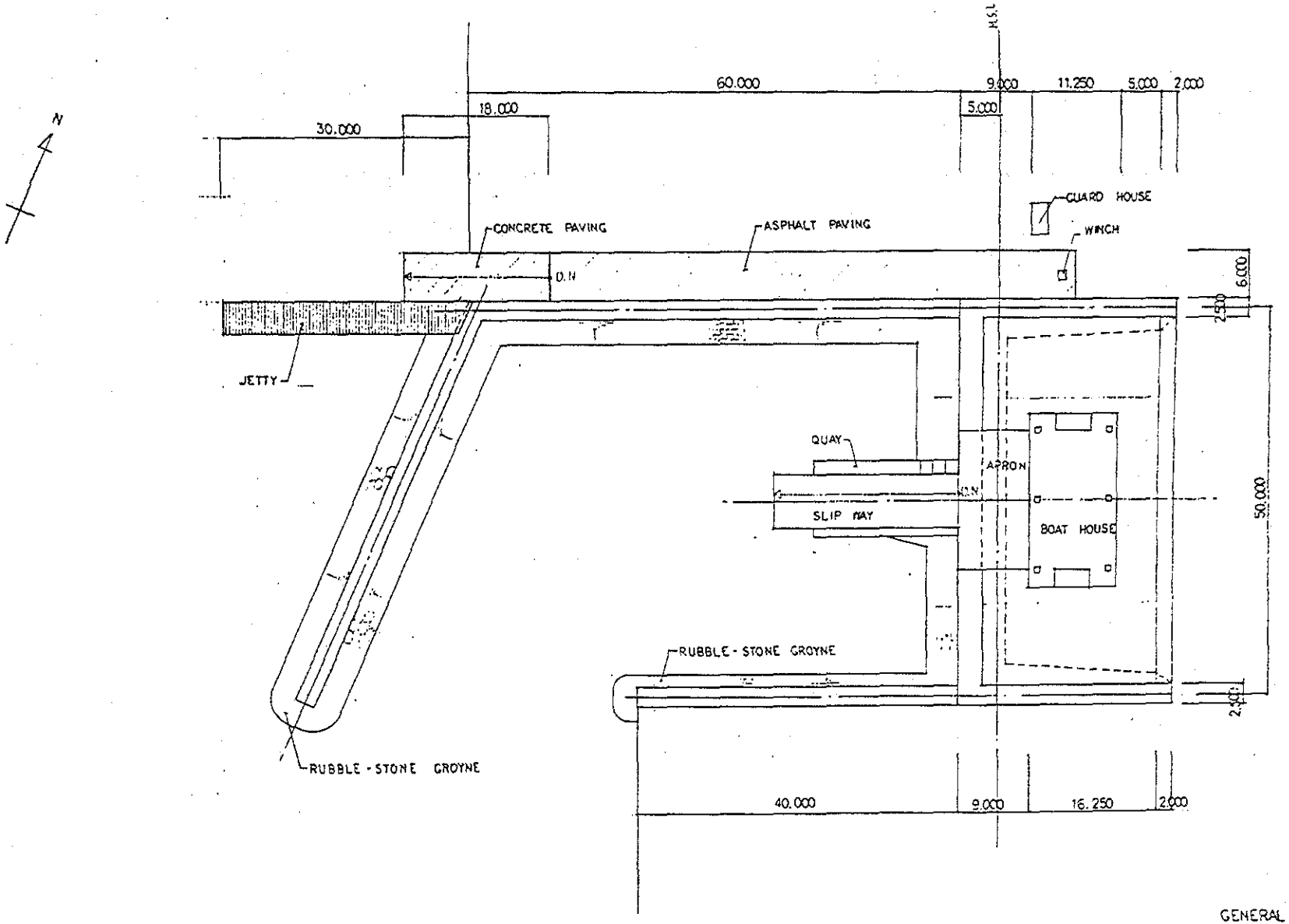


SOUTH-WEST ELEVATION S-1:140



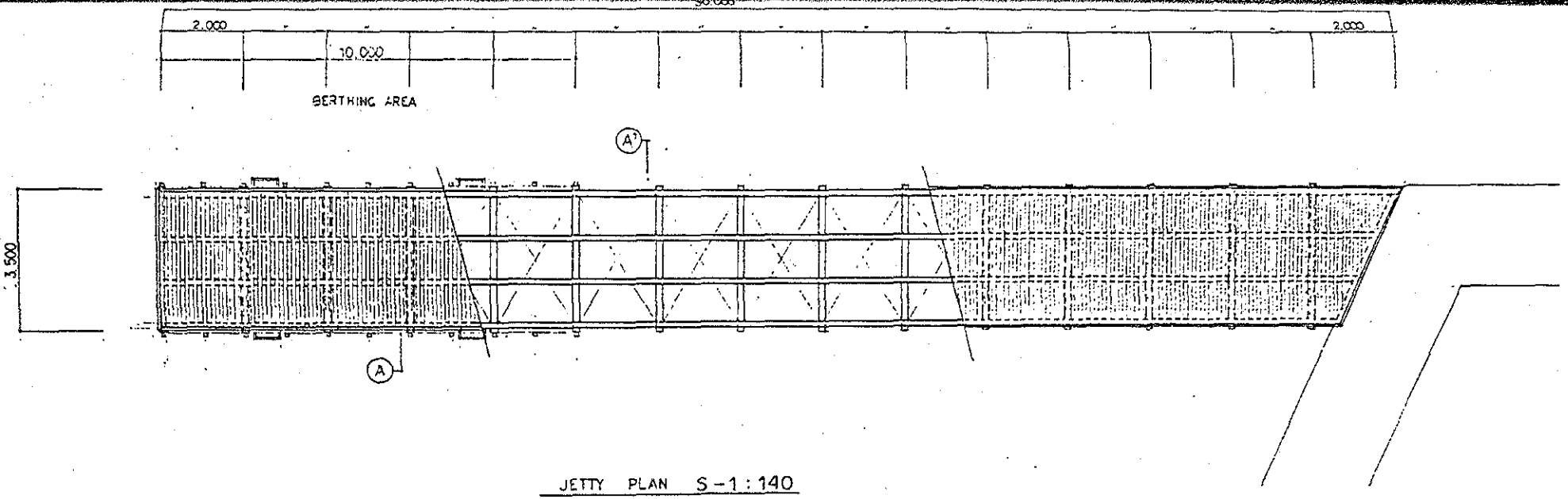
NORTH-WEST ELEVATION S-1:140

VI. ELEVATION OF TRAINING WORKSHOP II

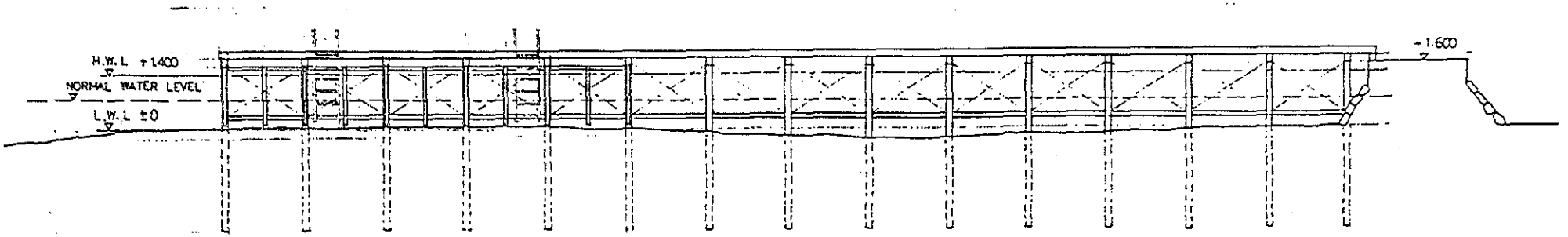


GENERAL PLAN S - 1 : 700

VII. GENERAL PLAN OF JETTY & ROAD



JETTY PLAN S-1 : 140



ELEVATION S-1 : 140

VIII. JETTY PLAN AND ELEVATION

Appendix: 1. Minutes

2. List of Members of Study Team

3. Itinerary of Study

4. List of Persons Concerning Basic Design Study

5. Project Site Map

6. Collected Data for Reference

MINUTES OF DISCUSSIONS

ON

THE IMPROVEMENT PROJECT FOR UJUNG PANDANG RATING SCHOOL

IN

THE REPUBLIC OF INDONESIA

In response the request of the Government of Indonesia, the Government of Japan decided to conduct a basic design study on the project for the improvement of Ujung Pandang Rating (Seamen) School at Barombong in Ujung Pandang (hereinafter referred to as "the Project" FY-1986/FTA-102 Signed in Jakarta on July 19,1986), and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to Indonesia the study team headed by Capt.Nobuaki KOJIMA, Senior Maritime Researcher, the Maritime International Cooperation Centre from October 29 to November 18,1986.

The team had a series of discussions on the Project with the officials concerned of the Government of Indonesia headed by Capt. Bintang SIREGAR, Director, Maritime Education and Training Centre, Education and Training Agency, Ministry of Communications, and conducted a field survey in Ujung Pandang Rating School.

As a result of the study, both parties agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined towards the realization of the Project.

Jakarta, November 7, 1986

Capt. Nobuaki KOJIMA
Leader of the JICA
Basic Design Study Team

Capt. Bintang SIREGAR
Director, Maritime Education
and Training Centre,
Education and Training Agency
Ministry of Communications.

ATTACHMENT.

1. The objective of the Project is to construct facilities and provide equipment for improving and strengthening the education and training activities of Ujung Pandang Rating School, thus contributing to the promotion for the Seamen's education and training in the fulfilment of domestic demand for well trained seafarers.

2. The site of Project is located in the campus of Ujung Pandang Rating School at Barombong (Site map is attached as Annex I).

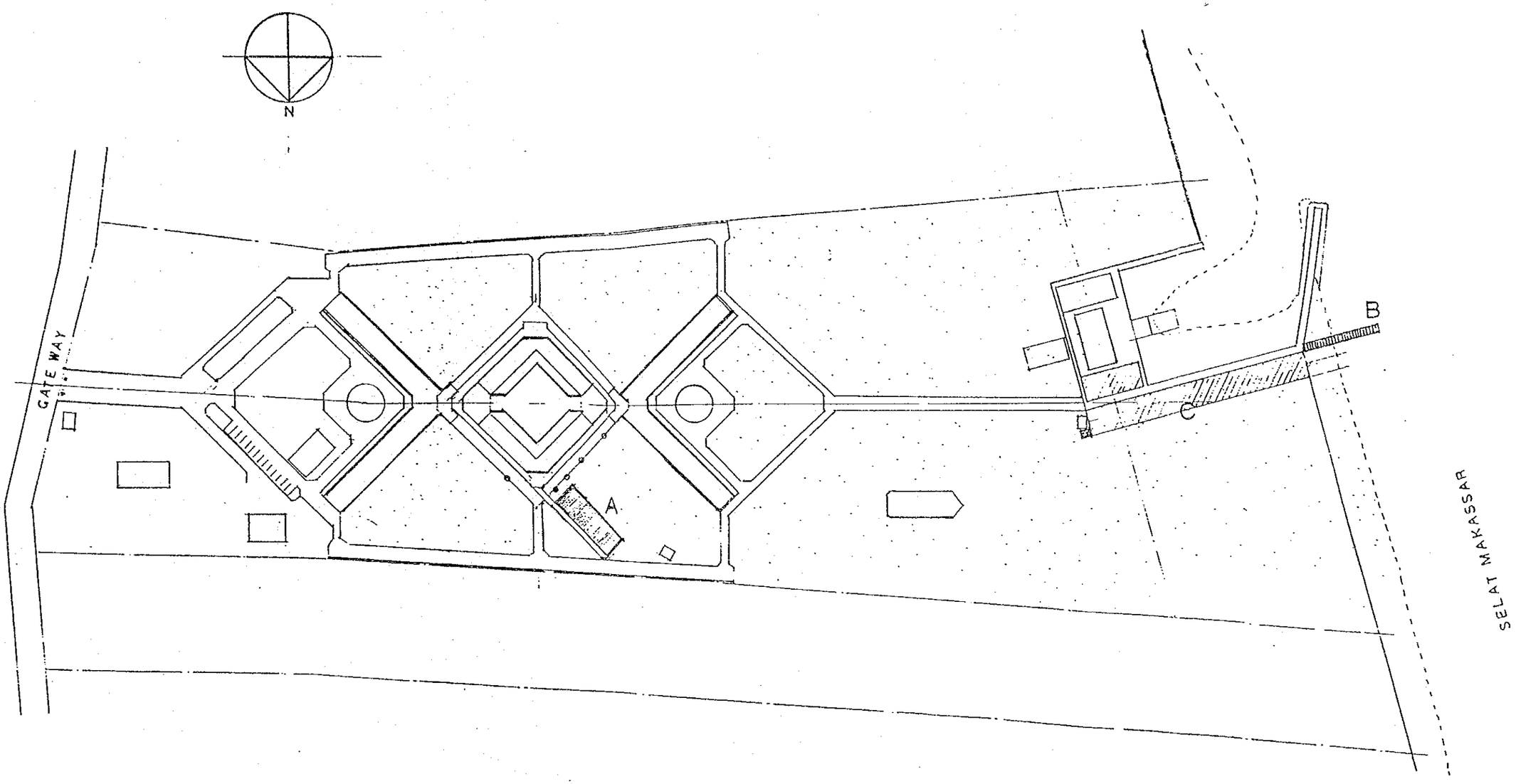
3. Maritime Education and Training Centre will execute the Project, under the supervision of the Education and Training Agency, Ministry of Communications.

4. The Project is to promote the training and education activities as follows :
   (1). To improve education and training by providing equipment stipulated in IMO - STCW convention.
   (2). To provide a workshop and training building for a boiler plant, an automation system and major instruments in navigation bridge.
   (3). To provide a launching apparatus for cutter boat training.

5. The Japanese study team will convey to the Government of Japan the desire of the Government of Indonesia that the former takes necessary measures to cooperate by providing the equipment, facilities, and building in Annex II-IV within the scope of Japanese economic cooperation programme in Grant Aid form.

6. The Indonesian side has understood Japan's Grant Aid System explained by the team which includes a principle of use of a Japanese Consultant Firm and a General Contractor for the supervision, and procurement and construction. However, the Indonesian side expressed a strong wish that a local consultant and contractor should also be utilized for the purpose of technical transfer.

7. The Government of Indonesia will take the necessary measures listed in Annex V on the condition that the Grant Aid would be extended to the Project.



A. : TRAINING WORKSHOP

B. : JETTY

C. : ASPHALT ROAD

SITE PLAN S-1:1600

N.A

NO.	ITEM	SPECIFICATION	QUANTITY
I.	NAVIGATION AID EQUIPMENT		
- 1	Steering Trainer	Composed of steering stand, steering gear, instructor's console, indicator panel, projector & screen.	1 set
- 2	Gyro Compass		1 set
- 3	Radar Observation Trainer	Composed of control console, radar display, instructor's console, x-y plotter, printer and system cabinet	1 set
- 4	Engine Telegraph	Electric type	1 set
	(1) Transmitter	stand type	
	(2) Receiver	wall mounting type	
- 5	Other Equipment		
	(1) Radar plotting board		2 sets
	(2) Lamp for chart table		10 sets
	(3) Sextant		15 sets
	(4) Stop watch		5 sets
	(5) Chronometer		2 sets
II	SURVIVAL TRAINING EQUIPMENT		
- 1	Inflatable Life Raft	A-type for 6 persons	1 set
		A-type for 10 persons	1 set

NO.	ITEM	SPECIFICATION	QUANTITY
- 2	Life Saving Signal Flare		
	(1) Single red flame		5 doz.
	(2) Parachute flare signal		5 doz.
	(3) Single flash		3 doz.
	(4) Floating smoke signal		20 pcs.
	(5) Self-ignition light		5 pcs.
	(6) Line-throwing appliance		1 set
- 3	Cutter	F.R.P. Full-rigged 9 m length for 12 persons	3 sets
- 4	Skin Diving Set		
	(1) Wet suit		2 sets
	(2) Breathing apparatus		2 sets
	(3) Mask		2 sets
	(4) Fin		2 pairs
	(5) Air compressor	App. 4 m^3/H, 220 V x 1 Ø x 3.7 KW x 50 Hz	1 set
III	FIRE FIGHTING EQUIPMENT		
- 1	Fire Fighting Apparatus		
	(1) Portable fire pump	Engine driven, App. 40 m^3/h	1 set
	(2) Breathing apparatus	Self-contained compressed air type with demand valve. Air cylinder : 4 L x 1 pc.	
	(3) Fire hose	1.5 inch x 20 m, canvas	10 pcs
	(4) Fire hose	2.5 inch x 20 m, canvas	2 pcs
	(5) Fire hose	1.5 inch x 20 m, coating canvas	10 pcs
	(6) Fire hose	2.5 inch x 20 m, coating canvas	2 pcs
	(7) Nozzle	For 1.5 inch, flush & splay	4 sets

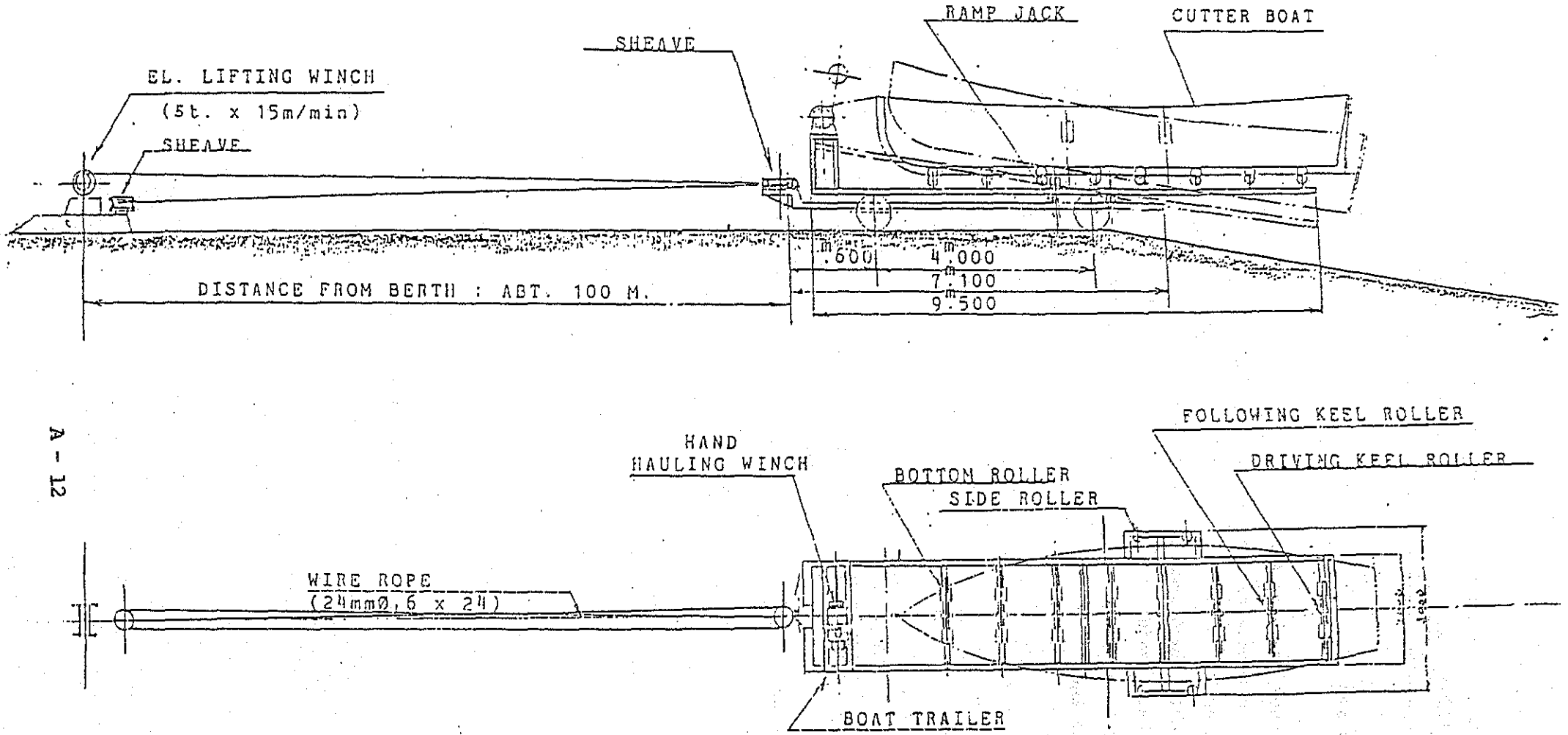
NO.	ITEM	SPECIFICATION	QUANTITY
	(8) Nozzle	For 2.5 inch, flash & splay	4 sets
	(9) HALON type extinguisher system	Picture of extinguishing system	1 set
	(10) Fire alarm system	Composed of Control panel, in smoke detector, optical smoke detector, thermal detector, manual alarm box and bell.	1 set
IV	DECK DEPARTMENT EQUIPMENT		
- 1	Launching Apparatus	Electricmotor driven winch 5 tons x 15 m/min 4 wheel boat trailer with a hand hauling winch See ANNEX IV - I & II	1 set
- 2	Ship Chandlery		
	(1) Rope	24 mm$^{\phi}$ x 200 m, cremona	5 coils
	(2) Wire rope	24 mm$^{\phi}$ x 200 m	1 coil
	(3) Canvas	No. 2 ~ 6 x 50 m/roll	Each 1 roll
	(4) Signal light	Lever type with cable 20 m	2 sets
V	ENGINE DEPARTMENT EQUIPMENT		
- 1	Forging Facilities		
	(1) Furnance and blower		1 set
	(2) Anvil	30 Kg	10 pcs
	(3) Swage block	300 x 300 x 98 mm	10 pcs

NO.	ITEM	SPECIFICATION	QUANTITY
	(4) Black-smith's forging tool	Round type (MARUBO KIRI) 9, 13, 19, 25 mm	Each 10 pcs
	(5) Ditto	Flat type 36, 48 mm	Each 20 pcs
	(6) Ditto	Round type (MIZOHESHI) 9, 13, 19, 25 mm	Each 10 pcs
	(7) Ditto	Round type (MARUHESHI) 9, 13, 19, 25 mm	Each 10 pcs
	(8) Ditto	Square type, 50, 63, 75 mm	Each 10 pcs
	(9) Black-smith's hammer	Double face 10 kg	5 pcs
	(10) Ditto	Ditto 5 kg	10 pcs
	(11) Ditto	Ditto 2 kg	20 pcs
	(12) Black-smith's tong	Flat type	20 pcs
	(13) Ditto	Round type	20 pcs
	(14) Ditto	Stork type	20 pcs
	(15) Ditto	Taper bend type	20 pcs
- 2	Machine Tool		
	(1) Lathe	Center distance app. 600 mm	3 sets
	(2) Universal machine	Center distance app. 1000 mm	1 set
	(3) Gas welding set		1 set
	(4) Arc welding set	Engine driven	1 set
- 3	Boiler Plant		1 set
	(1) Package boiler	App. 200 Kg/H	
	(2) Chemical injection pump	App. 25 cc/min x kg/cm^2	
	(3) Cascade tank	App. 0.6 m^3	
	(4) Water softner		
	(5) Feed water booster pump	App. 5.4 m^3/H x 0.5 kg/cm^2	
	(6) Fresh water generator	App. 3 T/D, steam injection type	

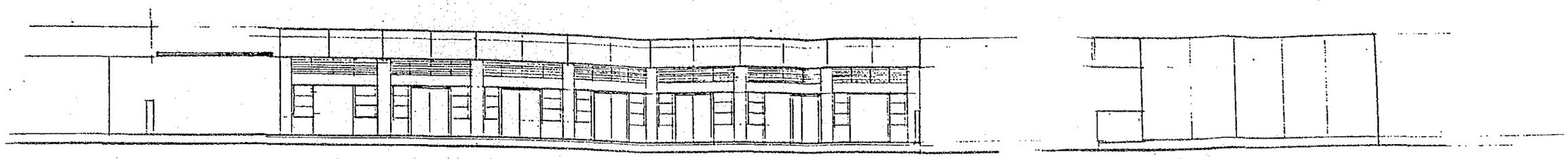
NO.	ITEM	SPECIFICATION	QUANTITY
	(7) Ejector pump	App. 10 m^3/h x 48 m	
	(8) Cooling water pump	App. 10 m^3/h x 15 m	
	(9) F.W. make up pump	App. 1.5 m^3/h x 30 m	
	(10) Cooling water storage tank	App. 3 m^3	
	(11) Distilled water tank	App. 3 m^3	
	(12) F.O. tank	App. 1 m^3	
	(13) Drain cooler	App. 1 m^2	
- 4	Ship's Engine Room Model		
	(1) Diesel plant		1 set
	(2) Steam Turbine plant	Picture	1 set
- 5	Automatic Control Equipment		
	(1) Temparature control apparatus	Composed of recorder, controller, control valve, heater, pump etc	1 set
	(2) Flow control apparatus	Composed of recorder, controller, control valve, orifice, pump etc.	1 set
	(3) Level control apparatus	Composed of recorder, transmitter. controller. control valve, pump, tank etc.	1 set
	(4) Electronic control apparatus		1 set
	(5) Hydraulic control system	Composed of hydraulic pump, hydraulic cylinder, hydraulic motor, control valve, pressure gauge etc.	1 set
	(6) M/E remote control system	Bridge console and engine room console	1 set
	(7) Control valve cross sec. model		1 set

NO.	ITEM	SPECIFICATION	QUANTITY
V- 6	Electric Training Facilities		
	(1) Multi purpose circuit training apparatus		8 sets
	(2) Electronic circuit training apparatus		4 sets
- 7	Engine indicator	M2 Type	1 set
		M3 Type	3 sets
- 8	Drafting Equipment		Each 25 sets
	(1) Drafting board		
	(2) Triangular scale		
	(3) French curve ruler		
	(4) Free curve ruler		
	(5) Drawing instrument set		
	(6) Circle ruler		
	(7) Alphabet ruler		
	(8) T-Type ruler		
	(9) Triangle ruler		
- 9	Transceiver		
	Personal radio	Portable Type 5 W	6 sets
VI	TRAINING WORKSHOP	About 355 m^2 one-storied building	1
		See ANNEX III	

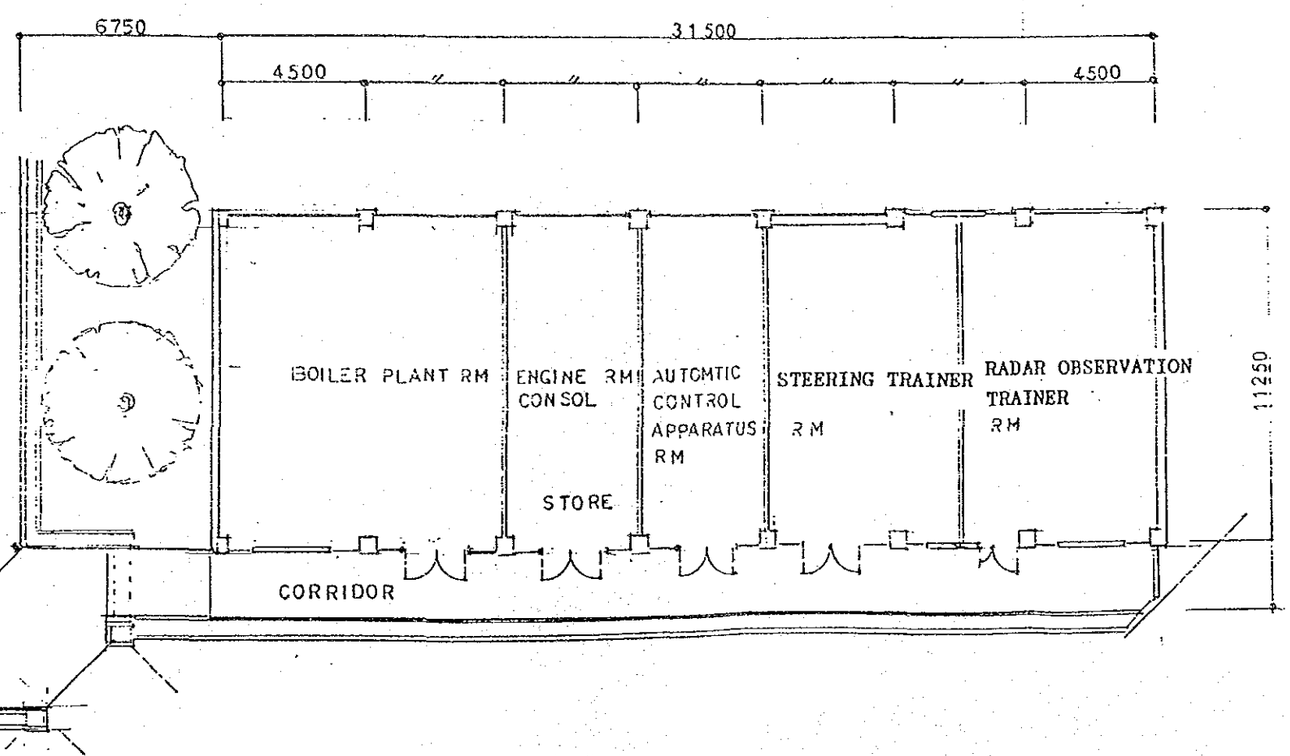
NO.	ITEM	SPECIFICATION	QUANTITY
VII	TEACHING AID		
	Audio-Visual Teaching Aid		
	(1) Video cassette recorder	VHS system	1 set
	(2) Monitor TV	26"	3 sets
	(3) Portable video camera	VHS system	1 set
	(4) Overhead projector		1 set
	(5) Screen for OHV		1 set
	(6) Video tape		About 60 sets
VIII	SCHOOL BUS		
	(1) Bus	For 40 persons	1 set
	(2) Bus	For 24 persons	2 sets
	(3) Micro bus	For 8 ~ 10 persons	1 set
IX	JETTY	For cutter 30 m(L) x 3.5 m(W) See ANNEX IV - 1	1
X	OTHERS	Reference books	



GENERAL VIEW OF CUTTER BOAT LAUNCHING SYSTEM



ELEVATON S-1: 200



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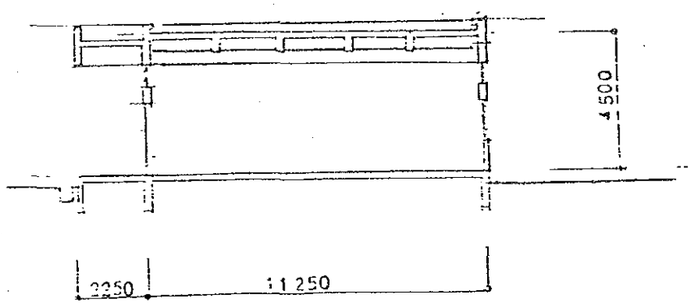
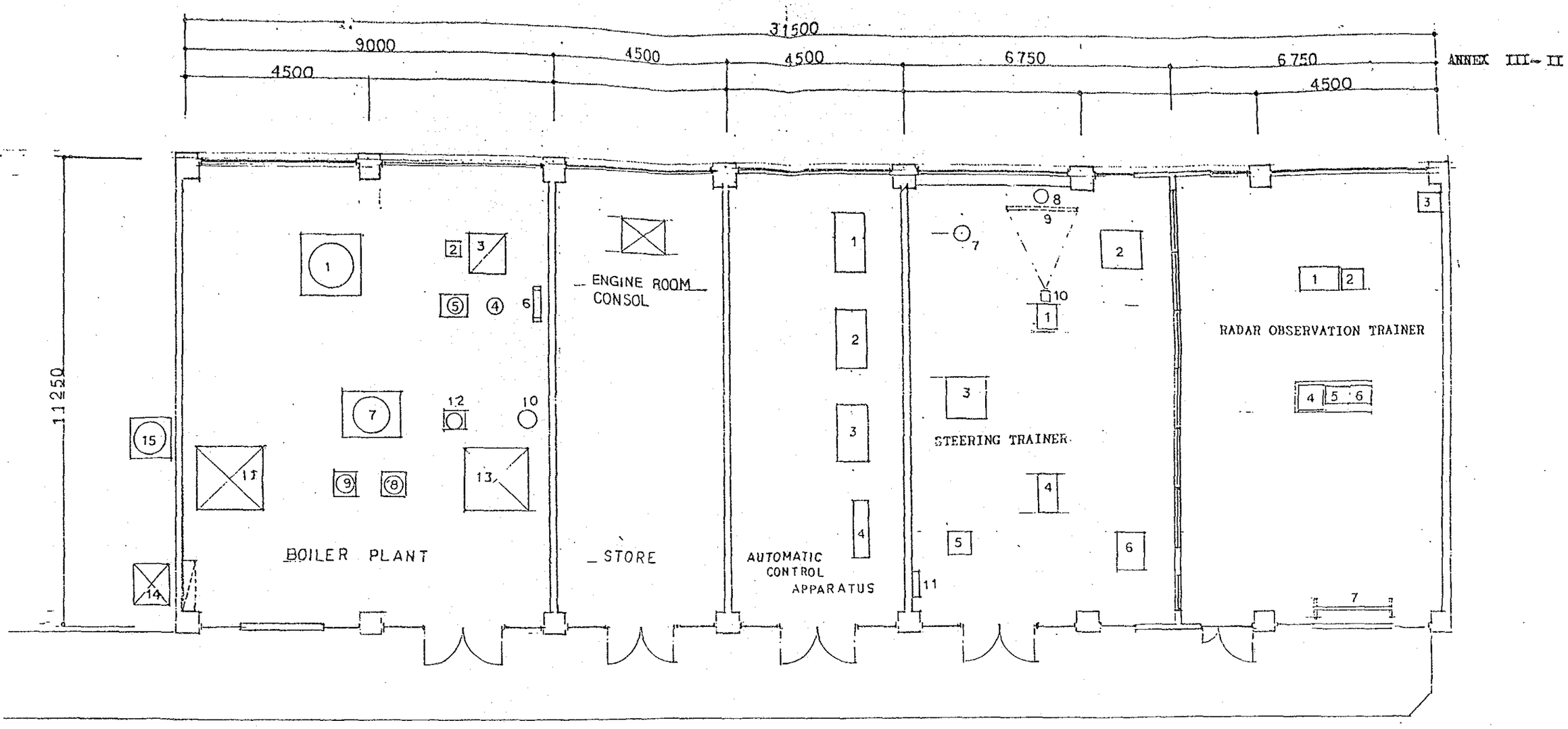


SECTION S-1: 200

TRAINING WORKSHOP FLOOR AREA 354.375 M2



P L A N S-1:100

1. Package Boiler
2. Chemical Injection Pump
3. Hot Well Tank (Cascad Tank)
4. Water Softner
5. Feed Water Booster Pump
6. Drain Cooler
7. Fresh Water Generator
8. Ejector Pump
9. Cooling Water Pump
10. F.W. Make Up Pump
11. Cooling W. Storage Tank
12. Distilled Water Pump
13. Distilled Water Tank
14. F.O. Tank
15. Cooling Tower

BOILER PLANT

1. Temparature Control Apparatus
2. Pressure Control Apparatus
3. Level Control Apparatus
4. Hydraulic Control Apparatus

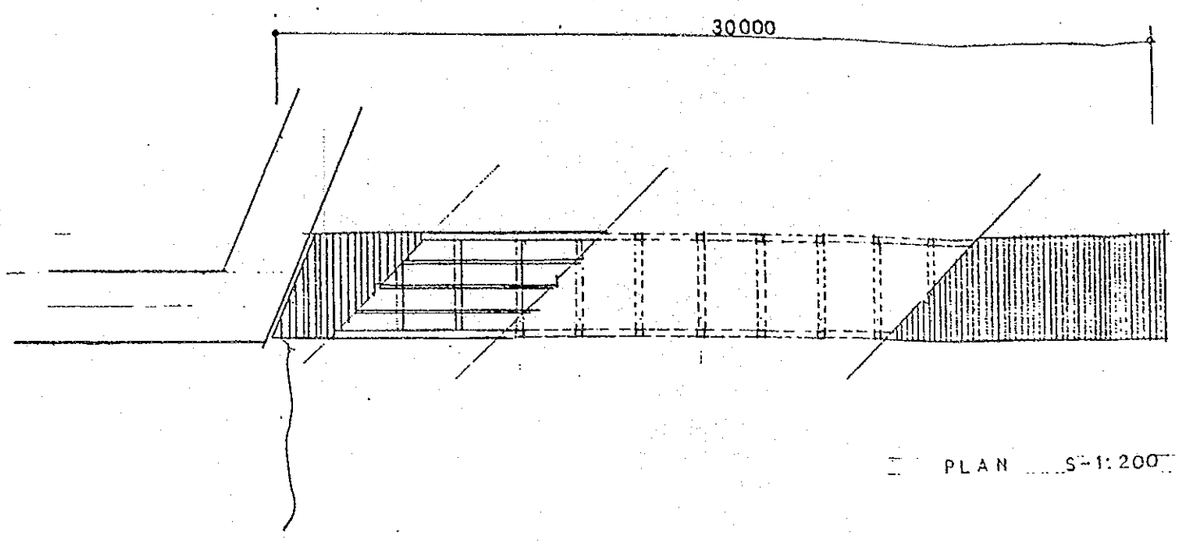
AUTOMATIC CONTROL APPARATUS

1. Steering Stand
2. Bridge Console
3. Instractor Console
4. Steering Gear
5. Magnet Compass
6. Gyro Compass
7. Engine Telegraph
8. Gyro Repeater
9. Indicator Panel & Screen
10. Protector
11. Fire Detector

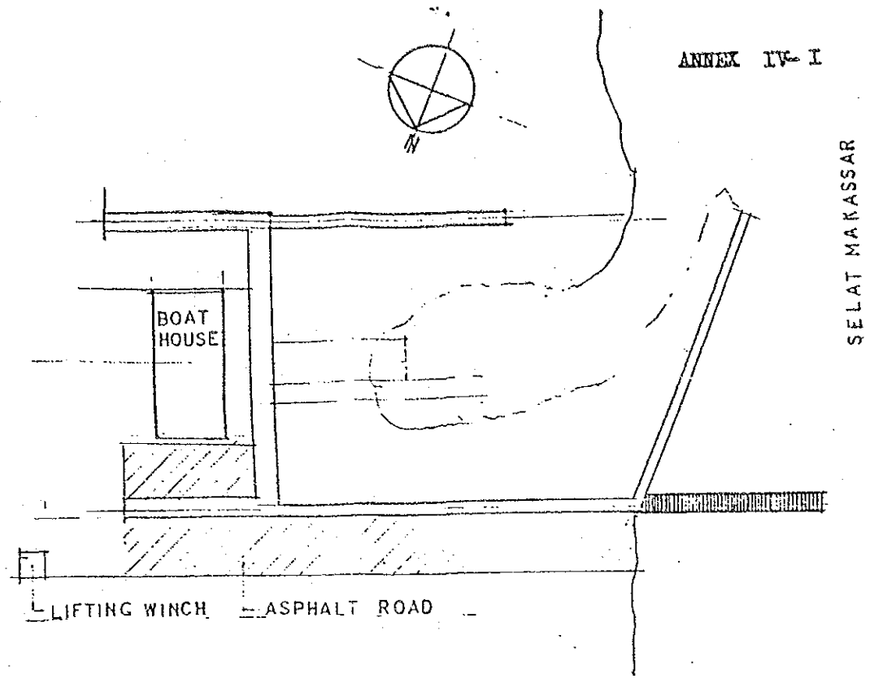
STEERING TRAINER

1. Radar Control Console
2. Radar Display
3. System Cabinet
4. Inspector's console
5. X-Y Proter
6. Printer
7. Radar Ploting Board

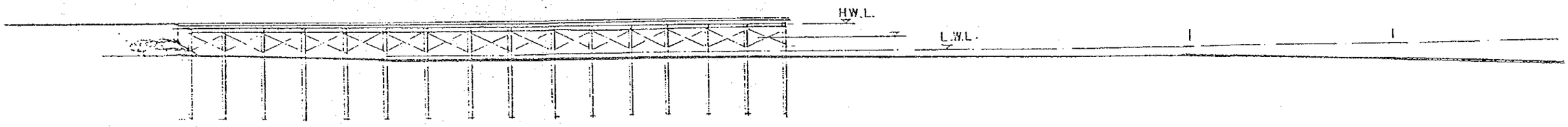
RADAR OBSERVATION TRAINER



PLAN S-1:200



SITE PLAN S. 1: 1000



SECTION S-1: 200

N.A

LANDING STAGE

ANNEX V

The facilities and services to be provided by the Government of the Republic of Indonesia are the following :

1. To secure the site for the Project ;

2. To bear commissions(approximately 0.1 % of the extended grant aid) to the Japanese foreign exchange bank for the banking services based upon the Banking arrangement ;

3. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the Project at the port of disembarkation ;

4. To exempt Japanese naticnals from customs duties, internal taxes and other fiscal levies which may be impcsed in Indonesia with respect to the supply of the products and services under the verified contract;

5. To ensure prompt unloading and customs clearance at ports of dis - embarkation in Indonesia and internal transportation (Ujung Pandang to the site) therein of the products purchased under the Grant Aid;

6. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract for their entry into Indonesia and stay therein for the performance of their work ;

7. To maintain and use properly and effectively the facilities and building constructed and equipment purchased under the Grant Aid ;

8. To bear all the expenses including V.A.T. (Value Added Tax) other than those to be borne by the Grant Aid, necessary for construction of the facilities and building as well as for the transportation and the installation of the equipment.

Appendix: 2

List of Members of Study Team

NOBUAKI KOJIMA	Team Leader	Senior Maritime Specialist, The Maritime International Cooperation Centre of Japan
NAOYOSHI SASAKI	Project Coordinator	Staff, 2nd Basic Design Study Div., Grant Aid Planning & Survey Dept. Japan International Cooperation Agency
KIYOYASU MIYAHARA	Education & Training Planner	Taiyo Fishery Co., Ltd.
HIROSHI MATSUO	Facilities Planner	Taiyo Fishery Co., Ltd.
ISAO IWASAKI	Architect	Taiyo Fishery Co., Ltd.

Appendix: 3 Itinerary of Study

Date	Activities
1986 Oct. 29, Wed.	Lv. Tokyo GA 873 Ar. Jakarta * Meeting with JICA Expert Mr. K. Misawa
Oct. 30, Thu.	* Visit to Indonesia JICA Office * Visit to Japanese Embassy * Courtesy visit and discussion with Mr. J.E. Habibie, Director General of Sea Communications and his staff * Courtesy visit and discussion with Capt. Bintang Siregar, Director of Maritime Education & Training Centre, Sea Communications
Oct. 31, Fri.	Lv. Jakarta GA 730 Ar. Ujung Pandang * Visit to Japanese consul general * Meeting with JICA Experts Capt. A. Odashima, Chief Engineer Y. Abe
Nov. 1, Sat.	* Visit to Ujung Pandang Rating School and meeting with Principal Capt. Abrial and JICA Experts * Project site survey and observation
Nov. 2, Sun.	Team meeting
Nov. 3, Mon.	* Visit to Ujung Pandang Rating School and discussion with JICA Experts * Project site survey and observation
Nov. 4, Tue.	* Visit to Ujung Pandang Rating School and discussion with JICA Experts * Project site survey and observation * Preparation of Minutes (draft)
Nov 5, Wed.	* Preparation of Minutes (draft) * Visit to Ujung Pandang Rating School and explanation of Minutes (draft) and discussion with Capt. Abrial
Nov 6, Thu.	* Visit to Japanese Consul General and explanation of Minutes (draft) Lv. Ujung Pandang GA 731 (Team leader, Capt. Kojima, JICA Mr. Sasaki, Consultant Mr. Miyahara) Ar. Jakarta * Preparation of Minutes

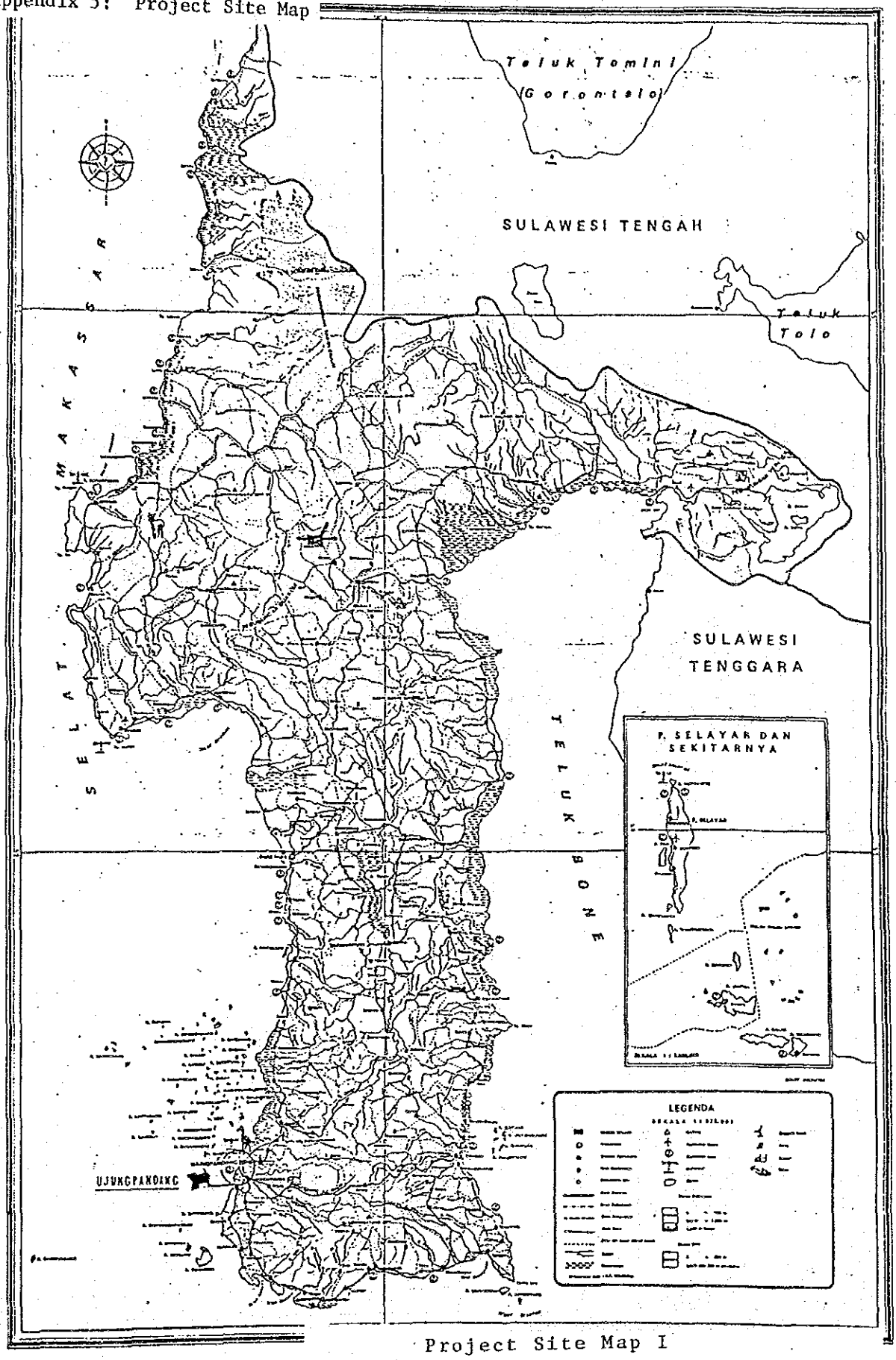
Date	Activities
Nov. 7, Fri.	* Courtesy visit to Mr. Sarwono, director General of Sea Communications * Visit to Capt. Bintang and discussion about Minutes (draft) * Signed the Minutes by Capt. Bintang and Capt. N. Kojima, Leader of the study team Lv. Jakarta (Team leader Capt. Kojima, JICA Mr. Sasaki)
Nov. 8, Sat.	Lv. Jakarta GA 730 (Consultant Mr. Miyahara) Ar. Ujung Pandang * Meeting with JICA Experts * Collect data and information
Nov. 9, Sun.	* Team meeting * Observation of Ujung Pandang harbour and Jetty etc.
Nov. 10, Mon.	* Visit to Ujung Pandang Rating School and discussion with JICA Experts * Project site survey and observation * Collect data and information
Nov. 11, Tue.	* Visit to Custom Office in Ujung Pandang and collect data and information * Visit to Japanese Consul General and reported about the Minutes
Nov. 12, Wed.	* Visit to Mr. Azis D. Situdju, Kepala Bidang Cipta Karya * Visit to Balai Pendidikan Latihan Pelayaran and observation * Collect data and information Lv. Ujung Pandang GA 745 (Consultant Mr. Miyahara) Ar. Jakarta
Nov. 13, Thu.	* Visit to Mr. Rohali Sani SEKNEG * Visit to Mr. Machmudin Jusuf, BAPPENAS * Collect data and information
Nov. 14, Fri. (National Holiday)	Lv. Ujung Pandang GA 050 (Consultant Mr. Matsuo and Mr. Iwasaki) Ar. Jakarta * Collect data and information
Nov. 15, Sat.	Team meeting
Nov. 16, Sun.	Preparation of collected data and team meeting

Date	Activities
Nov. 17, Mon	* Visit to JICA Office and report of the survey Lv. Jakarta JL 722
Nov. 18, Tue	Ar. Tokyo

Appendix: 4 List of Persons Concerning Basic Design Study

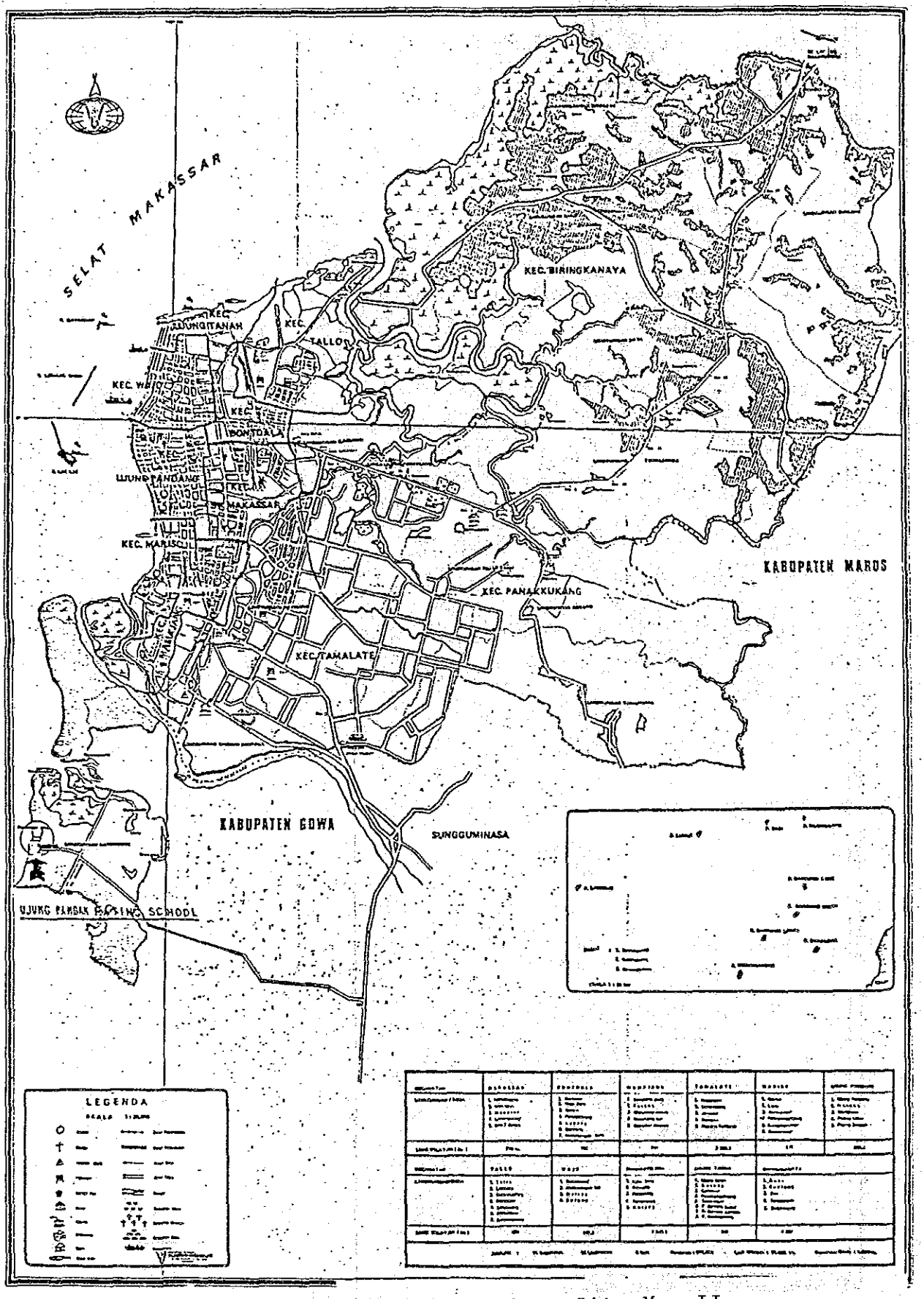
Ir. Rohali Sani	Secretariat Nagara
Mr. M. Machmudin Jusuf	BAPPENAS
Mr. Sarwono	Directorate General of Sea Communications
Mr. J.E. Habibie	Director General of Sea Communications
Capt. Bintang Siregar	Director of Maritime Education & Training Centre, Sea Communications
Mr. H.B.T. Sinambela	Implementation Unit, Maritime Education & Training Centre
Mr. Muhidin	Director of Directorate Maritime Safety
Mrs. Olgas	Legal Bureau, Department of Sea Communications
Mr. Sudjanadi	Planning Bureau, Department of Sea Communications
Mr. R. Munaf	Logistic Bureau, Department of Sea Communications
Capt. Abrial	Principal, Ujung Pandang Rating School (BPLPD)
Drs. Poerwanto	Head, Balai Pendidikan Dan Latihan Pelayalan (BPLP)
Mr. Azis D. Situdju	Kapala Bidang Cipta Karya, Departemen Pekerjaan Umum Dinas Pekerjaan Umum Propinsi Daerah Tingkat 1 Sulawesi Selatan
Mr. Abd. Rachim	Manager, P.T. Varuna Tinta Prakasya
Mr. Mahisah Jusuf	Pelayan, Departemen Perhubungan R.I.
Mr. Sunardi	Consultant
Ir. Micca S. Situmorang	Consultant
Ir. Ignatius F. Seilie	Consultant
Mr. Rahardjo PR. Martoyo	Consultant
Ambassador Muto	Embassy of Japan, Indonesia
Mr. M. Shukuri	First Secretary, Embassy of Japan, Indonesia
Mr. H. Suzuki	Consul General, Japanese Consulate
Mr. J. Endo	General Manager, JICA Office, Indonesia
Mr. M. Sato	Assistant General Manager, JICA Office, Indonesia
Mr. J. Ishizuka	Staff, JICA Office, Indonesia
Mr. K. Misawa	Advisor, Education & Training Centre
Mr. Y. Abe	Colombo Plan Expert
Capt. A. Odashima	Colombo Plan Expert

Appendix 5: Project Site Map



Project Site Map I

KOTAMADYA UJUNGPANDANG



Project Site Map II

Appendix: 6 Collected Data for Reference

STATISTIK INDONESIA 1985	Biro Pusat Statistik Jakarta Indonesia
Buku Saku Statistik	Kantor Statistik Propinsi Sulawesi Selatan
Sulawesi Selatan 1985	Departemen Pekerjaan Umum, Ditjen Citjen karya Direktorat Penyelidikan Masalah Bangunan

PERATURAN BETON BERTULANG INDONESIA 1971 No. 1 - 2

PERVARATAN UMUM BAHAN BANGUNAN DI INDONESIA (PUBI-1982)

PERATURAN KONSTRUKSI KAYU INDONESIA NI-5 PKKI 1961

PERATURAN BANGUNAN NASIONAL CETAKAN KE VIII 1978

PERATURAN MUATAN INDONESIA No. 1 - 18 1970

PERATURAN PERECANAAN BAJA INDONESIA (PPBBI) 1983

PERATURAN PERENCANAAN TAHAN GEMPA INDONESIA UNTUK GEDUNG 1981

PERATURAN PEMBEBANAN INDONESIA UNTAK GEDUNG 1983

STANDARD ARSITEKTUR DI BIDANG PERUMAHAN

BUKU PEDOMAN PERENCANAAN UNTUK STRUKTUR BETON BERTULANG BIASA DAN STRUKTUR TEMBOK BERTULANG UNTUK GEDUG 1983

BANGUANAN AIR	Penerbit Idea Dharma Bandung
MEKANIKA TANAH	Seri Penyelesaian
PORTAL BETON BERTINGKAT	Seri Penyelesaian
Zainal A.Z. RUMAH INDAH	Penerbit PT Gramedia